In J. W. Mellor's monumental book, Vol. V, p. 720 (1924), it is stated: "Boart and carbonado are usually regarded as forms intermediate between diamond and graphite." But the photographs indicate that the crystalline form throughout is that of diamond, the differences in hardness being primarily consequent on variations in the structure and particle size of the aggregates.

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BACTERIAL STEM-ROT DISEASE OF HYBRID SEEDLING CANES

IN October, 1930, a bacterial stem-rot disease of hybrid seedlings canes appeared sporadically in the cane culture of the College of Agriculture at Los Baños, Laguna, Philippine Islands. Later the same disease was observed on hybrid canes in the sugar cane plantation of the Calamba Sugar State at Canlubang, Laguna, and in the sugar cane plantation of the Pampanga Sugar Development Company at Del Carmen, Pampanga. Affected plants show pale yellow color on the foliage followed by wilting of the entire plant. When weather conditions favor, the tops of the diseased plants fall over as a result of the rotting of the tender tissues of the shoot.

Microscopic examination of diseased plants showed the presence of abundant motile bacteria between the cells in the young stages and within the cells in advanced stages. The vascular tissues are apparently free from the bacterial invasion.

The bacterium has been isolated and grown in pure culture. Inoculation of healthy plants with the pure culture of the bacterium reproduced the disease. The organism is of the genus *Bacillus* Cohn., since peritrichiate flagella are demonstrated by proper staining methods. The causal bacterium is a cylindrical rod with more or less rounded ends. The cells occur singly or in pairs, occasionally in chains, and in clumps in 24 to 48-hour-old culture. Films prepared from the juice of infected canes and stained with aniline gentian violet gave measurements of the cells from 0.95 to 2.2 by 0.5 to 0.7 μ. Spores are not formed. Thin capsules are formed in three-day-old nutrient agar slants. The cells are motile by means of peritrichic flagella numbering from four to several. No involution forms were observed in one-month-old fluid cultures. The bacterium is gram negative and non-acid fast. No such species of bacteria has been reported heretofore as the cause of a stem rot of sugar cane. A more detailed description of the disease and the bacillus is in preparation.

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THE FOUCAULT EXPERIMENT

IN connection with certain studies related to the relativity theory it has occurred to the writer that it might be interesting to repeat the famous Foucault pendulum experiment on a large scale, over a long period of time of perhaps a year or more, and under carefully prepared conditions.

To do so would, of course, require a suitable place and the solution of a number of problems associated with its construction, continuing its motion without affecting its direction, precision of measurement, and others which occur with contemplation. With a pendulum length of 100 feet, for example, rotational motion with a period of more than 2,000 years should be easily detectable over a length of time of a year.

This experiment, if thus carefully performed might reveal or disprove some very intriguing speculative possibilities. It is rather fruitless to outline them but it would seem that a plane of motion for the pendulum perpendicular to the direction of the sun at the earth's perihelion would be a good place to start.

The writer is seriously considering undertaking the task and would be much interested to see opinion, criticism, or suggestion.

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SCIENTIFIC BOOKS

A History of Applied Entomology (Somewhat Anecdotal). By L. O. HOWARD. Smithsonian Miscellaneous Collections, vol. 84. Washington: Nov. 29, 1930. 564 pp., 51 plates (portraits).

> For the fly, the fly, the fly is on the turmit,
> And it's all me eye, for we to try
> To get fly off the turmit.—*Old Oxfordshire Ballad.*

The intelligence of the human race, *if brought to bear*, will conquer the insect menace.—*L. O. Howard*, 1930.

IT is probably no exaggeration to say that many thousands of people, at the present time, owe their lives to the work of the entomologists. The greatly increased population of nearly all civilized countries could not be supported without a correspondingly increased food supply, and this we owe in large part to those who have taught us how to defend ourselves against the attacks of insects. Thus, to give a concrete example, there is no orange-grower in California who doubts that his crop would be entirely ruined, were it left to the insects which prey upon it. Within a few years, at most, he would have to go out of busi-