Fig. 1. The Orientale basin. The basin center is located near 20°S, 95°W; the diameter of the outer ring (Cordillera Mountains) is about 900 km. Lunar Orbiter photograph LO IV-194M.

corrugated facies, which surround and probably underlie the central mare, are interpreted as cooled impact-melt material [*Head*, 1974]. *Head* [1974] and *Church et al.* [1982] suggest that the pitted and cracked texture of the corrugated facies resulted from cooling and internal thermal contractions acting during the time interval of melt-sheet cooling, about 10^3 to 10^4 yr [*Onorato et al.*, 1978]. The outer Rook Mountains, believed to represent the rim of the original impact cavity, bound the outer edge of the corrugated and plains facies at a radial distance of about 310 km from the basin center [*Head*, 1974, 1977].

Mare ridges and arcuate rilles (graben) constitute the innermost and outermost tectonic features, respectively (Figure 2). Both types of features postdate the emplacement of the central mare units and are consistent with the pattern of stresses produced by lithospheric loading and flexure [*Comer et al.*, 1979; *Solomon and Head*, 1980]. No graben such as those found in Orientale and other mascon mare basins have been identified