Type VIa.

$$(X_1, X_2) \equiv (X_2, X_3) \equiv (X_3, X_1) \equiv 0,$$

$$(X_1, X_4) \equiv 0, \quad (X_2, X_4) \equiv 0, \quad (X_3, X_4) \equiv 0.$$

$$A_1 \equiv \frac{\partial}{\partial a_1}, \qquad A_2 \equiv \frac{\partial}{\partial a_2}, \qquad A_3 \equiv \frac{\partial}{\partial a_3}, \qquad A_4 \equiv \frac{\partial}{\partial a_4}.$$

UNIVERSITY OF CINCINNATI,
October, 1901.

SHORTER NOTICES.

Einführung in die Theorie der Differentialgleichungen mit einer unabhängigen Variablen. Von Dr. LUDWIG SCHLESINGER, ordentlichem Professor an der Universität zu Klausenburg. Leipzig, Göschen, 1900. Pp. viii + 310.

THIS little volume, which forms part of the "Sammlung Schubert" (cf. the BULLETIN for January, 1901, p. 192), gives, we believe, the best introduction which has yet appeared to that important side of the theory of ordinary differential equations in which the points of view are those of the theory of functions of a complex variable. Thus the discussion of the nature of singular points holds a central position in the treatment given. The author has been particularly successful in his choice of topics. He has on the one hand restricted himself to the simpler parts of the subject, more than half the volume being devoted to linear differential equations of the second order, and the remainder to the case of a single equation of the first order. By doing this he has succeeded in avoiding long analytical developments which only confuse a beginner without really teaching him anything. On the other hand the author has treated these simple cases in such a way as to bring out clearly a large number of the most important points of view of the modern theory of differential equations. Some of Dr. Schlesinger's own investigations, to mention only one point, on the Laplacian and Eulerian transformations are here set forth in particularly attractive form, although, of course, only for very special differential equations. The reader can turn to a large treatise for further information on these or