faces *m*/*m* answers within several minutes to the angle of the same faces in phillipsite. Here then we are dealing with the fundamental forms of this mineral, and, at least in the case of the smallest of these microliths, with non-twinned crystals, which have not hitherto been pointed out in specimens of this species found in fissures and geodes of volcanic rocks. In spite of their extreme tenuity, the faces *c* and *b* can each give good reflections, thus showing that these crystals are not lamellar, as might be supposed at first sight, but that they possess a development almost equal for these faces. The attempts to determine their optical properties, difficult even in the case of large crystals, have not given any definite results. The optical properties of phillipsite are very variable, and, as with the majority of minerals belonging to the group of zeolites, the tints of chromatic polarisation are of low order, and in this case the difficulty is increased owing to the great absorption of light by the optic apparatus when studying between crossed nicols with high magnifying powers. In fine, the angle of extinction of phillipsite is relatively small, and as the edges are only a few hundredths of a millimetre in length it is difficult to measure this angle under the microscope. When the crystals are larger, there may sometimes be observed at the two extremities four lozenge-shaped faces reposing upon the edge $\infty \bar{P} \infty / 0P$, having then the aspect of orthorhombic prisms terminated by the faces of a pyramid. What has been said as to the determination of the faces shows that we are dealing in this case with one of the ordinary twins of phillipsite, the plane of twinning and the plane of composition being the face 0P. It may be added that this twinned form has not up to the present time been observed in an isolated condition, except in the case of small crystals of phillipsite from Plombières, where Des Cloizeaux has found forms identical with those here indicated.

The small crystals are seen to pass through all the transitions of size to the larger simple or twinned individuals, which show a tendency to group themselves irregularly or according to a crystallographic law. Even the smallest microliths that pass off with the first decantation are superposed, grown together, and interlaced. In certain cases the groups are regular; they are crossed twins, recalling perfectly the well-known twin form of harmotone and of phillipsite. The annexed woodcut (Fig. 36) represents one of these twinned crystals from the South Pacific, Station 276, 2350 fathoms; it is from this station that all the figured specimens of zeolites from the Pacific have been selected. This cruciform twinning is repeated so frequently and is so characteristic that it might almost of itself serve to identify these little crystals as belonging to the one or the other of these zeolitic species.

Fig. 36.—Crossed Twin Crystal of Phillipsite. Station 276, 2350 fathoms, South Pacific.

Although the twinning is not rare, the crystals are more frequently observed forming irregular groups, as shown in Pl. XXII. fig. 4, where these crystals are grouped as they appear after isolation from the mud by decantation. The grouped microliths are covered by a coating of manganese and iron, which is generally arranged around the centre of the