(where $\alpha = \frac{2\pi e^2}{hc} \sim \frac{1}{137}$), but their potentials are everywhere in that ratio. This leads to a mass for the magnetic pole of $\frac{m}{4\alpha^2}$ where m is the mass of the electron. If now the Dirac equation for the combination of two poles is examined the normal level turns out to have an energy corresponding to a mass approximately (within a factor 2) equal to that of the proton. Moreover, the energy differences between adjacent levels are of the order of $10^9$ volts. This is therefore by far the simplest system so far considered which could explain the emission of cosmic radiation.

The proton is of course a combination of a neutron and a positive electron. These then suffice for the building of nuclei. The process of $\beta$ emission is obvious, even though there are no electrons in the nucleus.

Unfortunately, the considerations mentioned here suffer because the relativistic two body problem has not yet been solved. It can only be hoped that the reduction to a one body problem, which was resorted to in all the examples given, will prove a working approximation in these cases as it has in other cases, where, however, relativistic effects were less important.

I am indebted to Drs. Millikan and Anderson for their kindness in making me acquainted with their experimental results.

R. M. LANGER
NORMAN BRIDGE LABORATORY OF PHYSICS,
CALIFORNIA INSTITUTE OF TECHNOLOGY,
SEPTEMBER 10, 1932

## LIGHT A FACTOR IN RANCIDITY

IN the June 3 (1932) issue of SCIENCE is published a brief résumé of the work carried on by the Food Research Division of the Bureau of Chemistry on the subject indicated. The conclusions confirm in general the results which had been obtained in these laboratories and which were made public at the spring meeting of the American Chemical Society, held at Columbus, Ohio, from April 29 to May 3, 1929. Our study of the catalytic activity of various wave-lengths of light upon the oxidation of fats and oils has shown that light transmitted by blue glass is the least effective in this respect, while that transmitted by amber glass is the most effective.

The results will shortly be published in one of the scientific journals.

GEORGE E. HOLM
GEORGE R. GREENBANK
BUREAU OF DAIRY INDUSTRY,
WASHINGTON, D. C.

## AN UNUSUAL COTTON PLANT

ON June 8, 1932, the writer, accompanied by Mr. Philip Beltrán, was studying the Tangüis cotton in the Pisco Valley. On Hacienda "San Jacinto," a most interesting plant was found. The fibers produced by this plant were uniformly $1\frac{3}{8}$ inches long, with the exception of from 15 to 20 per each seed which measured $1\frac{3}{4}$ inches. These extra long fibers had the same general characteristics as the others, but were very prominent because of the extra length. All the cotton of the plant was picked, and each seed has been carefully examined. The long fibers were found on every one. In every instance, these long fibers were attached at about the middle of the seed and the number per seed varied only slightly. The writer has examined hundreds of plants of Tangüis and other varieties of cotton, but never before had seen such a variation in the length of the fiber.

The Tangüis cotton originated from a single plant found by Señor Fermín Tangüis, Hacienda "Urrutia," Pisco. A careful study of this variety has given sufficient evidence to state that the first plant was undoubtedly a field hybrid between one of the native Peruvian cottons and an unknown variety of American Upland cotton grown in Peru under the name of "Suave" or "Egipto."

A. F. KIDDER
ESTACION EXPERIMENTAL DE LA
ASOCIACION DE HACENDADOS DE CAÑETE,
CAÑETE, PERU

## A METEOR IN WISCONSIN

AT 8:25 P. M., on August 22, a meteor of great brilliancy and of unusual size passed over central Wisconsin. The light was so brilliant that the landscape was lighted up as by a powerful searchlight and sharp shadows of trees were cast on the street in front of my house. We first saw it in the S-W quadrant at an apparent elevation of approximately forty-five degrees. Before it disappeared it had crossed the east-west line, with which its path made an angle of about twenty degrees. That is, the direction of its flight was west, twenty degrees north.

Its apparent angle of fall was about forty degrees. The real angle of its path with the horizon must have been considerably less or else its height was very much greater than we estimated (one mile). Its apparent size was about that of the full moon, it was dazzlingly white with a greenish blue blaze of color close to its surface.

Both my son, Dr. H. E. Culver, and his wife, as well as myself distinctly saw what appeared to be melted globules rolling back and disappearing in the fiery train which streamed out behind the meteor. Nothing was observed by us to fall toward the earth and we heard no sound as the meteor passed, but some two