

enjoyed the loving attention of one who sacrificed a large part of his scientific activity in erecting a lasting monument to the memory of Germany's princeps mathematicorum.

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ANALYTIC PROJECTIVE GEOMETRY.

Lehrbuch der analytischen Geometrie in homogenen Koordinaten.

Von WILHELM KILLING. 2 Teile, 8vo. Paderborn, F. Schöningh. Teil 1: *Die ebene Geometrie*, 1900. xiii + 220 pp. Teil 2: *Die Geometrie des Raumes*, 1901. viii + 361 pp.

THE first and perhaps the most noticeable feature of Professor Killing's text-book on the analytic geometry of homogeneous coördinates is the elaborately methodical arrangement. The line of march has been laid out with extreme care. Notice, for example, the titles and page numbers of the first few sections of the two volumes :

In the plane, Vol. 1.	In space, Vol. 2.
§ 1. Theory of cross ratio, p. 1.	§ 1. Division of dihedral angles, p. 1.
§ 2. The coördinate triangle, p. 8.	§ 2. The coördinate tetrahedron, p. 7.
§ 3. The straight line, p. 13.	§ 3. The straight line and plane, p. 13.
§ 4. The perpendiculars dropped upon a straight line from the vertices of the coördinate triangle, p. 19.	§ 4. The perpendiculars dropped upon a plane from the vertices of the coördinate tetrahedron, p. 21.
§ 5. The most general trimetric coördinates, p. 25.	§ 5. The most general tetrahedral coördinates, p. 29.
§ 6. The ratios of the coördinates as cross ratios, p. 37.	§ 6. The elements at infinity, p. 38.
§ 8. The elements at infinity, p. 48.	§ 7. The quotients of the coördinates as cross ratios, p. 44.
Total number of pages, 49.	Total number of pages, 52.