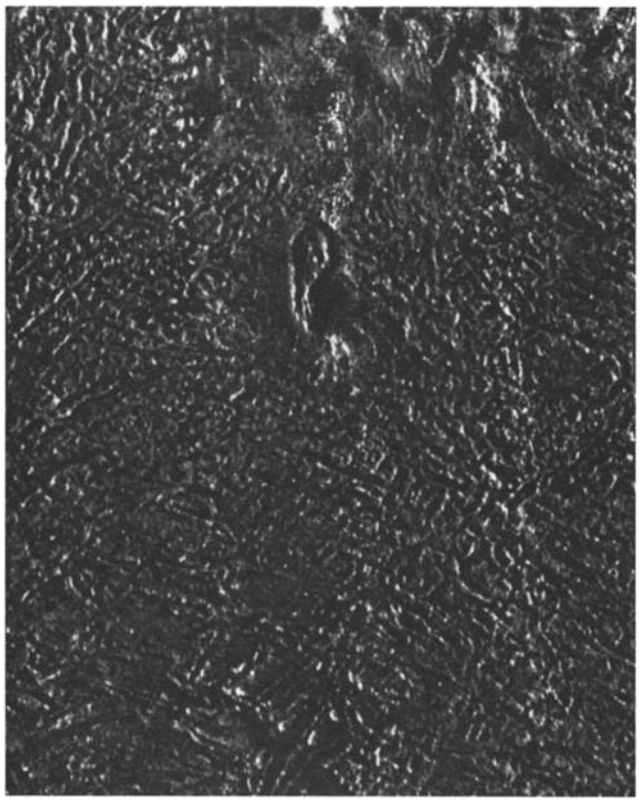

Fig. 5*a*. Venera image of type area for disrupted terrain (T_{ds}), located in central Tellus Regio. Image is centered on 38°N, 79°E. The volcano near the center of the image is the largest volcano found within a region of tessera and appears to sit in a distinct trough. Structures within the disrupted terrain tend to be much less continuous and more variable in orientation than those in the other two types of tessera.

Fig. 5*b*. Sketch map of type area for disrupted terrain (T_{ds}). The arrow points toward a set of subparallel ridges and troughs. Such sets are characteristic of subparallel ridged terrain (T_{sr}).

of strike-slip faults. Troughs usually lie along or parallel to lineations, suggesting that these structures share a similar origin. The raised rims of grooves are most consistent with an extensional origin. In addition, grooves are typically associated with intratessera plains deposits found in local topographic lows (see discussion of intratessera plains, below), also consistent with an extensional origin.

Many areas of the disrupted terrain appear to record compressional, extensional, and shear deformation. Ridges appear to be predominantly compressional in origin, while troughs and lineaments are most likely to originate by strike-slip faulting or shearing. Grooves appear to be extensional features and probably represent the most recent deformation within the T_{ds}. Grooves tend to be more continuous than ridges or troughs and in most cases crosscut other T_{ds} structures whenever intersections occur. In areas where ridges, grooves, and lineations occur, disrupted terrain appears to have undergone compression, followed by and partly synchronous with strike-slip deformation, followed by extension.

Tessera-Plains Boundaries

Boundaries of tesserae and plains regions are characterized by two morphologies [*Sukhanov*, 1986; *Bindschadler and Head*, 1988*b*]. The first (type I) is the most common, is highly irregular at the 100-km scale, and is represented by southeastern Tellus Regio (Figure 6*a*). Contacts between plains and regions of tessera terrain occur as onlap of plains onto tessera or as distinct scarps (Figures 6*a* and 6*b*). In the former case, structures appear subdued, consistent with embayment. Scarp orientations are typically unrelated to dominant structural trends within the tessera. For example, in Figure 6*a*, most scarps strike approximately N-S, while the dominant trends within Tellus are approximately NE-SW and NW-SE. Type I boundaries appear to form principally by embayment. The topographic scarps observed between plains and tesserae are either primary features which formed before embayment or relatively late-stage tectonic features which may serve to downdrop blocks of tessera terrain.

Type II boundaries are relatively linear at the 100 km scale (Figure 7*a*) and are commonly characterized by steep regional slopes [*Sharpton and Head*, 1985]. Several ridge belts have been mapped near such boundaries, such as the region between the plains-tessera boundary and the dashed line in Figure 7*b*. However, such mapped "ridge belts" are morphologically distinct from the ridge belt structures located in the region between 150°E and 240°E longitude [*Frank and Head*, 1990]. They lack the anastomosing nature of structures in the ridge belts, are found in areas with over 1 km of relief, and possess transitional boundaries with disrupted terrain (T_{ds}). These