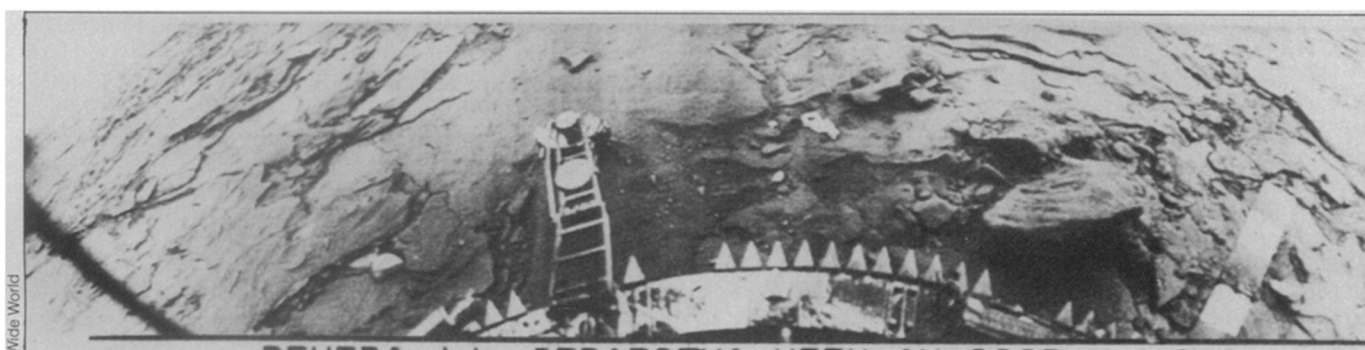
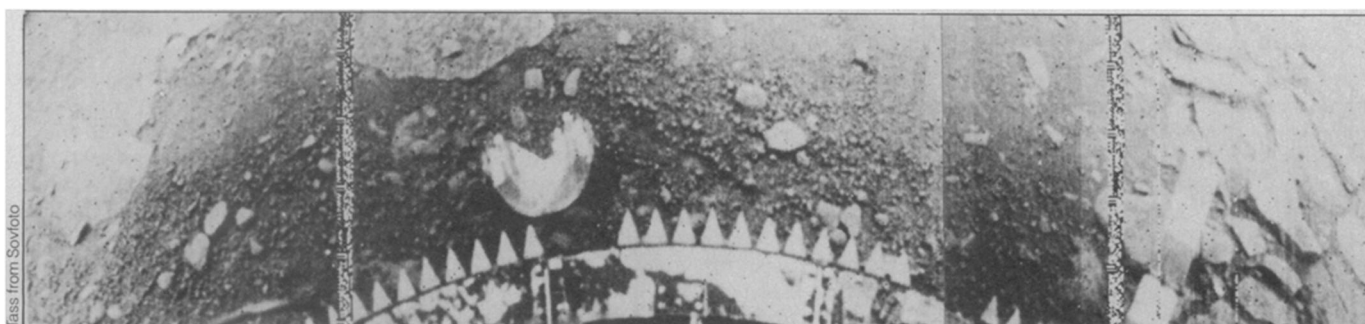
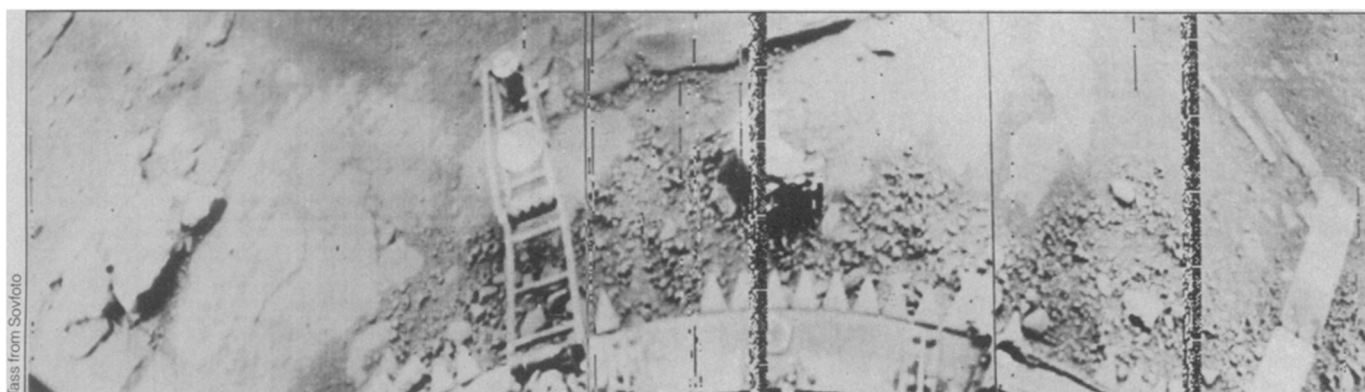


The eyes of Venera 13 and 14: New views of Venus



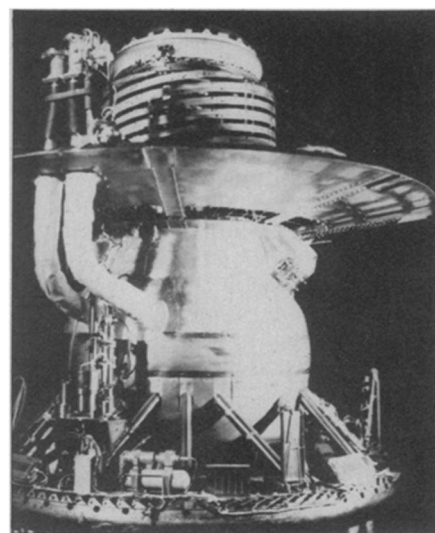
In 1975, the landing modules of the Soviet Venera 9 and 10 spacecraft provided the first two photos ever taken of the surface of haze-shrouded Venus. For more than six years, they remained the only ones of their kind. On March 1 and 5, however, Veneras 13 and 14 touched down on the planet — and the tiny Venus gallery was significantly enhanced.

According to initial Soviet reports, Venera 13 landed at 7°30'S by 303°, just east of the eastern extension of an elevated region known as Phoebe Regio, where it survived the hellish temperature (457°C or 854.6°F) and crushing pressure (89 earth-atmospheres) for 2 hours and 7 minutes. More than one picture was taken (top and middle photos above), and the landing site appears smooth but broken, and topped around the lander itself by abundant debris of various sizes. U.S. researchers looking at the photos suggested that the smooth areas might be either solid slabs of rock or a crust of fine particles cemented

together by chemical activity of the atmosphere. Such “fines” could be dust transported by the wind, or perhaps weathered from the underlying bedrock itself by chemical erosion. Such activity, both generating and cementing the particles, could be rapid on Venus, even with its shortage of earth's chief weathering agent, water. (The extended structure — top, left of center — was used for physical-properties tests; the checked strip — right — is a color-test chart.)

Venera 14 (bottom photo, above) landed at 13°15'S by 310°09', about 950 kilometers southeast of its twin and at a site about 750 meters lower in elevation (calculated from the 94-atmosphere pressure) and even hotter at 465° C, or 869° F. The other site's abundant debris seems lacking, but all the photos will become more meaningful with the eagerly awaited edition of another Venera 13/14 prize: X-ray fluorescence measurements of the elements in the planet's surface.

—J. Eberhart



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