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THE CAMBRIAN IN SOUTH AUSTRALIA.

by

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CONTENTS

	<u>Page</u>
Summary	3
Historical Introduction	5
Stratigraphy	18
I. The Mainland Region	18
A. Kulpara Area	18
B. Ardrossan Area	23
C. Curramulka Area	27
D. Wilson-Quorn Area	30
E. Lake Frome Area	32
F. Mount Scott Range Area	41
II. Kangaroo Island Region	52
The Cambrian Faunal Succession in South Australia	61
The Base of the Cambrian in South Australia . . .	69
Palaeogeography of the South Australian Cambrian	72
Acknowledgements	83
Bibliography	84
Explanation of Figures	92



SUMMARY.

A comprehensive historical account of published work on the Cambrian and its relation to the Precambrian of South Australia is given. The stratigraphy of seven areas distributed over 340 miles in a north-south direction has been studied in detail by the author. Twelve faunal assemblages have been recognised within these areas, most of them being almost entirely new. The new elements comprising them are as yet undescribed, but previously described faunas have been fixed in the stratigraphic succession for the first time. Cambrian rocks in South Australia have been shown to range from Lower Cambrian to middle Middle Cambrian. A new faunal province for the Lower Cambrian is indicated, but a lower Middle Cambrian fauna can be related to a comparable fauna in the Northern Territory. The base of the Cambrian is conventionally accepted as the base of the Pound Sandstone. The opinion that it might be found at the top of this formation is expressed.

Evidence of a slow but persistent regression within much of the Adelaidean Geosyncline during the Lower Cambrian is substantiated on faunal evidence, whilst in the southern part of the known limits of the geosyncline evidence of a Lower Cambrian orogeny has been found. This orogeny initiated renewed sedimentation giving rise to the

unfossiliferous metasediments of the "Kanmantoo Group" which is assigned on structural evidence to a middle Lower Cambrian extending to a middle Middle Cambrian age. A short lived lower Middle Cambrian transgression is evident in the Northern Flinders Range. Sedimentation within the geosyncline ended with a major orogeny which is dated as middle Middle Cambrian.