Generally, in a horizontal section of the ejecta blanket we find that the deeper the original location of a rock unit was before impact the nearer to the crater rim it is deposited upon excavation (Figs. 7 and 8). The number and size of blocks, in particular those of the Upper Jurassic limestones decrease with increasing radial distance from the center (HÜTTNER, 1969; GALL,

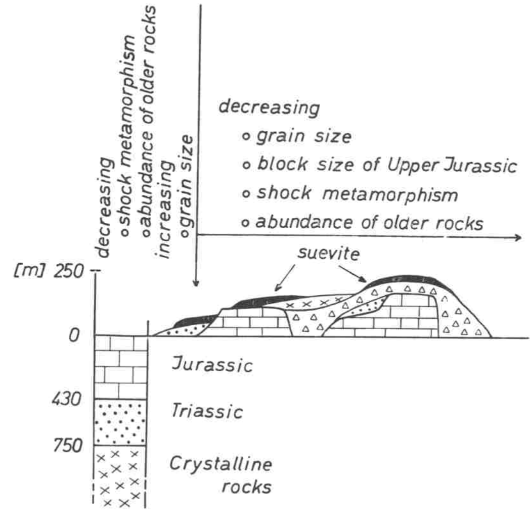

Fig. 6. Variation of stratigraphic relations within the Ries ejecta blanket with respect to the pre-impact stratigraphy of the Ries target.

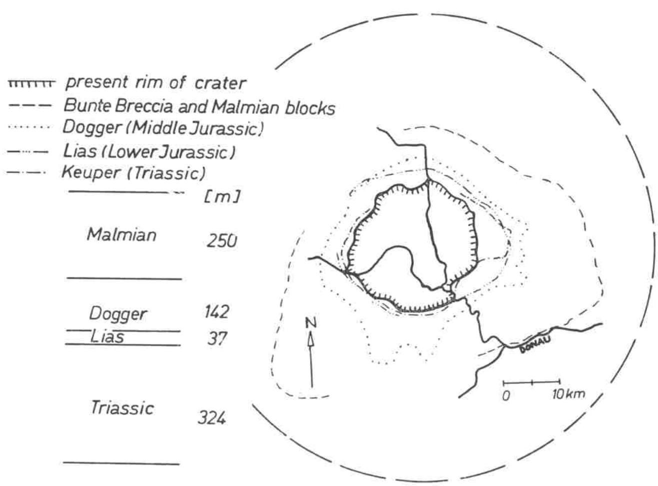

Fig. 7. Radial distribution of rocks from different stratigraphic levels within the ejecta blanket of the Ries crater. The pre-impact stratigraphy is given in the left part of the graph. The outer circle indicates the presumable extension of the primary continuous ejecta blanket.

1974). In general, the grain size of the Bunte Breccia decreases in the same way (SCHNEIDER, 1971). A relative increase of the number of mappable blocks from the uppermost Malmian (δ—ξ) over blocks from the lower Malmian (older than δ) with increasing radial distance was observed by SCHRÖDER & DEHM (1950) and HÜTTNER (1969) and was quantitatively measured by GALL et al. (1974). In an outer zone of the ejecta blanket an increasing amount of locally derived pre-Riesian surface material, mostly Tertiary sand, is incorporated into the Bunte Breccia (HÜTTNER, 1969; SCHNEIDER, 1971; GALL, 1974). This is probably due to the fact that the ejecta thrown to the farthest distance have the highest ejection and landing velocity. The mechanism of secondary mass transportation by landing ejecta is very commonly observed at lunar craters (OBERBECK et al., 1974).

Vertical sections of the Ries ejecta blanket show a typical inversed stratigraphy with respect to the pre-impact setting of rocks. This stratigra-

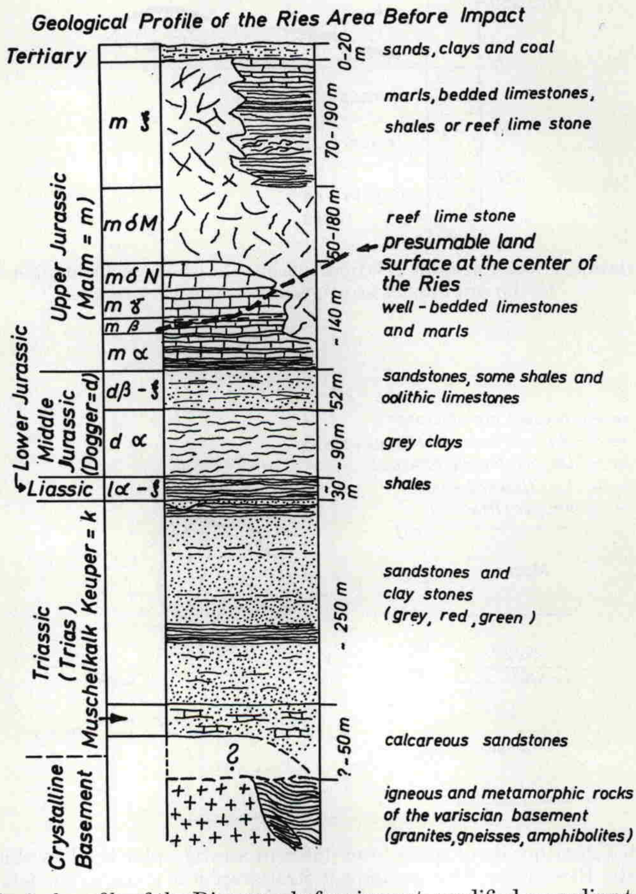

Fig. 8. Geological profile of the Ries area before impact, modified according to SCHMIDT-KALER (1969).