

- (d) extrusion of volcanics in areas of oceanic depth. This formed a new basement, that onlaps onto the foundered basement blocks at the slope base.

These movements probably spanned a considerable period of time : In the Perth Basin the initial block fault movements took place at the end of the Jurassic and continued until the period of major downwarp in the Neocomian. At the same time volcanic extrusions formed the adjacent ocean floor. In part of the Great Australian Bight downwarping of fault-blocks may have taken place along the axis of a pre-existing graben, and been followed by slumping of the older sedimentary fill (p.11). Downwarp in the Great Australian Bight may have taken place during the Neocomian or during the Albian to Cenomanian as in S.E. Australia.

- (4) A phase of clastic deposition in the form of deltaic build-out into an open marine basin and general infill in relief. This spanned the Neocomian to Turonian interval in western Australia, and the Albian to Upper Eocene farther to the east. It was characterised by continued downwarp and subsidence.

Deposition of thick sedimentary sections took place in the Great Australian Bight and in the Gippsland Basin graben, adjacent to contemporary drainage systems. The Western Australian and Tasmanian areas that lay adjacent to uplands with immature drainage patterns received relatively little sediment, and the Naturaliste Plateau none at all.

Deposition of fluvio-marine cycles was concentrated off the coast adjacent to South Australia. Where thicknesses are in excess of 2000 m, the load later led to phases of slope failure and growth faulting. Elsewhere on the slope and continental rise clays and silts of distal-foreset to bottomset facies or turbiditic sequences are likely to be most common.

- (5) The depositional phase was terminated by a series of marine transgressions that flooded large areas of peneplained land surface and arrested the drainage system. Clastic deposition ceased and current-controlled sedimentation, mainly of open marine chalks and calcareous sandstones, commenced. There are many hiatuses in the succession (e.g. much of the Neogene) but deposition seems to have been fairly widespread in, for instance, the Quaternary.

The most important transgressions were regional, and took place during the Turonian (Perth Basin) and at the end of the Eocene (e.g. Gippsland Basin). The sediments form a thin blanket over the shelf and upper slope and are basically undisturbed. Erosion from the slope, shelf and land areas has provided material for turbidity current deposition in the abyssal plains. This last phase corresponds to a stage of oceanic circulation.