



XLVII. Supplementary note to Professor Des Cloizeaux's memoir on humite (Phil. Mag. [V.] vol. ii.)

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XLVII. *Supplementary Note to Professor Des Cloizeaux's Memoir on Humite* (Phil. Mag. [V.] vol. ii.). By Professor A. DES CLOIZEAUX†.

SINCE the communication of this memoir to the Crystallogical Society, I have resumed the examination of the optical character of a certain number of crystals of the three types of Vesuvian humite which I received from Professor Scacchi. The results obtained are similar to those which I have already published; but the crystals of type II. are especially remarkable for the great number of bands twinned round the normal to the base, to which the bands are parallel. In consequence of this twinning, a face a^1 , for example, is formed very frequently by a portion of a^1 occupying its proper position, and by a portion of $o^{\frac{1}{2}}$ belonging to a twin band. The same coincidence occurs with the corresponding faces $a^{\frac{2}{3}}$ and $o^{\frac{1}{2}}$, $a^{\frac{1}{2}}$ and h^1 , b^1 , and $d^{\frac{3}{4}}$, &c. Now, no reentering angle being observed on these compound faces, their incidences on the base should be equal. It is precisely what one remarks in the calculated angles contained in the following Table, and which have been obtained by substituting for two of the elemental angles, which I have borrowed from Scacchi, the following:

* $p h^1 = 109^\circ 1'$ (vom Rath) instead of $108^\circ 58'$ (Scacchi).

* $p d^{\frac{1}{2}} = 125^\circ 50'$ " $125^\circ 52'$ "

$b : a : c :: 419058 : 907949 : 696666.$

| | | |
|----------------------------|--------------------|------------------------------|
| $p e^2$ 141 50 | $p a_2$ 114 58 | $p b^1$ 135 19 |
| $p e^1$ 122 28 | $p \beta$ 95 19 | $p d^{\frac{2}{3}}$ 135 19 |
| $p a^1$ 135 57 | $p \gamma$ 125 2 | $p b^{\frac{2}{3}}$ 125 50 |
| $p o^{\frac{1}{2}}$ 135 57 | $p o_3$ 125 2 | * $p d^{\frac{1}{2}}$ 125 50 |
| $p a^{\frac{2}{3}}$ 119 52 | $p a_3$ 103 9 | $p b^{\frac{1}{2}}$ 113 26 |
| $p o^{\frac{1}{3}}$ 119 52 | $g^1 a_3$ 135 41 | $p d^{\frac{1}{4}}$ 113 26 |
| $p a^{\frac{1}{2}}$ 109 1 | * $g^1 h^3$ 135 41 | $p m$ 98 13 |
| * $p h^1$ 109 1 | | |

XLVIII. *Note on the Law of Twinning and Hemihedrism of Leucophane.* By EMILE BERTRAND, Paris†.

THE crystallography of leucophane has been treated of by Professor Des Cloizeaux in his *Manuel de Minéralogie*, by Mr. Greg (Phil. Mag. [IV.], vol. ix. p. 510), and by Professor

† Communicated by the Crystallogical Society, having been read April 12, 1877.