

reduction of a Pfaffian form or equation to canonical form, and contact transformations are natural applications and are worked into the treatment at the appropriate places. In the realm of the authors' own contributions, there is an extended discussion of the following topics: arithmetical invariants, reduction of systems to canonical form, van der Kulk's integration theory, Cartan's prolongation, and a comparison of inferences to be drawn for partial differential systems from the existence theorems of Cartan and Riquier. The authors' remarks on prolongation will be read with interest but must remain in the domain of speculation until Cartan's prolongation process has been made precise. In particular, to the reviewer, the authors' attribution of symmetry to Cartan's theory at present seems to express a hope rather than an actuality.

This treatise contains a wealth of material gathered together in a uniform treatment for the first time, although it is by no means exhaustive. Numerous exercises are provided together with suggestions for their solution. In some quarters, the notation will be regarded as forbidding. It is to be regretted that all concerned including societies and congresses do not give more attention to the improvement and standardization of notation and nomenclature.

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NEW PUBLICATIONS

AKUSKIÏ, I. Y. See LYUSTERNIK, L. A.

ALFVÉN, H. *Cosmical electrodynamics*. New York, Oxford University Press, 1950. 8+237 pp. \$5.00.

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v. BARANOW, L. *Grundbegriffe moderner statistischer Methodik*. Vol. 2. *Zeitliche und kausale Zusammenhänge*. Stuttgart, Hirzel, 1950. 7+111 pp. 6.50 DM.

BERGMAN, S. *The kernel function and conformal mapping*. (Mathematical Surveys, no. 5.) New York, American Mathematical Society, 1950. 8+160 pp. \$4.00.

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CARATHÉODORY, C. *Funktionentheorie*. Basel, Birkhäuser, 1950. Vol. 1, 288 pp. 3600 fr. Vol. 2, 194 pp. 2450 fr.

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DITKIN, V. A. See LYUSTERNIK, L. A.