If we do not care to eliminate the goldenrod from the national flower contest because of thoughtfulness for our friends and neighbors who suffer from its existence, let us do so merely from the efficiency standpoint, both individual and state.

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SCIENTIFIC BOOKS

The Theory of Relativity of Motion. By R. C. Tolman. University of California Press. ix + 225 pp.

This book, which the author calls an introduction to the theory of relativity, is very attractive in style, sufficiently accurate, and covers the subject rather thoroughly. After a brief sketch of the historical development and statement of the postulates on which Einstein founded the theory, there is a very interesting chapter containing "elementary deductions" of some of the most striking results. This chapter makes it possible for students of physics to get a fairly definite idea of the subject without the rather perplexing mathematics in which it is usually hidden. Unfortunately the author finds it necessary to state that observers moving relatively to each other would find the same measurements perpendicular to the line of motion because they could make a direct comparison of their meter sticks when the motion brings such meter sticks into juxtaposition. There is nothing in the previous discussion that shows why this applies when the meter sticks are perpendicular to the line of motion and not when they are parallel to it.

A reader interested in the formal development would perhaps turn first to the chapter on the Lorentz transformations for, as Poincaré pointed out, these constitute the real essence of relativity. Most writers have some difficulty in logically deducing these from Einstein's postulates, the reason apparently being that it can not be done. The author avoids this difficulty by showing that the transformations do satisfy the postulates without attempting the impossible converse.

The applications cover the dynamics of a system of particles, elastic bodies, thermodynamic systems, and electromagnetic theory. In a chapter on the chaotic motion of a system of particles there is given what amounts to statistical mechanics in the form required by the principle of relativity. The last chapter is an introduction to the four-dimensional vector analysis used by Wilson and Lewis. This will be welcomed by many readers who have struggled with the original. The book does not enter into the extended relativity proposed by Einstein in connection with his speculations on gravitation. H. B. Phillips

SPECIAL ARTICLES

ON EXPLAINING MENDELIAN PHENOMENA

So many devices have been invented for representing the possible combinations of the various factors in Mendelian inheritance that one comes to entertain a suspicion that other folk have their troubles also in the presentation of this subject to beginners. The following suggestion is offered as having helped in serious cases. The beginning student of heredity is dealing with unfamiliar terms and, unless considerable laboratory work has rendered him no longer a beginner, he is considering unfamiliar processes. In his quicksand of strangeness he is glad to find a firmament of familiarity and he, therefore, welcomes a process of reasoning or of routine that he has employed before. Practically every high school graduate has had at least a year of algebra and has learned by rote the square of $a + b$. Whether or not he remembers that $a^2 + 2ab + b^2$ represents all the possible combinations of the two factors, he is in a position to be reminded of that fact and to take the first short step into the unfamiliar. If a and b represent the two types of gametes produced by the heterozygous parents F_1, then $a^2 + 2ab + b^2$ represents all possible progeny in the F_2 generation. Factors of second power represent pure strains because the determiner is the same from both parents. Conversely factors of the first power represent heterozygotes or the union of unlike determiners.