characteristics of subparallel ridged (T_{sr}) and disrupted terrain (T_{ds}). In particular, shallow apparent depths of compensation, the presence of compressional and strike-slip features in these regions, the association of these terrains with Venusian mountain belts, and the presence of late stage extensional features in the T_{ds} are all consistent with this model. Further examinations of the tessera terrain should include consideration of how the driving forces for convergence might be identified.

Gravitational relaxation is consistent with the interpretation of late stage extension in the disrupted terrain and potentially explains trough and ridge tessera but requires further testing. If this process is pervasive throughout the tessera terrain, models predict that older regions of tessera have undergone significant extension, reduction of topographic relief, and possible volcanism. We are currently examining small regions of tessera as further tests of a relaxation model [*Bindschadler*, 1990; D.L. Bindschadler et al., manuscript in preparation, 1991].

A process analogous to seafloor spreading appears to satisfy many of the basic constraints for the formation of the trough and ridge terrain but leaves a number of issues unresolved. In order to be successful in explaining the origin of T_{tr}, a spreading model must explain frequent nonparallelism of troughs (as fracture zone analogs), the lack of seamount volcanoes, and the routine occurrence of plains volcanism in association with troughs. The interpretation of ridge and valley structures as extensional is somewhat uncertain, as is the nature of crosscutting relationships with troughs, mainly because of resolution limitations. Magellan data will help to resolve these uncertainties. If ridge and valley structures prove to be compressional, a horizontal convergence and/or gravitational relaxation model may be more appropriate to the T_{tr}. Crustal spreading remains a viable hypothesis for the formation of trough and ridge terrain but clearly requires further testing.

The diverse appearance and characteristics of tessera terrain suggest that either diverse processes are responsible for the formation of tesserae or that different regions and types of tesserae represent different points along an evolutionary continuum. This work suggests that both are possible. Subparallel ridged and disrupted terrain may result from a sequence that includes horizontal convergence, manifested as compressional deformation and strike-slip faulting, and followed by gravitational relaxation, with T_{sr} representing the earlier stages of deformation and T_{ds} representing the later stages. It is not clear that the T_{tr} fits into this evolutionary model. It may be formed by a completely distinct process, analogous to seafloor spreading. Another possibility is that a spreading process leads to the formation of regions of T_{tr}, which later undergo compressional deformation and relaxation, resulting in the formation of the other two types of tesserae (T_{sr} and T_{ds}). Further understanding of the tectonic processes that form and modify tesserae, as well as its global distribution will have significant implications for understanding the nature of the global tectonics of Venus.

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