

Their lives are still devoted to sound learning and sane living.

JAMES G. NEEDHAM

CORNELL UNIVERSITY

## SCIENTIFIC EVENTS

### EXHIBIT OF MINERALS IN ULTRA-VIOLET LIGHT

THE London *Times* reports that by means of a mercury vapor lamp, which has been installed in the Mineral Gallery of the British Museum (Natural History), Cromwell Road, members of the public, by pressing an electric button, can flood a case containing fluorescent minerals with invisible ultra-violet light and see the remarkable phenomenon which results.

Most of these minerals are practically colorless, but as soon as they are exposed to ultra-violet light they absorb this invisible light and emit in their stead visible rays of longer wave-length. Fluorspar, a brown mineral, changes color, and becomes a bright violet. Colorless quinine shows up bright sky-blue, zinc-silicate becomes green, and in some cases yellow; zinc-blende is changed to a shining mass, old-gold in color, and in some cases a brilliant fiery yellow, like a live coal. A pale-green slab of willemite glows with remarkable brilliance, the color being comparable with uranium-green. Another specimen, with grains of pale-green willemite embedded in a cleavage-mass of white calcite, is changed to dark flesh-red color, in which are spots of brilliant green, due to the willemite.

The installation of this ultra-violet light in the museum has been carried out more with the idea of providing a novelty show-case than for scientific purposes. The principle of the use of ultra-violet rays in the detecting of certain minerals, however, is being explored by Dr. L. J. Spencer, keeper of minerals in the museum.

It has already been discovered that the rays show similar effects on a variety of oils and certain papers, and there is a possibility that practical use may be made of these phenomena. In a statement yesterday, Dr. Spencer said that during a visit to the mineral locality of Franklin Furnace, New Jersey, he saw a simple arrangement used by the New Jersey Zinc Company for the quick detection of willemite. This was done by making use of the ultra-violet rays emitted from a high-tension spark. It occurred to him that this might prove a simple means of detecting willemite in Rhodesia, where there were large quantities, but he found, on experiment, that willemite did not always glow when placed under ultra-violet light. It became evident from the tests he carried out that fluorescence in ultra-violet rays was not a constant and essential character of any mineral species.

In spite of this difficulty, Dr. Spencer was of the opinion that ultra-violet rays might prove of practical use in a variety of respects in the detection of minerals. He thought that it might be used underground for the rapid detection of certain ores. It could also be used to detect forged bank notes or postage stamps, as different qualities of paper glowed different colors when exposed to the rays. It could be used in the cement industry for the detecting of the valuable "slag" from the waste heaps of iron furnaces. The slag which was suitable for the manufacture of cement or for road-making glowed a purple tint, while the valueless slag became green.

## MUSEUMS IN THE NATIONAL PARKS

OPPORTUNITIES to combine educational advantages with a pleasurable vacation are being forwarded by the National Park Service of the Department of the Interior in cooperation with leading educational organizations of the country.

During the past summer the Secretary of the Interior requested a number of prominent educators to make a thorough study of and report on the educational possibilities of the national parks. Funds to cover the expenses of the investigators were provided by interested organizations which have taken a keen interest in the development of the educational and museum work in the parks. Drs. John C. Merriam, Hermon C. Bumpus, Frank R. Oastler, Vernon Kellogg and Harold C. Bryant accepted the secretary's invitation to make this educational survey, and during the summer field inspections were made of the major national parks. Definite recommendations based upon their field studies will be made by the investigators later in the year.

Study of museum conditions in the national parks by a committee of the American Association of Museums led to that organization securing a grant of \$118,000 for the construction of museums in Yellowstone National Park, the funds to be expended under a committee composed of Dr. Hermon C. Bumpus, of the American Association of Museums; Dr. Frank R. Oastler and Superintendent Horace M. Albright, of the park. Plans include the construction of a new museum in the headquarters group at Mammoth Hot Springs, a branch museum and auditorium at Old Faithful, several smaller buildings, some exhibits in place, and other features of permanent educational value. Construction has already been started on the Old Faithful Museum, which is expected to be ready for service during the season of 1929.

Of importance in the educational world was the completion of the trailside museum and observation station at Yavapai Point in the Grand Canyon National Park. This was formally opened to the public