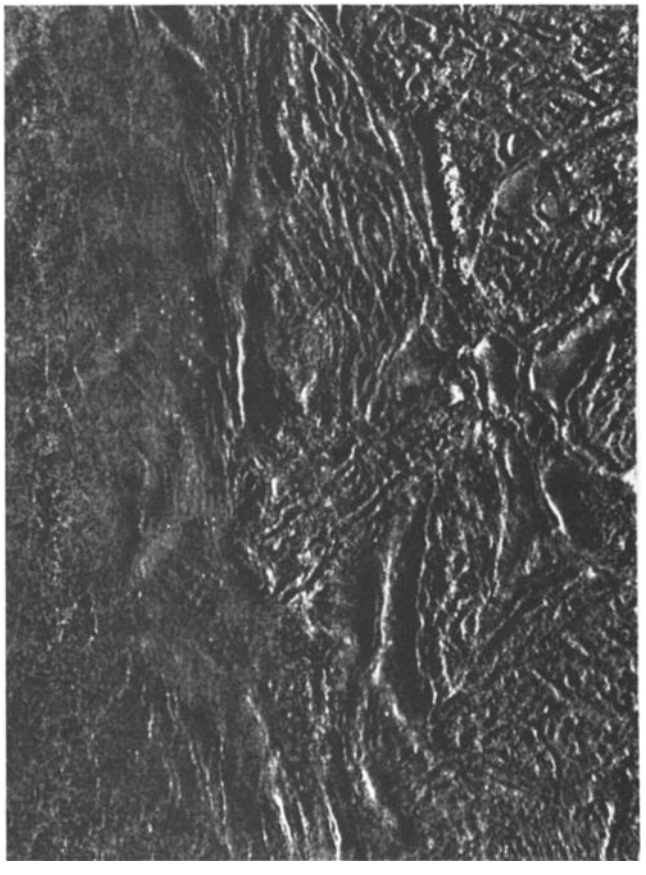

Fig. 7*a*. Venera image of type II boundary between tessera terrain and surrounding plains, located in western Tellus Regio. Image is centered on 33°N, 73°E.

Fig. 7*b*. Sketch map of the region in Figure 7*a*. Lines indicate ridges or grooves; barbed lines are scarps (e.g., Figure 5*b*). Stippled pattern represents intratessera plains (P_{it}), which lie along a regional topographic high. The dashed lines indicate regions previously

characteristics match those described above for subparallel ridged terrain (T_{sr}), rather than those of ridge belts.

Numerous small, mare-like ridges are present within plains adjacent to type II boundaries, trending parallel to the boundary (e.g., Figure 7*a*). The overall linearity of the boundary and the structural continuity suggested by parallel ridges in the tessera terrain and within the plains suggest that deformation postdates most plains-forming events. The presence of T_{sr} is interpreted to indicate compressional deformation. Type II boundaries thus appear to represent a tectonic relationship between plains and tessera, while type I boundaries represent embayment of tessera terrain by plains units.

Intratessera Plains

The three large regions of tessera all contain oval to polygonal regions of intratessera smooth plains, approximately 50-200 km in width. Typically, intratessera plains (P_{it}) are surrounded by groove structures that parallel or define the plains boundary. A group of P_{it} occur in western Tellus Regio (Figure 7). Examination of PV reflectivity, RMS slope, PV synthetic aperture radar (SAR), and Venera SAR data reveals that the P_{it} are much smoother than surrounding tesserae at scales of 5 cm to 10 m and are similar to typical Venus plains regions in terms of radar properties [*Bindschadler and Head*, 1988*a*, 1989]. The plains deposits are therefore interpreted as volcanic [*Barsukov et al.*, 1986; *Bindschadler et al.*, 1986]. In Venera SAR data, variations in radar backscatter across the features (Figure 7) reveal that the plains lie in local topographic troughs. Examination of PV and Venera topography shows that the local troughs of the P_{it} in Tellus Regio lie along broader-scale regional topographic highs.

The formation of P_{it} appears to postdate most of the observed deformation within tessera terrain. Plains surfaces are clearly undeformed and commonly superpose otherwise continuous structural features or trends in the surrounding tessera terrain. Most boundary-parallel structures (usually grooves) are aligned with regional structural trends but are relatively sharp in appearance, continuous, and throughgoing in comparison to surrounding tessera structures. As noted above, grooves usually crosscut other structures within the T_{ds} and are thus relatively young. The fact that they bound P_{it} suggests that the origin of both features is related and that both are young compared to most other structures within the Tellus Regio.

Intra-tessera plains are also present in Laima and Fortuna Tesserae. In Laima they tend to be oval in shape, and boundary-parallel structures are less distinct or occasionally absent. Although they retain the trough-like shape of P_{it} in Tellus Regio, these plains do not lie along regional topographic highs. Intra-tessera plains also occur in central Fortuna