The reviewer pondered this question at some length and offers the following conjecture. There are several closely related geometries in the Cartesian plane, the confusion of which can be as troublesome as the confusion of different concepts of variable, *especially in the mathematical representation of physical quantities*, or "dimensional analysis" in the physicist's sense. The principal geometry of the Cartesian plane for the purposes of measurement is that of the Cartesian product of the affine line and affine line $A_1 \times A_1$ in which independent transformations, $x' = ax + b$, $y' = cy + d$, $a \neq 0$, $c \neq 0$, are admitted. Physical laws must have statements invariant in this geometry. The subject of dimensional analysis lives in this geometry. However, if in apparently innocuous indulgence, the more familiar Euclidean plane geometry E_2 is adopted instead, the subject of dimensional analysis vanishes, leaving behind only ghosts whose goings on are to be recorded by fiat. The author is not explicit about his choice of geometry but the reviewer's conjecture is that his point of view about "physical variables" is that of a man who is thinking in E_2.

In the opinion of the reviewer a consistent operator approach to the representation of physical quantities in the elementary sense is still needed to prepare the way for this point of view which forces itself upon us of necessity in more advanced situations. The author of this book has laid the groundwork for it by introducing the identity function in lieu of the scalar variable, so that his linear operators $\mathcal{D}$ and $\mathcal{D}^{-1}$ work properly. The natural extension of this same idea should do much to simplify dimensional analysis.

Another interesting aspect[1] is that the variable used by Menger is much closer to the idea of a random variable than the conventional one, in fact, *is* a random variable with uniform distribution.

WILLIAM L. DUREN, JR.

Elements of number theory. By I. M. Vinogradov. Trans. from the 5th rev. ed. by S. Kravetz. New York, Dover, 1954. 8+227 pp. $1.75 paper; $3.00 cloth.

This elementary book was originally published in 1936 with a little under 100 pages and subsequent editions appeared every few years until the sixth in 1952 of almost double the size. This work, as most other Russian books, has not been easy to obtain in the past and its present appearance is gratefully noted. It is a very welcome addition to the books on number theory.

As has been observed by other reviewers, the main body of the

[1] Pointed out by R. N. Bradt.