



NOT CHINESE MOUNTAIN LANDSCAPE

This design was painted by Nature on a tropical snail shell of the species *Oliva porphyria* which is now on exhibit in the Field Museum of Natural History.

GENERAL SCIENCE

British Nobel Inventor Substitute for "X-Ray" Eye

New Device of Director of Cavendish Laboratory
Makes Visible Arrangement of Atom in a Crystal

AN INGENIOUS substitute for X-ray eyes has been invented by the noted British scientist Prof. W. L. Bragg, Director of Cavendish Laboratory, Cambridge University. (*Nature*, April 22)

The new device makes visible through a microscope the appearance of the invisible lattice arrangements of atoms in a crystal as they would be seen if the eye were sensitive to X-rays.

Prof. Bragg who, with his father Sir William Bragg, was a co-winner of the Nobel Prize in 1915 for his work in X-ray structure, uses holes drilled in a brass plate to make this feat possible.

First step is to take an X-ray diffraction picture of the crystal under study. The characteristic bright spots on this picture represent the diffraction scattering of X-rays from the rigidly-fixed atoms in the lattice of the crystal.

Next Prof. Bragg calculates the size and position of the holes in the brass plate which will give a similar diffraction pattern when viewed in ordinary light.

This specially-prepared brass plate is then placed between two lenses. At one

lens' focus is placed a monochromatic light and the focus of the second lens falls on a pin hole which is observed with a microscope.

The diffraction of the light from the multiple holes in the brass plate results in a very realistic image of the crystal structure as if seen through the microscope. In effect, the observation is equivalent to having X-ray eyes.

Further research is seeking a way to place films over certain of the holes which will have a half-wavelength retardation to the light.

"If this can be found," Prof. Bragg states, "the method may prove to be of practical use in crystal analysis."

Science News Letter, May 6, 1939

GENERAL SCIENCE

War-Service Register Of British Scientists

A WAR-TIME register of scientific research workers is being compiled by the Royal Society for the Ministry of Labour in Great Britain. Forms were

circulated to scientists asking for details of experience and whether they would be willing to volunteer to go abroad.

Prof. A. V. Hill, honorary secretary of the Royal Society is chairman of the sub-committee of the Central Register Advisory Council attached to the Ministry of Labour. Some scientists are now on as many as three registers: Those organized by the Royal Society, the Medical Research Council, and the British Medical Association.

Science News Letter, May 6, 1939

Many of the Indian trails followed ways taken by game in search of new feeding grounds.

"Painting" garden soil black with a chemical preparation is said to conserve the heat of the sun in the soil.

Because drug addicts try to keep their habit a secret, it has never been possible to take an accurate census of addiction in the United States.

● Earth Trembles

Information collected by Science Service from seismological observatories and relayed to the Jesuit Seismological Association resulted in the location of the following preliminary epicenter:

Saturday, April 29, 8:55.3 p. m., EST

On edge of Coral Sea northeast of Australia. In region of latitude, 12 degrees south, longitude 158 degrees east. Severe shock.

For stations cooperating with Science Service in reporting earthquakes recorded on their siesmographs see SNL August 13.

JUST PUBLISHED

What Snake Is That?

By Roger Conant and William Bridges. A simplified field reference book that will enable anyone to quickly identify any snake of the United States east of the Rocky Mountains. Completely illustrated by Edmond Malnate.

\$2.00

What Shell Is That?

By Percy A. Morris. An extremely practical handbook guide to the shell-bearing mollusks of Eastern North America. "Unique, handy . . . fills a long-felt need."—N. Y. Herald Tribune. Completely illustrated.

\$2.25

AT ALL BOOKSELLERS

D. Appleton - Century Company
35 West 32nd Street, New York