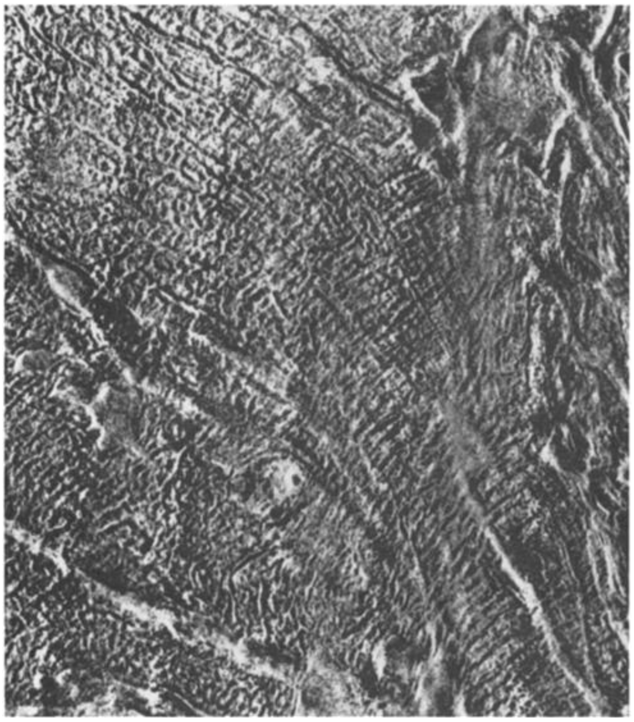

Fig. 4*a*. Venera image of type area for trough and ridge terrain (T_{tr}), located in central and eastern Laima Tessera. Image center is 53°N, 53°E. Exceptions to the generally parallel nature of troughs are found in the southern portions of the region, particularly in the southeast corner.

Fig. 4*b*. Sketch map of type area for trough and ridge terrain (T_{tr}). The heavy line in the eastern portion of the sketch delimits the boundary of tessera terrain. The arrow in the southern portion of the figure points to a region where ridge and valley structures appear to crosscut a large trough.

of plains volcanism, smooth plains within the large troughs are most likely to be of volcanic origin. Narrow troughs may be similar, but their floors are not clearly resolved in the Venera data. Trough structures could originate in a number of ways. Their similarity in shape to graben suggests that they may be extensional features. *Head* [1990*b*] has suggested that they may be analogous to oceanic fracture zones on Earth, citing their continuity and parallelism. Troughs could also be the result of strike-slip faulting or shearing.

In contrast to trough structures, ridge and valley structures are small, closely spaced, and continuous over shorter distances, resulting in a corrugated appearance. Widths of the corrugations vary from ~20 km down to features at the 1-3 km limit of Venera resolution. In some cases, ridges appear flat-crested and steep-sided, similar to horst structures. Similarly, valleys commonly resemble graben structures. In the southern portions of the type area, corrugations are typically expressed as distinct grooves (Figures 4*a* and 4*b*), which are distinguished from troughs and valleys by the presence of raised rims. The shapes of corrugations and groove structures are most consistent with an extensional origin, although a compressional origin cannot be ruled out from presently available data.

Ridge and valley structures typically appear to terminate within domains between troughs, although examples can be seen in which they appear to crosscut trough structures (e.g., arrow in Figure 4*b*). Higher-resolution data will be required to definitively establish whether a consistent crosscutting relationship is present or not, particularly in the northeastern portion of the type area, where structures are relatively small and closely spaced (Figure 4*a*).

Disrupted terrain. Central Tellus Regio is the type area for disrupted terrain (T_{ds}, Figure 5*a*). Disrupted terrain is the most common type of tessera, is found in all three large regions of tessera, and predominates among smaller regions. Ridges, troughs, grooves, and lineations are all found within the T_{ds}. Disrupted terrain is characterized by a more chaotic appearance than the other two types of tessera, primarily due to a deficit of continuous ridges longer than ~50 km. However, lineations defined by discontinuities in ridges and short, discontinuous troughs and ridges tend to maintain consistent orientations over a region. Grooves are relatively common within the T_{ds} as compared to the other two terrain types and tend to be the most continuous, throughgoing structures in the T_{ds}.

Ridges in the T_{ds} tend to be symmetric and in some cases form subparallel sets (Figure 5*b*). In regions where T_{ds} is bounded by T_{sr}, the strike of ridges as well as their appearance change only very gradually from one type of tessera to the other. This suggests that T_{ds} ridges originate in the same manner as T_{sr} ridges. We therefore interpret them as compressional features. Lineations within the T_{ds} disrupt ridges in the same manner as was observed within the T_{sr} and possess a similar morphology. This suggests that T_{ds} lineaments also originate by strike-slip or shear deformation. Troughs and grooves in the T_{ds} could be (1) extensional features, (2) fracture zone analogs, as suggested for similar features in the T_{tr} [*Head*, 1990*b*], or (3) the surface expressions