The Alpha, Beta, Gamma Navigation Tables. By H. B. Goodwin. London, Potter, 1921. 4 + 54 pp.

The Alpha and Beta Tables, arranged in parallel columns, give respectively the natural cosines and logarithmic cosines of angles at intervals of $1'$ from $0°$ to $90°$. They are intended for use in cases where formulas of the type $\cos z = \cos a \pm \cos b$ where a and b are given and $\log \cos z$ is required for further computation. To facilitate the addition or subtraction of the natural cosines of a and b, each natural cosine in the tables has been multiplied by 1,000, and the resulting product it regarded as so many seconds of arc. Thus $\cos 60° = \cdot 500$, which is regarded as 500 seconds of arc, and is given in the table as $8'\ 20''$. It is claimed that it is easier to add or subtract quantities thus expressed in minutes and seconds of arc than to add or subtract four-place decimals, and this claim seems reasonable. After the natural cosines have been combined in this way, the parallel column arrangement makes it possible to get at once the logarithmic cosine of z without the trouble of taking out the angle itself and looking up its logarithmic cosine in a separate table.

The Gamma Tables give the value of the logarithm of $1/\mathrm{vers}\ h$ (where h is the hour angle) to four decimal places for values of h between 0 hours and 24 hours at intervals of 5 seconds. It is claimed that these tables simplify the solution of the problem of fixing a ship's position either by the Marcq system or by the older Sumner process. More generally they facilitate the solution of problems which involve the two cases of spherical trigonometry:

    (1) Given three sides of a triangle to find an angle.

    (2) Given two sides and the included angle to find the third side.

In both these cases the necessary formulas can be reduced to forms involving the sums and differences of cosines, and $1/\mathrm{vers}\ h$.

<div align="right">C. H. CURRIER</div>

Zentral-Perspektive, by Hans Freyberger. Revised by J. Vonderlinn. Sammlung Göschen, No. 57, 2d edition, Berlin and Leipzig, Walter de Gruyter & Co. 1923. 148 pp.

This little book originally written by an architect, emphasises the practical and artistic aspect of the subject and may very well serve as a first introduction to this fascinating chapter of applied geometry. The figures are well drawn and the exercises well selected, so that the reader who wishes to acquire a working knowledge of perspective can readily accomplish this by reconstructing the figures on a larger scale in connection with a comprehensive study of the text.

<div align="right">ARNOLD EMCH</div>