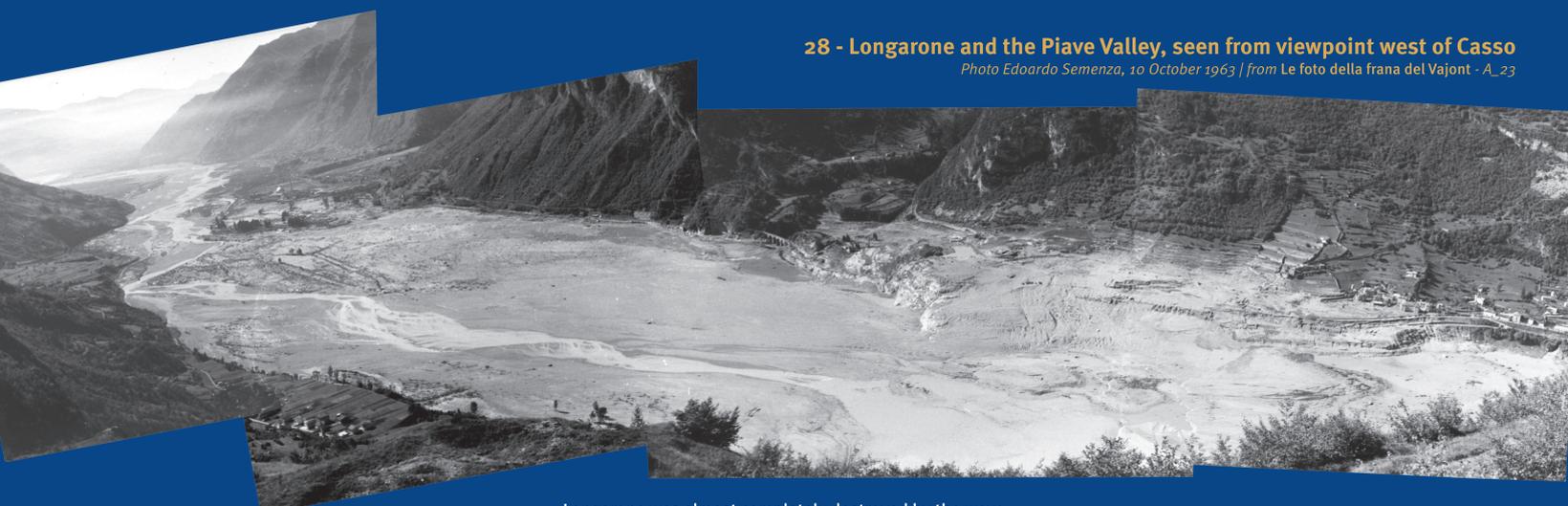


The morning after the landslide of October 9, 1963 - 1



28 - Longarone and the Piave Valley, seen from viewpoint west of Casso
Photo Edoardo Semenza, 10 October 1963 / from *Le foto della frana del Vajont - A_23*

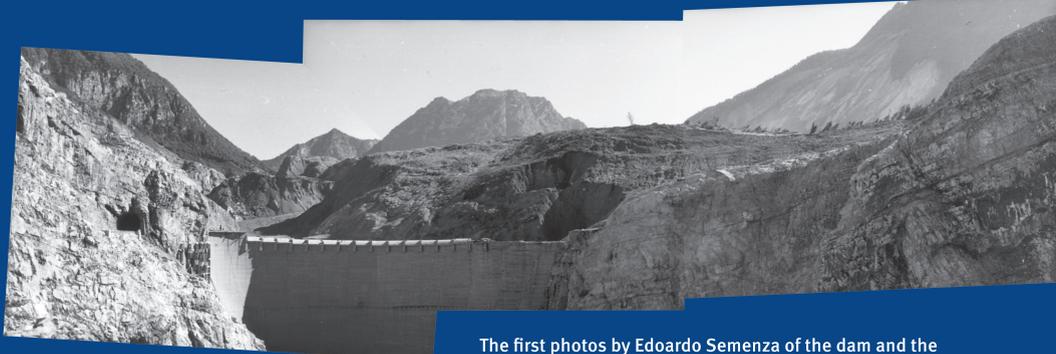
Longarone was almost completely destroyed by the wave that overtopped the Vaiont dam. Only the houses north of the City Hall (on the right) were still standing. To the center and south, the destruction was total, just as at Pirago where only the bell tower of the cemetery remained standing. Longarone became a huge expanse of detritus and gravel, sand and mud, which the wave had torn away from the Vaiont Valley and mainly from the Piave River bed.

The tragedy occurred during the night of October 9, 1963 is illustrated by photos taken by Edoardo Semenza the next morning.

After the first filling and the drawdown of the reservoir following the November 4, 1960 landslide, and after the construction of the by-pass tunnel, the level of the reservoir was raised again, beginning in October 1961.

The reservoir reached 700 m asl in November 1962. By then, movement of the Monte Toc slope increased to 1.5 cm/day and, therefore, the level of the reservoir was again lowered, reaching 650 m in March 1963, when the movement again stopped.

29 - The dam and the landslide mass
Photo Edoardo Semenza, 10 October 1963 / from *Le foto della frana del Vajont - A_22*



The first photos by Edoardo Semenza of the dam and the landslide mass, taken from the first of the Upper Sant'Antonio Tunnels on the morning of October 10, 1963.

30 - Panoramic view from the slope northwest of the dam
Photo Edoardo Semenza, 10 October 1963 / from *Le foto della frana del Vajont - RS63_1*



View of the landslide mass and the main scarp. The walls on the left are bedrock, as are the banks on the right that dip gently toward the left (east) at the foundation for the dam. Note also, in the center of the photo, three craters that formed when unconsolidated debris settled. In the following days, two more craters formed.

The third filling began in April 1963, and at the end of June the lake reached 700 m. Slope movements recommenced, but at a very low velocity.

Accordingly, the hypothesis previously made by Professor Müller seemed to be confirmed. He had suggested that the slope movements were caused by saturation of the rock mass when it was covered by water for the first time, but that the next saturation would lead to smaller movements.

Müller was no longer a consultant on the landslide, although he still advised S.A.D.E. on the dam after the death of Carlo Semenza in October 1961. He had stated in February 1961 that it would be impossible to stop the movement of the landslide completely, but it would be possible to minimize velocity through controlled rising and lowering of the reservoir during operations, taking also into consideration rainfall.

At the beginning of August 1963 the movement of the slope increased to 0.5 cm/day. In spite of the experience of the first two fillings, during which the movement had slowed only after significant lowering of the reservoir, another lowering was not undertaken. Instead, the reservoir was raised further, reaching 710 m asl at the end of August.

In September 1963, the velocity increased slowly but continuously.

On September 18, S.A.D.E. decided to initiate a third drawdown, but it began only on September 26, and was no longer gradual, but rather rapid. During this interval, the velocities of the slope movements were still lower than those reached in November 1960, yet they rapidly increased up to 5 cm on October 4 and to 30 cm/day on the morning of October 9.

At 10:39 p.m. on October 9, 1963, the huge rock mass slid into the reservoir. The wave flowed in several directions, destroying most of Longarone and striking groups of houses with inhabitants inside in other villages.