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CHRONOLOGY OF DENUDATION OF NORTHERN EYRE PENINSULA,  
SOUTH AUSTRALIA.

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## DECLARATION.

This thesis is based on original research carried out in the Department of Geography, University of Adelaide. It contains no material previously submitted for a degree at any University, and to the best of my knowledge contains no material previously published or written by another person except when due reference is made in the text of the thesis.

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## SUMMARY.

The purpose of the investigation summarised in this thesis is to produce an explanatory account of the landforms of northern Eyre Peninsula, and in particular to identify palaeosurfaces of low relief so that the evolution of the area can be unravelled.

To this end the effects of structure on landforms are first determined and physiographic regions, which are largely though not wholly structural regions, delineated and described. Various erosional surfaces of low relief are identified within the several regions and are then systematically discussed. Three are of exhumed type, two being of Precambrian age and one of later Pleistocene date. Six erosional surfaces of epigene origin ranging in age from (?)Triassic to late Pleistocene have also been recognised. The exhumed surfaces are dated stratigraphically. Deep regoliths are associated with all but two of the other palaeosurfaces and the distinctive mineralogy of each of these duricrusts enables them to be dated by comparison with other similar surfaces carrying deep weathering profiles and of established ages in other parts of South Australia. The other two surfaces are dated by their relationship vis a vis the duricrust remnants.

Having established the denudation chronology of northern Eyre Peninsula the granite landforms of the central and western areas are then examined. Several of the minor landforms typical of the

granite residuals appear to be associated with former piedmont zones. Using such datum points phases in the emergence of the residuals have been determined, so that in the case of the lower hills various generations of whalebacks and platforms are identified. The higher inselbergs have been subdivided into horizontal zones which increase in age with elevation above the present plains. The several generations and zones have been tentatively correlated with the erosion surfaces identified in the adjacent uplands so that the development of the granite inselbergs and their minor landforms is integrated with the evolution of the region as a whole.

Finally the possible reasons for the survival of the very ancient forms and surfaces described in the thesis are briefly discussed.