REFERENCES

1. Péwé, T. L. Sand-wedge polygons (tesselations) in the McMurdo Sound Region, Antarctica—a progress report. *American Journal of Science*, Vol. 257, 1959, p. 545-52.
2. McKelvey, B. C., *and* Webb, P. N. Geological investigations in South Victoria Land, Antarctica. Part II. Geology of upper Taylor Glacier region. *New Zealand Journal of Geology and Geophysics*, Vol. 2, No. 4, 1959, p. 718-28.
3. Kolb, A. Historische Gletscherschwankungen auf der Südhalbkugel insbesondere auf Neuseeland. *Schlern-Schriften*, 190, 1958, p. 123-46.

SIR,

Discovery of a volcano in the Patagonian Icefield

In two previous publications [1, 2] I reported that 1946 aerial photographs of some glaciers issuing from the Patagonian Icefield showed three melt borders of volcanic ash, the highest being located at the firn limit. I observed similar borders on Glaciar Viedma, in 1952, from the air, the highest also being located at the firn limit.

The striking similarity to Crater Grimsvötn, in the middle of Vatnajökull in Iceland, induced me to say that a zone in the middle of Glaciar Viedma was a volcanic crater. Carlos Keller had arrived at the same conclusion after studying the same photographs. But this crater would only have accounted for the ashes on Glaciar Viedma. So I attributed the ashes found on nearly every glacier between lat. 49° 10′ S. and lat. 48° 20′ S. and the other signs of volcanic activity to the existence of a second volcanic centre near Cerro Lautaro, and even possibly a third one. The Cerro Lautaro is Point 3370 at the top of the chart, in the *Journal of Glaciology*, Vol. 2, No. 13, 1953, p. 171.

But Eric Shipton went to this spot in 1958/59 and studied the zone free of ice in the middle of Glaciar Viedma. He noticed that this was not in the least volcanic. However on his walk to this zone he had collected pumice stone from a moraine of Glaciar Viedma. And as a new proof of the existence of a volcano further north, I have just received the following letter from him:

"A year ago I had the pleasure of meeting you in Grenoble, where we discussed the question of volcanic activity on the southern ice cap of Patagonia.

"I have recently returned from a second visit to Patagonia, and I thought you would be interested to know that we found an active vent about 100 m. below the summit which you named 'Lautaro' on the Cordón Pio XI.

"I am sending you a photograph of 'Lautaro' taken just after an eruption of ash from the vent.

"We made a collection of rock specimens from the outcrops on various parts of the mountain. These have been examined by Señor Oscar Gonzalez (?) of the University of Chile.

"I am hoping to return to the same area next season 1960/61. . . ."

That is one more mystery elucidated by this brilliant explorer.

Cerro Lautaro looks so little like a volcano that the Argentine expedition which went by it and named it with the name of an Araucan hero did not acknowledge it as such. [3] This new volcano lies on a straight line with Volcán Burney, Volcán Macá, and other volcanoes of Patagonia.

The discovery of big fragments of pumice stone on Glaciar Viedma seems to prove that this glacier drains the ice from the south-east slopes of Cerro Lautaro. Reichert in 1933 thought that he saw "Glaciar Hicken" flowing down northwards from the "Paso de los Cuatro Glaciares" ("Pso. de los 4 Gl." in the aforementioned chart). In fact it would be a continuation of Glaciar Viedma flowing in the opposite direction, southwards. Therefore the interoceanic ice divide would be more to the west.

The Argentine expedition of 1952 made levellings in this area, but did not publish the results.

Laboratoire de Géophysique et Glaciologie, L. LLIBOUTRY
Grenoble.

14 October 1960

REFERENCES

1. Lliboutry, L. *Nieves y glaciares de Chile. Fundamentos de glaciologia.* Santiago de Chile, Ediciones de la Universidad de Chile, 1956, p. 407-08, 413-14.
2. Lliboutry, L. Banding and volcanic ash on Patagonian glaciers. *Journal of Glaciology*, Vol. 3, No. 21, 1957, p. 18-25.
3. Hielo Continental 1952. *Anuario del Club Andino Bariloche*, No. 21, 1953, p. 33-35.

https://doi.org/10.3189/S0022143000027337 Published online by Cambridge University Press