



### Plate III

*Fig. a.* — X-ray pattern of isolated by-product in sample 2.5, and schematic representation of literature reference pattern of  $\gamma$ -AlOOH.

*Fig. b.* — Na<sup>+</sup> substituted preparation typical for series 2 as *fig. b* on Plate II, but direct preparation. Sample 2.5.  $\times 12,000$ .  $\text{LiAl}_2\text{Mn}_3\text{O}_9 \cdot 3\text{H}_2\text{O}$  can not be distinguished from  $\gamma$ -AlOOH.

*Fig. c.* — Selected area electron diffraction of  $\gamma$ -AlOOH single crystal isolated from sample No. 2.5 (*fig. b*).

*Fig. d.* — Selected area electron diffraction of by-product in series 2, forming rafts of needles (*fig. e*).

*Fig. e.* — By-product typical for Na<sup>+</sup> containing preparations (series 2). Electron diffraction with streaks perpendicular to direction of needles is shown in *fig. d*;  $\times 15,000$ .

*Fig. f.* — Same, but carbon replica, Cr shadowed;  $\times 15,000$ .