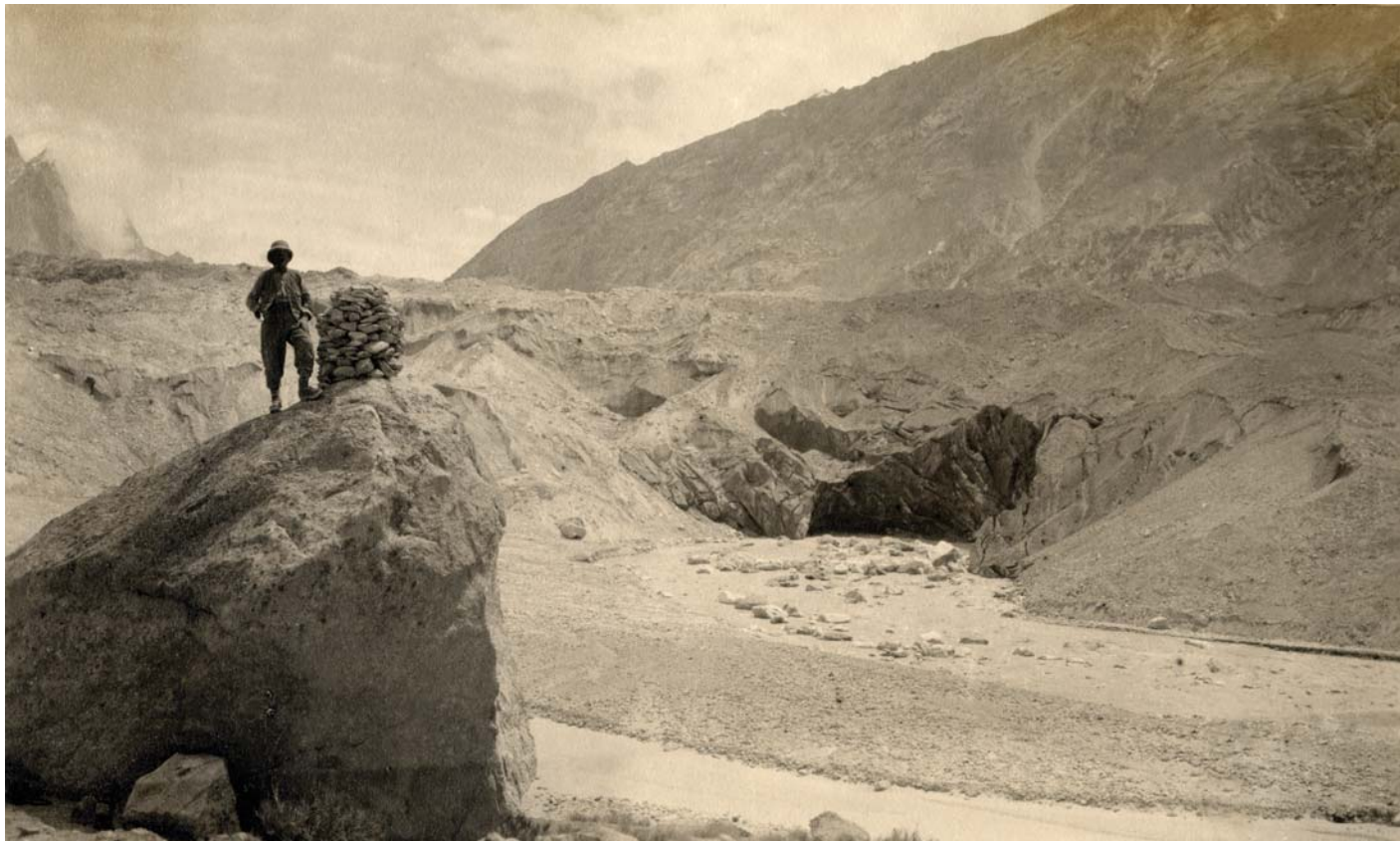


FABIANO VENTURA

On the Trails of the Glaciers



Fronte ghiacciaio Baltoro 1929-2009

Terzano Rock with Baltoro glacier terminus in the background. Although the terminus is at the same position as 80 years ago, the significant decrease in the glacier's thickness is clearly visible.

Modern photo: © Fabiano Ventura

Historical photo: © Italian Geographic Society



Retracing the steps of a famous early 20th century expedition through the South Asian Karakorum Range near the lofty peak of K2 reveals that the region's glaciers are shrinking in response to a warming climate.



On the Trails of the Glaciers is a multidisciplinary project, combining photography and science, to study the effects of climate change on the glaciers of the most important mountains of the world.

The project's primary goal is to record current photographic images that reproduce the views of remote mountain recorded early in the 20th century by illustrious explorer/photographers. These new images give scientists and investigators the basis for comparative observations on the state of the largest glaciers in the world, which are valuable and extremely sensitive indicators for assessing the current climate and how it has changed over time.

The project mounted its first expedition in 2009 to mark the 100th anniversary of the Duke of Abruzzi's 1909 expedition to Karakorum. The main goal of the original scientific and mountain-climbing expedition was to climb K2. Although the group could not reach the peak, it did make it to the top of the 7,500-meter Bride Peak, the highest elevation anyone had achieved at that time. This expedition became famous for the abundant scientific data it collected and for Vittorio Sella's stunning photographs of this remote and starkly beautiful region. Twenty years later, Aimone di Savoia, the Duke of Spoleto, led another important expedition with the geographical objective of exploring the basin of the Baltoro gla-



Morene del Baltoro dal campo di Liligo 1909-2009

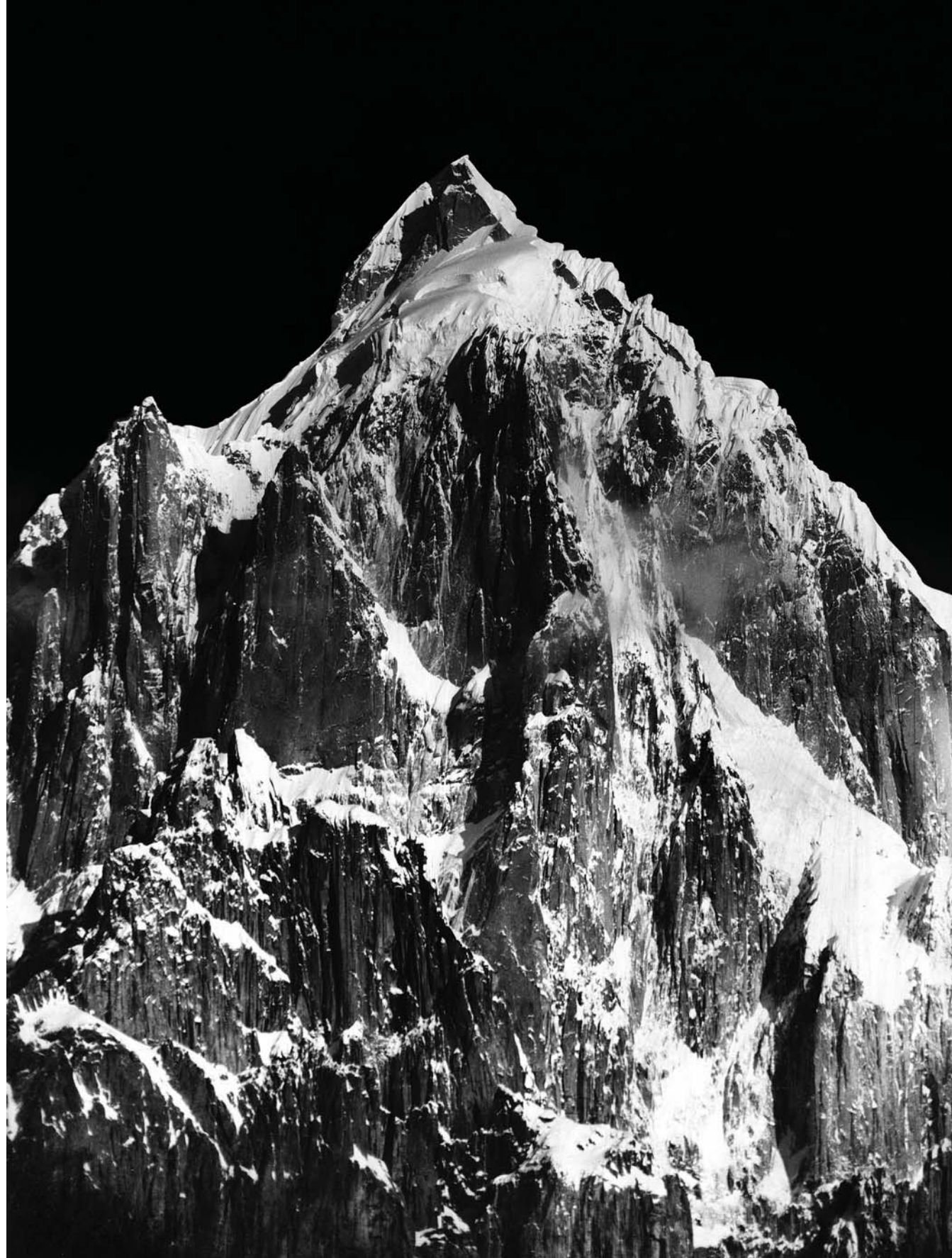
Trango Towers from the old Liligo Camp. Note the big loss of thickness, estimated in these central areas to be about 50-60 meters.

Modern photo: © Fabiano Ventura
Historical photo: © Sella Foundation

cier. Several Italians were involved in the expedition, including geologist Ardito Desio and photographer and cameraman Massimo Terzano, who recorded still images as well as producing a film documentary.

Inspired by the centenary celebration, *On the Trails of the Glaciers* assembled a team of mountaineers, scientists,

and photographers to retrace the steps of the two historic expeditions and to produce new versions of the photographs taken by Vittorio Sella and Massimo Terzano. Through direct comparison of old and new pictures the team was able to highlight differences that the slow flow of time made imperceptible even to the most careful viewer.



Monte Payu 1909-2009
 Mt. Payu has experienced a major loss
 of hanging glaciers.
 Modern photo: © Fabiano Ventura
 Historical photo: © Sella Foundation





Ghiacciaio Liligo 1909-2009

The Liligo Glacier, a tributary of the Baltoro Glacier, is known as a "pulsing" glacier; the end of the expansion phase is clearly visible.

Modern photo: © Fabiano Ventura
Historical photo: © Sella Foundation



The scientific observations of the glaciers' extensions, the moraines, snowfall, avalanches, and general geomorphologic status have been directed by two of the world's leading experts in the field of glaciology: Claudio Smiraglia, professor at the University of Milan and former president of the Glaciological Italian Committee, and Kenneth Hewitt, research associate at the Wilfrid Laurier University in Waterloo, Canada, and founder of the university's Cold Regions Research Centre. Hewitt, a leading authority on the Karakorum glaciers, has been constantly in contact with the team, providing guidance on where to take photos and what scientific data to collect. Smiraglia is currently analyzing the

data gathered during the expedition. Geologist and alpinist Pinuccio D'Aquila has been with the crew on Baltoro to perform direct analysis and to collect data on the glaciers' extensions.

I was the project leader and took the photos during the expedition. I had previously worked in the region in 2004 as official photographer of the climbing-scientific expedition commemorating the 50th anniversary of the first ascent of K2. For many years I've been studying photographic archives, maps, texts, and travel diaries that the early explorers left us from the original expedition. This research made it possible for me to identify the exact geographical sites from which previous photogra-



Circo Concordia da Mitre 1929-2009

Concordia circle, with K2 in the background. The main mass loss has occurred in the minor tributary glaciers of the Baltoro. Modern photo: © Fabiano Ventura
Historical photo: © Italian Geographic Society





phers took their shots. Using the most modern digital technologies, combined with traditional large-format imaging techniques, my aim was to produce images that were not only of scientific and environmental significance but also of high aesthetic quality.

For several technical reasons, the decision to record all the images on traditional film and in particular on large format was almost mandatory. I needed to achieve the same magnification ratio obtained by the earlier photographers, and I wanted to obtain the best ultra-high-resolution images possible with today's equipment. Even today's best digital SLR cameras cannot match the quality of large-format film cameras. I therefore used large format 4"x 5" and

6 x 17 cm cameras to photograph glaciers. Digital cameras were used to document the expedition, and these digital images were sent daily to a web portal, where the public could follow the progress of the expedition in real time.

Our team also included a film crew that is producing a full-HD documentary of the expedition. A travelling photo exhibit and a book are planned for 2010.

I hope that this project will help us to better understand the transformations that are occurring on our planet due to climate change. Today more than ever it is essential to understand how the complexity and fragility of our ecosystem so that we can effectively act on the principles of



**Ghiacciaio Baltoro da sopra Urdukas
1929-2009**

View of the Baltoro Glacier looking toward Gasherbrum IV, seen from above the Urdukas camp. The loss of thickness in the superficial glacial mass is visible.

Modern photo: © Fabiano Ventura
Historical photo: © Italian Geographic Society

environmental protection and sustainable development.

Further information can be found at <http://www.sulletraccedeighiacciai.it/it/en/>.

Fabiano Ventura, a nature photographer based in Rome, Italy, is project leader of On the Trails of Glaciers.