inclined to think so too if he had not succeeded in proving them thermodynamically along several different lines.

By means of these results and the laws of conservation of energy and momentum, and that radiation is *emitted* in quanta (the nature of the process of emission of radiation does not seem to be determined by thermodynamics), the various phenomena depending on the interaction of radiation and the electron may be explained—at least there is nothing the writer has not, so far, brought into line. For example, all the inherent difficulties of the Bohr atom, and its antagonism to the Lewis, Langmuir atom, completely disappear. The results thus furnish the solution of a problem in physics and chemistry that has absorbed the attention of scientists for the last thirty years.

R. D. KLEEMAN

SCHENECTADY, N. Y.

MOSAIC OF SUGAR-CANE IN PERU

DURING the past year and a half, since the establishment of the agricultural experiment station of the National Agrarian Society of Peru, a survey has been made of the principal sugar-cane-growing sections of the country for the purpose of determining the presence and distribution of the mosaic disease of that crop. Heretofore this disease has not been reported from Peru.

In this survey visits have been made to all of the valleys of the coast where sugar-cane is of importance, and to three valleys of the interior, east of the Andes mountains. Up to the present time mosaic has been found in sugar-cane in only one valley, the Carabayllo, near Lima. The disease is generally distributed on the haciendas of this valley, the infection varying from less than one per cent. to more than 90 per cent. The counts made have not shown more than 15 per cent. infection with the exception of one hacienda, and fortunately the growing of cane is to be discontinued there this year. The varieties affected include Bourbon or white cane, Louisiana Purple and some varieties of Barbados.

The mosaic was introduced into commercial cane fields in the Lima region about eight years ago and became distributed before the disease was known here. The original source of the disease is said to have been stalks of cane which were introduced from Argentina.

E. V. ABBOTT

ESTACIÓN EXPERIMENTAL AGRÍCOLA,
LIMA, PERU

THE discovery of the mosaic disease of sugar-cane in Peru makes desirable a statement regarding the aphids present in the cane fields of this country.

Although not previously reported, the common yellow aphis of sugar-cane, *Sipha flava* Forbes, is present on sugar-cane throughout the northern valleys of Peru, being most abundant on the Bourbon or white cane, and also being noted on lemon grass, but in no observed case being sufficiently common to cause appreciable damage to the crop. As it occurs on the tips of the leaves, it can in no way be connected with the transmission of the virus of the mosaic disease of sugar-cane.

The corn aphid, *Aphis maidis* Fitch, has been noted on various grasses in cane fields in all parts of Peru, and also on the large grass locally known as "carrizo," *Arundo donax,* which commonly grows along ditch banks in the cane fields. The omnipresence of this aphid, the known vector of mosaic disease of sugar-cane, emphasizes the importance of the prompt elimination of all stools of infected cane, and the inadequacy and futility of the steps, already being enforced on some plantations, to prohibit the growing of corn. Despite the abundance of this aphid on corn, and the apparent indication of corn as its normal host by both its common and scientific names, yet it is most distinctly not the individuals occurring on corn that are primarily instrumental in transmitting the mosaic disease of sugar-cane, but rather those which occur on grasses in the cane fields and are forced to attempt to obtain nourishment from the cane when the aerial portions of these grasses are destroyed by hoeing and cultivation of the young cane.

GEORGE N. WOLCOTT

ESTACIÓN EXPERIMENTAL AGRÍCOLA,
LIMA, PERU

QUOTATIONS

CONGRESS HONORS THE YELLOW FEVER COMMISSION

THE work of Walter Reed and his associates of the Yellow Fever Commission has now been officially recognized by the congress of the United States and approved by the president. The twenty-two members of the military establishment who participated in the experimental investigation of yellow fever in Cuba are to constitute a roll of honor that shall be published annually in the *Army Register*. In further recognition of their public service, gold medals will be presented to those who are living and posthumously to representatives of those who have died. Congress provided also a pension of $125 a month to the sixteen living members and to the widow of one of the soldiers. The everlasting benefit resulting from the courage of these men has received consideration on