Handy Methods of Geodetic Astronomy for Land Surveyors. By T. G. Gribble. London, Potter, 1921. 27 pp.

The particular feature of this pamphlet is to show how, "by means of some rapidly made diagrams, the stars available at any time and place can be at once identified, and their observation facilitated". Two sets of diagrams are used: I. Diagrams for a fixed latitude, II. Diagrams for all latitudes.

Under I, the variable laid off horizontally is the declination of the celestial body in question, its altitude, azimuth or hour angle being laid off vertically. Curves are shown giving for objects of various declinations (a) the altitude when on the meridian, (b) the altitude and hour angle when in azimuth 90° E or W, (c) the altitude and azimuth when in hour angle 90°, (d) the altitude, azimuth and hour angle of a circumpolar star at elongation.

Under II, the variable laid off horizontally is again the declination, and two sets of curves, for various latitudes at intervals of 5°, are drawn giving for objects of different declinations (a) the altitude and hour angle of objects due east or due west, (b) the altitude and azimuth of objects whose hour angle is six hours, (c) the altitude, azimuth and hour angle of circumpolar stars at elongation.

The curves are sketched in the usual way through points whose positions have been computed by the usual formulas of spherical trigonometry. It is suggested that a 20-inch slide rule be used for this computation and that the diagrams be drawn on a large scale. The method has the advantages and disadvantages always associated with graphical methods. The general relations involved are clearly shown, but it is doubtful whether sufficiently accurate values could be obtained in this way, and the labor involved in the construction of the diagrams would be considerable.

C. H. CURRIER

Differential Equations in Applied Chemistry. By F. L. Hitchcock and C. S. Robinson. New York, Wiley and Sons, 1923. vi + 110 pp.

The purpose of this little text is to introduce the student in chemistry to the processes of building up differential equations where he has to use them, and to carry out the integrations necessary for the complete solution. It is full of examples from the subject and will be interesting for this reason to the student of mathematics as well. The actual equations solved belong to a very limited number of types but are of the kind a chemist meets. The book fills a gap in this part of applied mathematics. Its importance to the physical chemist depends upon what the latter has as his goal.

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