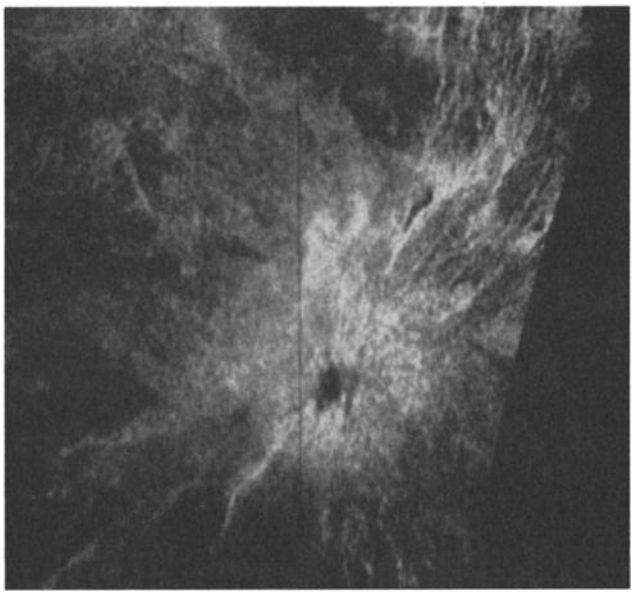

Fig. 1a

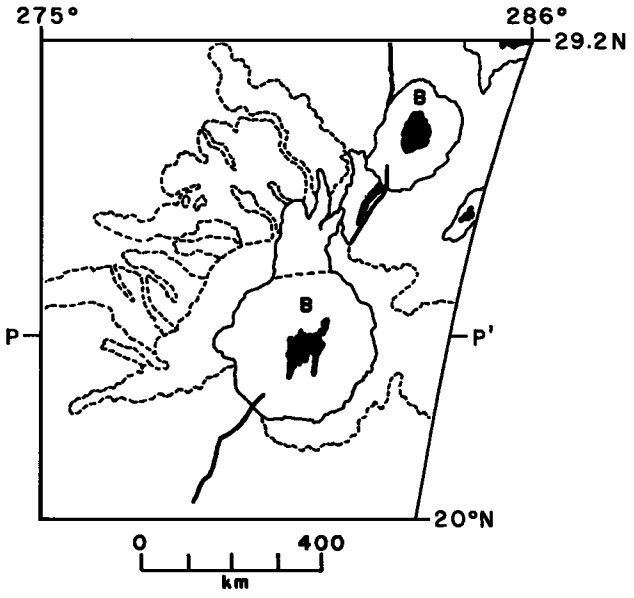

Fig. 1b

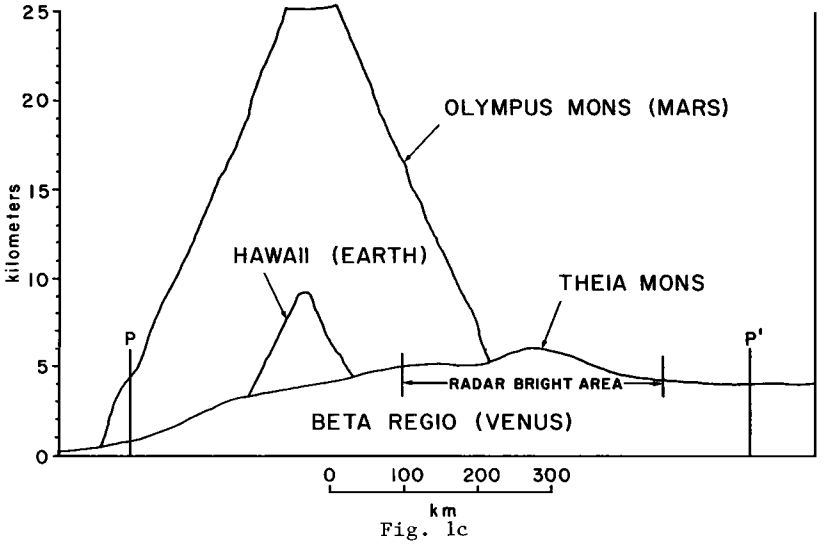

Fig. 1c

Fig. 1. Radar images of possible volcanic features on Venus. (a) Arecibo radar image of south central Beta Regio; north at top of image. Variations in brightness are related to differences in small-scale surface roughness values (wavelength size is 12.6 cm). Darkest areas are smoothest; brightest areas are roughest. Resolution is approximately 2 km. Large bright area is Theia Mons, interpreted to be a shield volcano [see Campbell et al., 1984]. Parallel lines northeast of Theia Mons are interpreted to be faults associated with the Devana Chasma rift system. (b) Sketch map of area of Figure 1a; Theia Mons, flanked by flowlike lobes, is situated on the western bounding fault of the Devana Chasma rift system, filling the rift valley and covering much of the fault system. B indicates bright rough areas, and the central dark smooth region at the summit of Theia Mons is portrayed in black. P-P' indicates location of profile shown in Figure 1c. (c) Comparison of the topography of Theia Mons on Venus, Hawaii on Earth (above ocean floor), and Olympus Mons on Mars (above surrounding plain). Theia Mons is superposed on the general positive topography of Beta Regio and rises less than about 3 km above this broad topographic swell. Location of radar bright zone seen in Figures 1a and 1b are noted. (d) Arecibo radar image of area southeast of Ishtar Terra showing possible volcanic terrain [Head et al., 1985a]. Arrow at 1 points to base of bright shieldlike structure between 200 and 300 km in width and containing a dark summit region. Individual flows extend downslope and apparently change width and direction at the base. At 2, several narrow flows diverge and extend downslope for several hundred kilometers to the southeast. Several other more degraded sources and shieldlike structures are seen in this image. Global topographic maps of Pettengill et al. [1980] or Head et al. [1985b] show location of these regions.