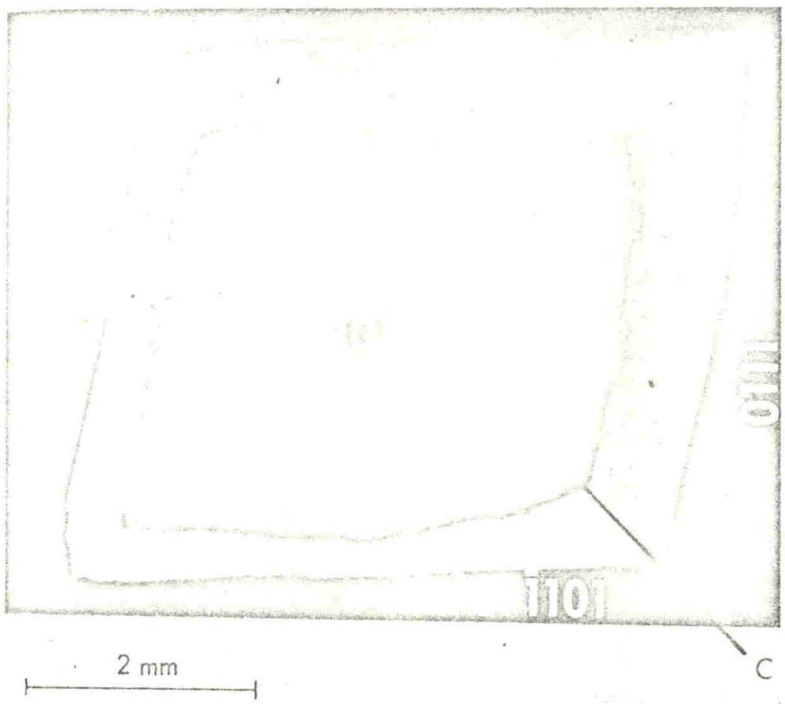

FIG. 8. Unequal depth of reaction envelope of $Ca(OH)_2$ developed on cleavage rhombohedron of optical calcite. Experimental conditions: 665°C; 10,000 psi (H_2); 4 hours. The unreacted calcite core was cleanly plucked from the $Ca(OH)_2$ rim during grinding and for illustrative purposes the calcite void was filled with plastic.

were immediately imbedded in quick-setting plastic, and flats were carefully ground normal to the side cleavage surfaces. If the samples were not potted, spontaneous spalling of the reaction film and shattering of the core generally occurred on standing. In addition to normal cleavage, conchoidal fracture was sometimes observed on the shattered calcite. The depth of alteration was measured optically and found to be very anisotropic and crystallographically similar for all crystals. The average ratio of maximum to minimum depth of the anisotropic reaction rim (for 29 samples) is 2.1.

The crystallographic orientation of several specimens was determined by using thin sections, a petrographic microscope, and a universal stage. The reaction rims and crystallographic orientation are shown in Figure 5. In a sense, the reaction rims may be compared to etch figures. Under normal conditions, the calcite I crystal system and class are given as: trigonal, $\bar{3}2/m$. Honess and Jones (1937) in their investigation of etch figures in carbonate minerals by optically active solvents, noted