NOTES AND NEWS

MAKING CRYSTAL MODELS

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Under the above title the writer described a method of preparing a net from the gnomonogram to make hollow models of crystals out of Bristol board, etc.[1] In this paper the procedure given for obtaining the lengths of the various edges was primarily the type of projection involved in descriptive geometry.[2] An alternative method which students find simpler in actual practice is as follows.

The length of any edge Ln in the pattern (net) drawing may be derived from the length of the corresponding edge Lp in the plan drawing. Carefully measure the latter value for a given edge. Then in the gnomonogram connect the face-poles of the two faces making the edge in question by a line, which may be called a zone-line. With a straight edge placed along this line, by means of a right-angle triangle erect a normal to this zone-line through the center O of the primitive circle, giving the zone central ZO (where Z the zone center is at the junction of the two lines). Measure the value of OZ in gnomonic degrees with the projection protractor. Call the result ρ_z, the angle of dip of the edge in question (c-axis vertical). Then

$$Ln = \frac{Lp}{\cos \rho_z}.$$

This equation may be solved easily with the slide rule if it is recalled that $\sin A = \cos (90° - A)$ so that the above equation becomes

$$Ln = \frac{Lp}{\sin (90° - \rho_z)}.$$

Thus using the A and S scales proceed as follows:

read upwards	Scale A	to Lp	read Ln
	Scale S	Set $(90° - \rho_z)$	at 90°

That is, put the cursor at Lp on the A scale; slide the S scale till $(90° - \rho_z)$ lies under the cursor. Now move the cursor along till it lies above 90° on the S scale, and read the answer ($= Ln$) where the cursor cuts the A scale.

In the original paper the caption "Figure 5" should be added below the perspective drawing on p. 725 (*Am. Mineral.*, **26,** 1941).

[1] *Am. Mineral.*, **26,** 718–726 (1941).

[2] *Op. cit.*, pp. 721–724, especially p. 723.