

THE APASTEPEQUE VOLCANIC FIELD

by

HELMUT MEYER-ABICH AND HOWEL WILLIAMS**1. INTRODUCTION**

To the north of San Vicente lies a youthful volcanic field of unusual interest concerning which little has been written. Nowhere in El Salvador is there a denser cluster of volcanic vents, for here in an area of approximately 100 square kilometers may be counted as many as 25 small volcanoes. Some of these volcanoes are domes of Peléan type, some are basaltic cinder cones and others pit-craters. No doubt all are of post-Pleistocene age, and the youngest are probably only a few thousand years old. But it is not only the volcanoes themselves, and in particular the remarkable pit-craters, that invite attention; no less striking is their structural setting. From Lake Ilopango, an important fault-zone runs eastward, first along the Río Desagué, thence along the valleys of Ríos Jiboa and Acahuapa. Near the village of Jerusalem, the fault-zone is marked by a narrow, but conspicuous horst-ridge, and farther east by an impressive scarp which increases in height in that direction until, near the junction of the Pan-American Highway with the road to San Vicente, it breaks into several scarps. One of these makes a spectacular, semi-circular loop around Lake Apastepeque; the others turn east-southeastward, making a series of huge steps that fall to the valley of Acahuapa. Part of the recent volcanic field we are about to describe lies within this area of branching faults; part of it lies immediately to the north. And yet, strange to say, the volcanoes themselves are distributed at random, without apparent relation to these important structural lines.

2. LATE TERTIARY BEDROCKS

In our paper on the "Origin of Lake Ilopango" (WILLIAMS & MEYER-ABICH,

1953, 1955), we showed that the Ilopango graben is bordered on the north by northward-dipping Late Pliocene rocks, chiefly andesitic and basaltic lavas and laharic deposits, heavily covered by sheets of white dacite pumice of Pleistocene and Recent age. We showed also that this thick cover of dacite pumice was laid down partly by glowing avalanches and partly by airborne showers from vents now marked by domes of dacite lava. Some domes formerly rose above the present site of Lake Ilopango: others rose through the dip-slopes to the north where they now form conspicuous "islands" rising above the dissected pumice sheets. Precisely the same relations are to be seen throughout the area extending eastward from Lake Ilopango for about 25 Kms., to include the region that concerns us here. The northern limit of the pumice blanket runs approximately along the parallel 13° 50' North, from near Tenancingo, thence just south of Ilobasco to the vicinity of San Isidro. There the limit swings southward, passing close to Santa Clara and the eastern margin of the Apastepeque volcanic field, as shown on the sketch-map, figure 1.

Examination of aerial photographs has permitted us to indicate roughly the distribution of the principal "Islands" of Tertiary bedrocks that protrude through the pumice cover, but unfortunately we have so far only been able to visit some of them. We now believe that the long, eastwest ridge of olivine-bearing basalt or basaltic andesite adjoining the Pan-American Highway near Cojutepeque is one of these Late Pliocene "Islands" and not a younger lava, as formerly (1953) supposed. So is the ridge of olivine basalt followed by the same highway between El Carmen and Santo Domingo. Olivine basalts must also be present beneath the pumice cover north of San