## MEMOIRS

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### GEOLOGICAL SURVEY OF INDIA.

THE GEOLOGICAL FEATURES OF THE SOUTH MAHRATTA COUNTRY AND ADJACENT DISTRICTS, by R. BRUCE FOOTE, F. G. S., Geological Survey of India.

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#### CHAPTER 1.

#### INTRODUCTORY.

The name "South Mahratta Country \*" is, strictly speaking, a mere geographical term applied to the country which formed the southern part of the Mahratta empire, without reference to the distribution of the Mahratta people.

Memoirs of the Geological Survey of India, Vol. XII, Art. 1.

<sup>\*</sup> The name of South Mahratta Country is applied to certain districts formerly under Mahratta rule, and includes the Collectorates of Belgaum, Kaládgi and Dharwar, the State of Kolhápur and the Jaghirs of Sángli, Miraj, Kurundwád, Jamkhandi, Mudhol, Rámdurg Akalkot and Sáwant Wari. The spelling of the names of places has been adapted as far as

able surface in that corner of the Kaládgi basin. This lake or another of similar character occupied the valley of the Bunknuree nullah immediately to the west.

No organic remains were found in any of these supposed lacustrine formations, and this appears the greatest objection to the hypothesis of the lake basins in question, but the shape of the country and position of the shingle and iron mud deposits are all in favour of the hypothesis, for it explains the presence of these deposits in many places where they could not be referred to subaërial changes of ferruginous rocks, as, for example, where the laterite rests directly on unaltered quartzite.

### 3 .- Ossiferous Deposits.

The formation which yielded the fossil mammalian and molluscan remains lies within the area occupied by the recent alluvium deposited by the Ghatprabha river along a lake-like reach\* extending some 11 miles north-eastward from the town of Gokák. The most recently deposited alluvium consists of a bed of black clay formed of washed up regur of considerable thickness, and this is underlaid by the ossiferous beds consisting of dark brownish black stiff clays with partings and thin beds of gritty or sandy clay. Only one section was found in which the ossiferous beds were exposed, and this occurs in the banks of the small nullah flowing into the Ghatprabha at Chikdauli (Cheekdowleh) three miles east-north-east of Gokâk. Of the mammalia here discovered the most interesting was an extinct species of Rhinoceros which I found in 1871 and described and figured in Part I of Series X of the 'Palæontologia Indica' under the name of *Rh. Deccanensis*.

<sup>\*</sup> Described further on at page 235.

All the fossils were found in a reach of the Chikdauli nullah rises in the hills north-west of Banichimardi (Buneechmurdee) but not, as represented in Sheet 41, in the hills south of Kelvi.

The true Kelvi nullah as already shown (page ) joins the great Mamdapur nullah Uparhatti.

<sup>(232)</sup> 

The section seen in the banks of the nullah south of the little village is-

- d. Regur or cotton-soil passing down into
- c. Black clay with head of Rhinoceros
- b. Clayey grit, two beds with clayey parting, and numerous specimens of Uni and Corbicula in the gritty bands
- a. Reddish-brown black clay with bovine remains.

A number of bones and fragments of bones were found loose in the bed of the nullah, and others were obtained in 1874 by excavating in adjacent fields: these have not been examined and determined, but many are bovine and a few belong to a second and rather smaller individual of Rhinoceros Deccanensis. Several forms of Unio occur, they and the Corbicula all belong to species now living in the Krishna and its tributaries. The bones are found in a friable condition; they are somewhat distorted by pressure in a few cases, and much comminuted by the action of numerous shrinkage cracks in the clay. Some of the bones are much encrusted by calcareous deposits.

The nasal bones of *Rhinoceros Deccanensis* were not found, hence it is uncertain whether the animal had a horn or not, but from the absence, or very small (rudimentary) size of the incisors, the animal had probably a large horn. The individual was just adult.

The bovine animal was in the shape of its molars nearly allied to Bibos gaurus, which still inhabits the slopes of the Sahyadri mountains where they are thickly wooded.

#### 4.—Fluviatile Deposits.

The alluvia of the several rivers agree very closely in character and consist almost entirely of alluvial regur or black-soil, with some intercalated beds of sand and gravel, which latter are, not unfrequently, cemented into coarse conglomerate by the deposition of calcareous matter in the form of kunkur.