

Evidence supporting the existence of the paleolandslide: Identification of the failure plane and the east margin of the landslide

10 - The bottom of the Vaiont Valley and the northeast edge of the paleolandslide

Photo Edoardo Semenza, September 1959 | from Le foto della frana del Vajont - S1_19



The north wall (photographs 8 and 9 of panel 4 and photograph 17 of panel 8) bordered the so-called eastern wall, which Edoardo Semenza described in this manner: "Along the eastern wall of the paleoslide the situation was dramatic: [...] deep cavities [...] heavily fractured rock [...] vertical cracks." A funnel-shaped gully filled with debris is visible at the centre of the photograph.

Also evident is the strong discordance between the upward-folded layers of the ancient landslide at the right and rock layers to the left of and below the gully that dip steeply towards the northeast. The cataclasite visible in photograph 11 was found during an excavation along the small footpath just below the upper wall. Note also the talus and, beneath it, the bedrock layers.

The photographs in this panel provide the clearest evidence of the existence of the paleolandslide. They are the only ones that show position, thickness and eastern margin of the sliding plane mass.

Cataclasites and tectonic breccias overlying intact bedrock were exposed in a small excavation through the talus accumulation shown in photograph 8 of panel 4 (photographs 10 and 11). The cataclasites occurred in Fonzaio Limestone containing thin clayey interlayers, the same horizon associated with the catastrophic 1963 failure. Edoardo Semenza extended the cataclasites within the Fonzaio Formation along the entire north wall and ascribed them to the failure of the paleolandslide. He furthermore recognized that the geological discontinuity between the east wall, where the subhorizontally layered landslide mass rested on cataclasites, and the intact rock masses farther east marked a fault (the Col Tramontin Fault). This boundary proved to be significant, as it marked the lateral right boundary of the 1963 landslide.

11 - The excavation that exposed the failure surface

Photo Edoardo Semenza, 3 November 1959 | from Le foto della frana del Vajont - GS_43

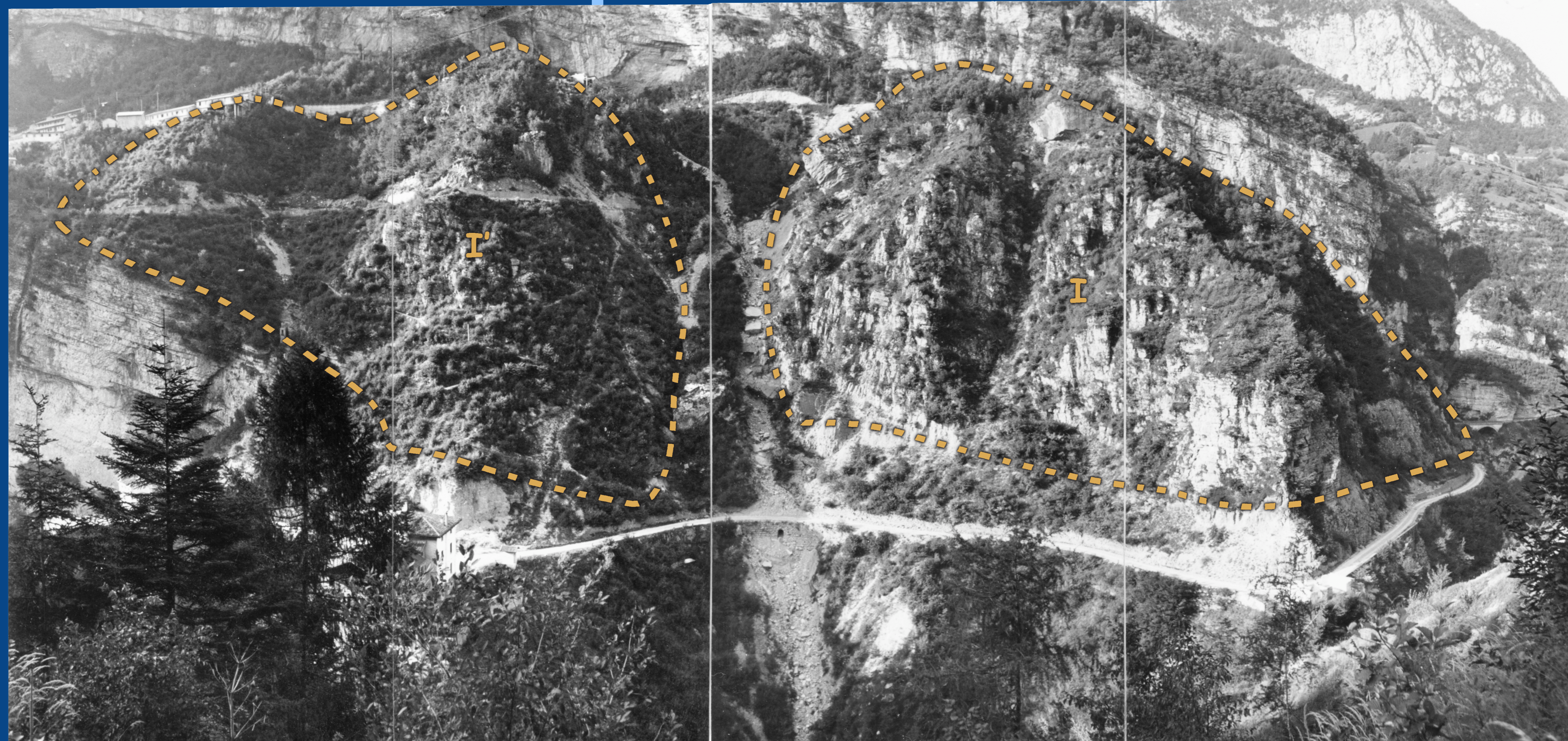


The excavation next to the small path visible in photograph 10 exposed cataclasites that separated the paleolandslide (to the upper right) from fractured bedrock (lower left).

The hammer at the lower right provides a sense of scale – the cataclasites at this place are about 1 meter thick.

12 - North side of the Vaiont Valley just upstream of the Colombar Bridge

Photo Edoardo Semenza, 26 August 1959 | from Le foto della frana del Vajont - GS_53



At the top, the building yard (left), the new road and a bedrock wall; at the bottom the old road; in the middle left an abandoned road. Note the contrast between the rocky wall that overhangs the new road (currently a practice wall for climbers) and slopes downward to the right and left, and the rock masses (I and I') that rise between the two roads in the central part of the photo. Bedrock in the rocky wall dips regularly towards the right (east), whereas the central rock masses are heavily fractured, with variable dip. The rock mass at the right (I) lies on loose sediment; after 1963 it was named "Colle Isolato" (see text and more photographs of Colle Isolato in the following two panels).