which major attention is devoted. Less but intense attention is paid to thermodynamics of solids, thermoelasticity, viscoelasticity, plasticity, and finite deformation theory. General tensor theory is presented but Cartesian tensors are employed in developing the mechanics of solids.

## Granular Media

**Statics of Granular Media.** By V. V. Sokolovskii. Translated by J. K. Kushner. Pergamon Press, New York, N. Y., 1965. Cloth, xiv and 270 pp. $12.

A revised and enlarged edition based on a translation of the second Russian edition.—*Editor.*

## Similarity Theory

**Introduction to the Theory of Similarity.** By A. A. Gukhman. Translation by Scripta Technica, Inc. Edited by Robert D. Cess. Academic Press, New York, N. Y., 1965. Cloth, 6 × 9 in., xxi and 256 pp. Originally published by Vysshaya Shkola, Moscow, USSR, 1963. $9.60.

REVIEWED BY M. D. HERSEY[9]

It is refreshing to find a treatise on similarity and dimensions in which the subject is approached from an unusual viewpoint. The author begins by showing that phenomena are most naturally described in terms of generalized variables, and that the differential equations can be put in this form. He emphasizes physical principles rather than mathematical methods, and indicates the need for a complete qualitative knowledge of the facts. These ideas are illustrated by discussing three broad problems—heat conduction in solids, heat transfer by fluids, and fluid resistance.

The inferences drawn in the first part of the book seem to be largely intuitive or inductive. Not until the fifth and last chapter is dimensional analysis accepted as the most logical approach. The author refers to "such giants as Newton, Rayleigh, Buckingham, Bridgman," but mentions very few other investigators except as their names are attached to dimensionless numbers. The book contains no list of references.

This reviewer had difficulty in understanding Gukhman's exposition, and would hesitate to question his arguments without a more intensive study of the text. He suspects it would not be found such hard going if he were able to read it in the original Russian, or if he had read the last chapter first. The translation is doubtless accurate, but somewhat literal, as where the term "schematization" is used instead of *idealization*, and "Chemical Machine Construction" instead of *Chemical Engineering*.

We doubt if the book should be called an "Introduction" in the academic sense, but believe it one of serious interest to the more advanced reader, already somewhat familiar with the literature.

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