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NOTES ON SAMPLES OF LIMESTONES FROM THE NULLABOR PLAINS,
SOUTH AUSTRALIA

by

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The limestones came from three caves on the Mullabor Plains, the Koonalda, the Aburakurrie and the Weebabbie, and from the surface crust in the vicinity of the caves.

The surface samples are labelled S1, S2, and S3, and were collected from the surface down to a depth of 10 feet.

S1 and S3 are hard, dense, pink to cream coloured limestones containing foraminifera. Marrinopora vertebralis is common and is associated with Sorites marginalis, Valvulina sp., Flintina triquetra, Triloculina tricarinata and Discorbis cycloclipeus, all of which are typical of the Lower Pliocene ("Adelaidean") of South Australia. The common "Adelaidean" gastropod Neodiatoma provisi is also present in S3.

Sample S2 is a hard, dense, dark cream coloured limestone with numerous lighter patches of the calcareous alga Lithothamnium ramosissimum. Numerous foraminifera are present in the rock, the commonest forms being Operculina victoriensis and Calceolina vermiculata. Rarer forms are Cypsinella howchini and Crespinella unbonifera. This assemblage is typically Miocene and has recently been found at the top of the Miocene and immediately underlying the Lower Pliocene ("Adelaidean") in bores in the Adelaide Plains. Present information suggests that this assemblage represents the uppermost portion of the Middle Miocene.

The samples from the Koonalda Cave (C5-C9, C11, C13, C16-C19) were collected from the depth of 60 feet down to 300 feet, those from the Aburakurrie Cave (M5, M6, M8) from 150 feet down to 240 feet and from the Weebabbie Cave (W10, W16) from 100 feet down to 290 feet.

Except for C5 from the Koonalda Cave, which is a crystalline limestone of indeterminate age, all samples from the three caves consist of chalky white bryozoal limestones of Upper Cretaceous age. The limestones contain foraminifera and radiolaria, and association which is frequently found in rocks of Cretaceous age in Australia. The faunal foraminifera recognised are Spiroplectoides clotho, Marsenella oxyera and Globotruncana sp. Other typical species are Gumbellina globulosa and Globigerina cretacea. Small retinalines are common but are difficult to determine in thin section. The radiolaria all belong to the spumellarian group.

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