

the diagonal, grouping, bi-factor, centroid, and principal axes methods. Thurstone's preference is for the centroid method with subsequent rotation of axes to give simple structure, in terms of either correlated or independent factors.

Dr. Thurstone considers the question of sampling errors to be petty relative to the major conceptual problems. He now makes clear his conception of factor analysis, *not* as a method for statistical prediction of individual scores, but rather as a research method for refining and testing hypotheses about functional unities. Invariance of factor structure is thus more essential than invariance of factor loadings, which are altered by selection of variates.

The newly recognized study of second-order factors derived from first-order factors is cleverly illustrated and gives promise as a method of verifying hierarchies of generating influences.

Although there is no bibliography and little attempt to relate the discussion to other literature in the field, the neophyte will find clear guidance, and the experienced factorist will find provocative clarification of major issues concerning the uses of this versatile, though imperfect, research tool.

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Scientific Book Register

- ANDRUS, E. C., *et al.* (Eds.) *Advances in military medicine*. (Science in World War II: Office of Scientific Research and Development.) (Vols. I and II.) Boston: Atlantic-Little, Brown, 1948. Vol. I: Pp. liv + 472; Vol. II: Pp. xvii + 473-900. (Illustrated.) \$12.50 for set.
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- BEACH, FRANK A. *Hormones and behavior: a survey of interrelationships between endocrine secretions and patterns of overt response*. New York-London: Paul B. Hoeber, 1948. Pp. xiv + 368. \$6.50.
- BERLAND, LUCIEN. *Faune de France 47: hyménoptères tenthredinoides*. Paris: Paul Lechevalier, 1947. Pp. 496. (Illustrated.) 1,500 fr.
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- GAARENSTROOM, J. H., and DE JONGH, S. E. *Contribution to the knowledge of the influences of gonadotropic and sex hormones on the gonads of rats*. (Monographs on the Progress of Research in Holland During the War.) New York-Amsterdam: Elsevier, 1946. Pp. viii + 164. (Illustrated.) \$3.00.
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- MONTGOMERY, CAROL G. (Ed.) *Technique of microwave measurements*. (Massachusetts Institute of Technology Radiation Laboratory Series.) New York-London: McGraw-Hill, 1947. Pp. xix + 594. (Illustrated.) \$10.00.
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- SEATON, S. L., WELLS, H. W., and BERKNER, L. V. Pt. I: *Ionospheric research at College, Alaska, July, 1941-June, 1946*; Pt. II, SEATON, S. L., and MALICH, C. W. *Auroral research at College, Alaska, 1941-1944*. (Researches of Dept. of Terrestrial Magnetism, Vol. XII.) Washington, D. C.: Carnegie Institution of Washington, 1947. Pp. 397. (Illustrated.) \$1.85, paper; \$2.35, cloth.
- SIEGEL, C. L., and BELLMAN, R. *Transcendental numbers*. (Annals of Mathematics Studies, No. 16.) Princeton: Princeton Univ. Press; London: Geoffrey Cumberlege, 1947. Pp. iv + 74. \$1.50.
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- TELLER, JAMES DAVID. *Louis Agassiz, scientist and teacher*. (Education Series, No. 2.) Columbus: Ohio State Univ. Press, 1947. Pp. xi + 146.
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