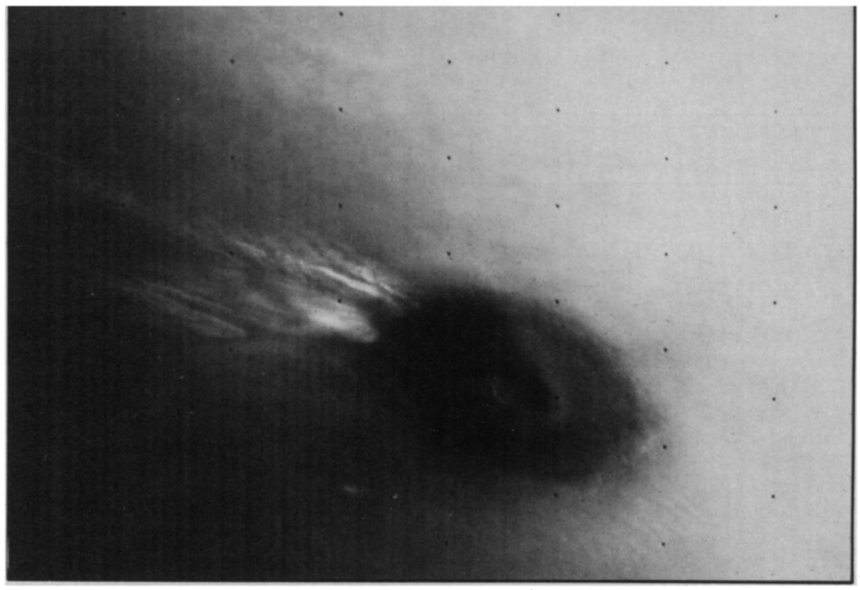
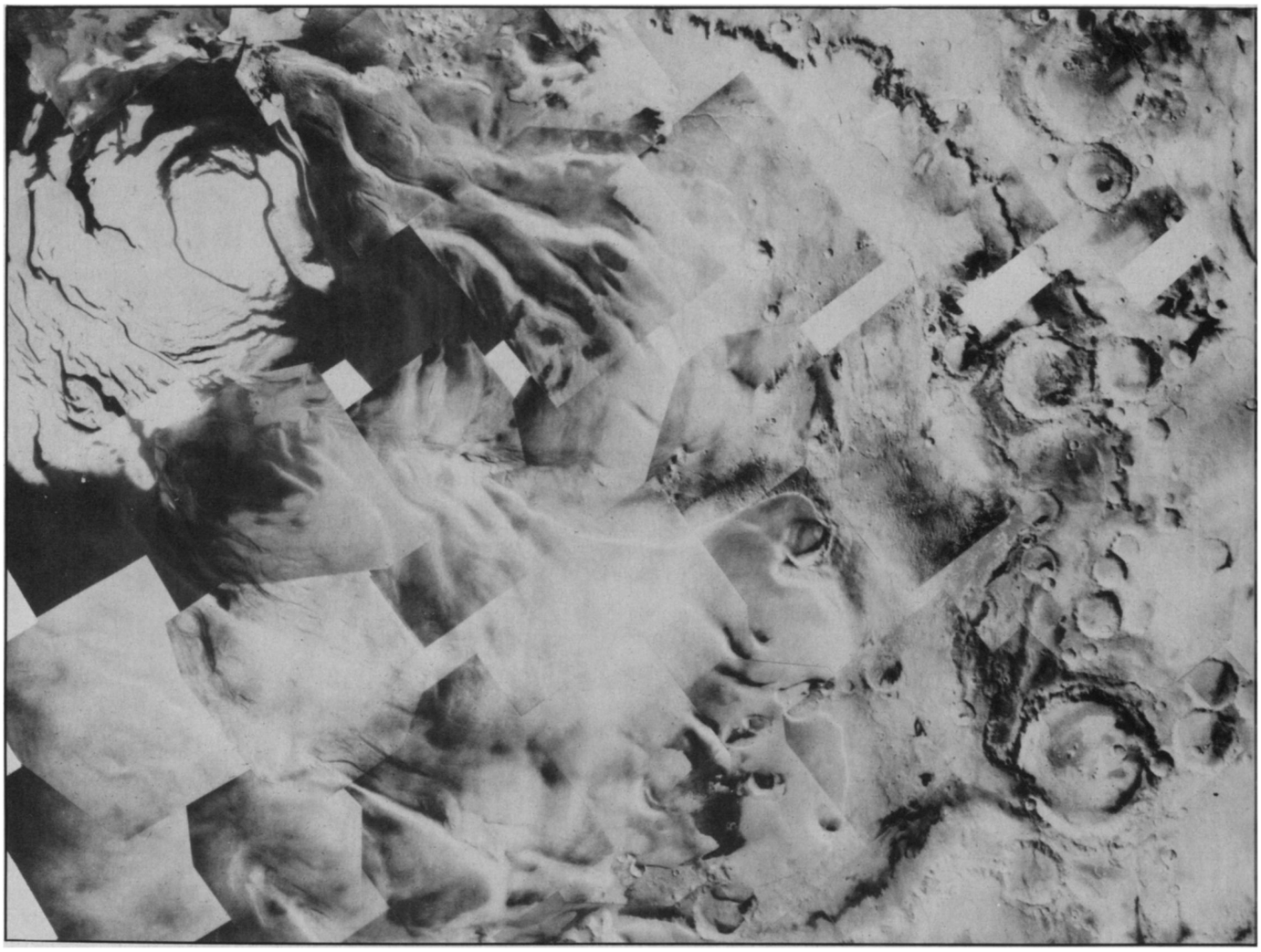
# Mars Album 8

## Still strange, still beautiful

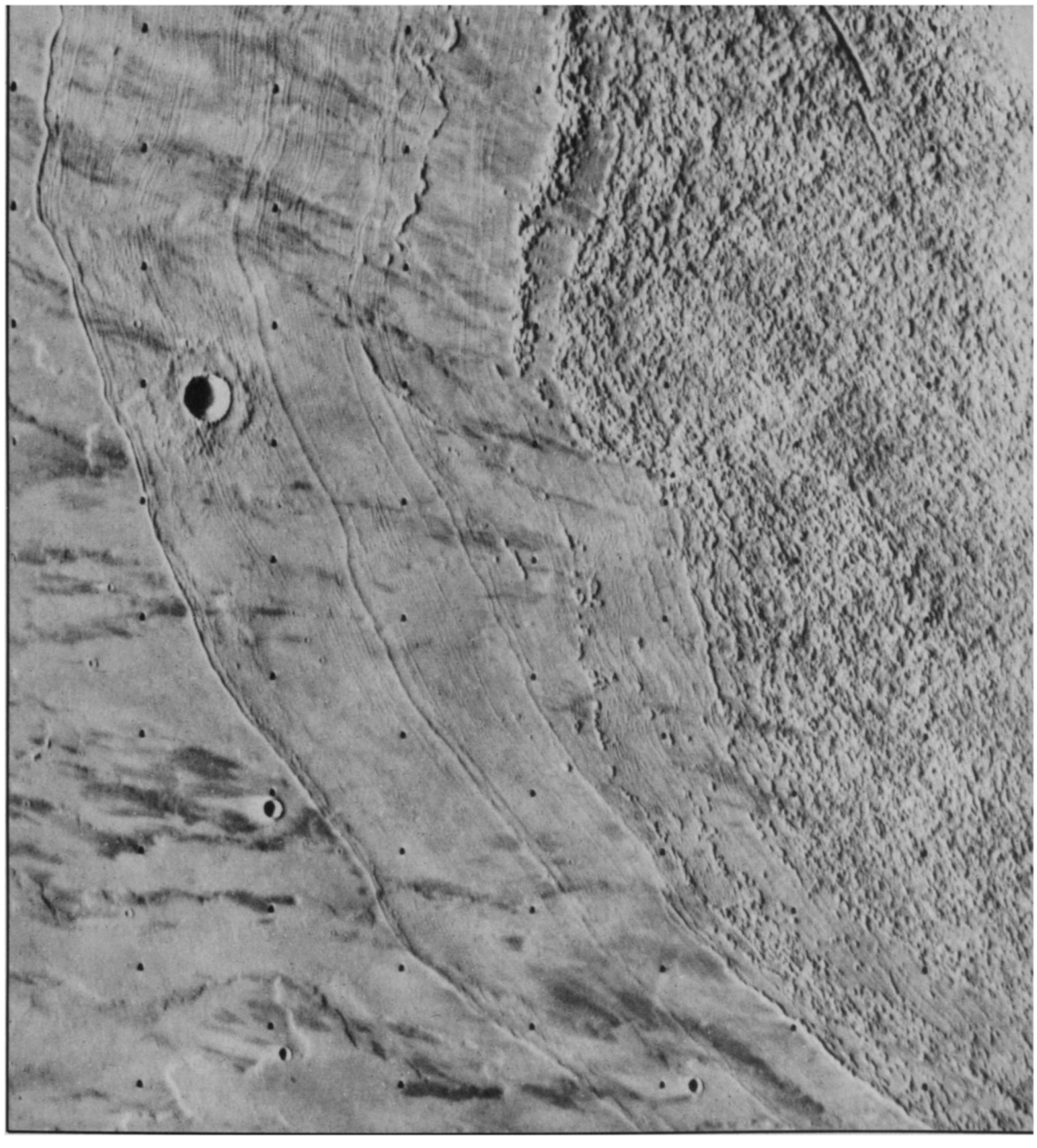


Photos: Viking Orbiter 1 and 2/NASA

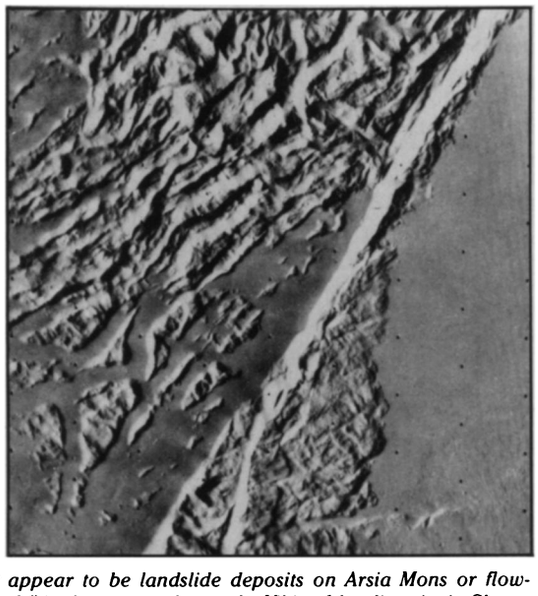
*Trail of cloud, hundreds of kilometers long, is an oft-seen spectacular as dawn touches the peak of towering Ascraeus Mons. Yet no such phenomena have been seen over either Olympus Mons, even taller and just 8° to the north, or Pavonis Mons, 10° farther south. The cloud's composition is an enigma, since Viking data suggest that the atmosphere at that altitude and latitude is too dry to provide sufficient water vapor, while temperatures are 35°K too high for carbon dioxide condensation (unless winds up the volcano's lee side generate a vortex causing a severe pressure drop).*



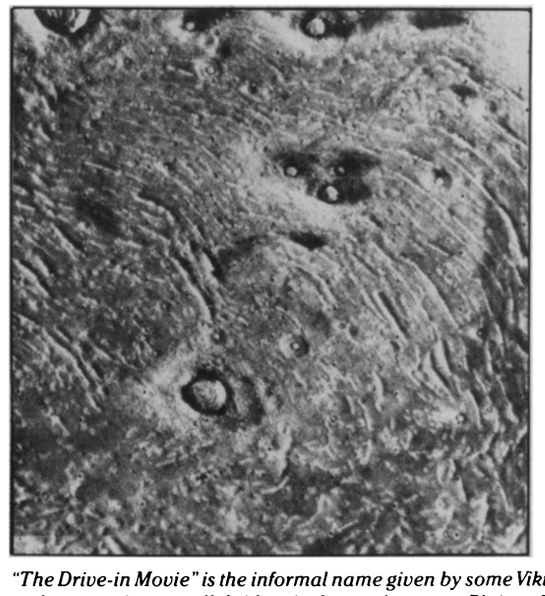
*A little-known giant is this vast basin, nearly 1,000 kilometers across and roughly tangent (at its lefthand edge) to the Martian south pole. Shown here in the late southern-hemisphere summer, it is fully as large as Argyre basin, one of the most prominent features on the planet, yet it has no name and is completely hidden for much of the year by the polar cap. Fewer craters in the basin than in the surrounding area suggests a relatively recent origin, which in turn implies that the winds must have been really working to produce the heavily weathered appearance of the basin's circumferential cliff. Bright spot at left is the residual polar cap, spirally marked by Coriolis-curved winds to reveal layered deposits similar to those seen in the northern cap.*



*No one knows what chain of events led to the strange appearance of this northwestward extension of the flanks of the huge volcano Arsia Mons in the Tharsis uplands. Countless hillocks, mostly 100 to 500 meters across, cover the flank's edge, which is surrounded by parallel ridges that run for hundreds of kilometers, undisturbed by craters, flow features or even variations in surface brightness. One hypothesis is that the hillocks were formed by a huge landslide, perhaps assisted by gravity since the surrounding plains slope downward about 0.5° to the northwest. (Ashflow deposits are deemed unlikely, due to the lack of signs that any of the material was blasted into place from vents in the volcano.) The ridges may be folds or "reverse faults" caused by the drag of the landslide over the underlying terrain, which would transmit an outward pressure perhaps capable of passing beneath surface features.*



*Unlike what appear to be landslide deposits on Arsia Mons or flow-formed "islands" in the approaches to the Viking 1 landing site in Chryse basin, these patterned rises at the base of Olympus Mons strongly resemble classic, terrestrial "yardangs," cut out of old lava flows by the relentless winds. Some researchers liken the shape of these features to "inverted boat-hulls."*



*"The Drive-in Movie" is the informal name given by some Viking scientists to these curving, parallel ridges in the northwestern Plains of Utopia. One tentative idea of their formation is that they were created by the stepped or episodic retreat of some overlying mantle, followed by the progressive melting of ground ice or permafrost, loosening of the resulting debris, and collapse to form the low spots that now define the ridges between them.*