



GHOSTLY FOSSIL—X-rays reveal the pattern of fish bones embedded in shale slab. Photograph by Fred Anderegg, Princeton, N. J.

PALEONTOLOGY

X-Rays Detect Fossils

► X-RAYS are being used in the laboratories of Princeton University to study the fossils of hundreds of small fish found embedded in a shale deposit when excavations were being made for the University's new library building. This novel use of X-rays not only saves many hours of tedious scraping and brushing ordinarily used to lay bare rock-embedded fossils, but it brings out fine details of the bony structure that the usual technique fails to disclose.

When a slab of shale suspected of harboring a fossil is split, the faint outlines of a fish may appear on the freshly exposed surface. Instead of going on with the chip-scrape-and-brush technique, the slab is then placed on a film holder and exposed to X-rays. When the film is developed the entire skeleton shows up in minute detail. Usually the head is strongly outlined, with the body bones, fins and tail in ghostly tracery.

With only a few exceptions, the fossils found in the Princeton campus excavation are of a species known scientifically

as *Osteoplaurus newarki*, belonging to the ancient order of fishes called the coelacanth. The specimens are all small, ranging from one to eight inches in length. One prominent characteristic in which they differ from modern fishes is a third lobe projecting from the middle of the forked tail. Their scales seem to have been covered with sharp prickles—doubtless making them uncomfortable morsels for bigger fish to swallow.

These fish lived far back in the Triassic period, towards the end of the Age of Dinosaurs, when what are now layers of shale and related rocks underlying New Jersey's present low hills were soft mud on the bottom of the sea. Fish that died sank to the bottom, were covered with more mud; then more fish died and still more mud covered them, until there was a vertical layer-cake of death. Still deeper burial and resulting heavier pressure, continued for ages, hardened the mud strata into layers of shale, with the now fossilized remains of the fish sandwiched between them.

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MEDICINE

Health Centers for Lepers

► LEPERS won't be treated like lepers when recommendations of the advisory committee on leprosy to the U. S. Public Health Service go into effect. And the 2,000 to 3,000 lepers now roaming at large will be found and given the benefit of modern effective treatment for the disease.

The National Leprosarium at Carville,

La., should be replaced by four Public Health Service special treatment centers, the committee advised at the close of its two-day session.

The special treatment centers for leprosy should be located, one each, in California, Texas, Florida and Louisiana, the four states where leprosy is endemic and seems to flourish. With these centers,

and efforts made to give lepers outpatient treatment, using segregation only as a last resort, patients with leprosy will be able to follow more normal lives.

Relaxation of the 29-year-old restrictions on interstate travel of lepers is also advised. This and some other of the committee's recommendations cannot be put into effect without new legislation, it was pointed out. Existing regulations should be codified and published for the benefit of lepers and the general public, the committee recommended.

Good results now obtained with the modern drug, promin, in treatment of leprosy and recognition that leprosy is not as contagious as once believed are the basis for the recommendations.

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