walls are undercut. This undercut portion is plastered with the globular mud nests of cliff swallows.

The actual business of collecting barking frogs didn't start until after dark when they first began to call. Although none of us had any previous experience with this species, there was not the slightest doubt in our minds as to what animal was the author of that call. The first one we heard was across the main canyon, but we decided to try a small branch first. After about ten minutes of walking up the bed of the branch, we were rewarded by hearing two barking frogs calling within 50 feet of each other. The method of stalking the barking frog is the same as that used for stalking any frog except for the details of the actual capture. What we did was to concentrate on one voice and approach it until the frog stopped barking. At that time we stopped, turned out our flashlights, and waited quietly. After a few moments, and sometimes after a more considerable wait, the frog began to call again. We advanced a little farther. The frog stopped; we did too. This process was repeated about six or seven times until finally Mr. Schmidt caught sight of the frog in the beam of his flashlight. It was sitting at the opening of a crevice about ten feet from the branch canyon rim. As soon as the light hit it, the frog backed into its crevice.

We had learned that afternoon how deep some of the crevices in the canyon walls could be by trying to catch lizards that had ducked into them. Consequently we were afraid that we were in for a hard and possibly fruitless task of prying and digging. We scrambled up to the crevice and looked in. Squatting in the beam of the flashlight was our clay-colored barking frog with its broad flat head and very prominent eyes.

We were relieved to see that the crevice was only about two feet deep. A little maneuvering and we had him! In about half an hour, by repeating this process, we were able to get the other frog.

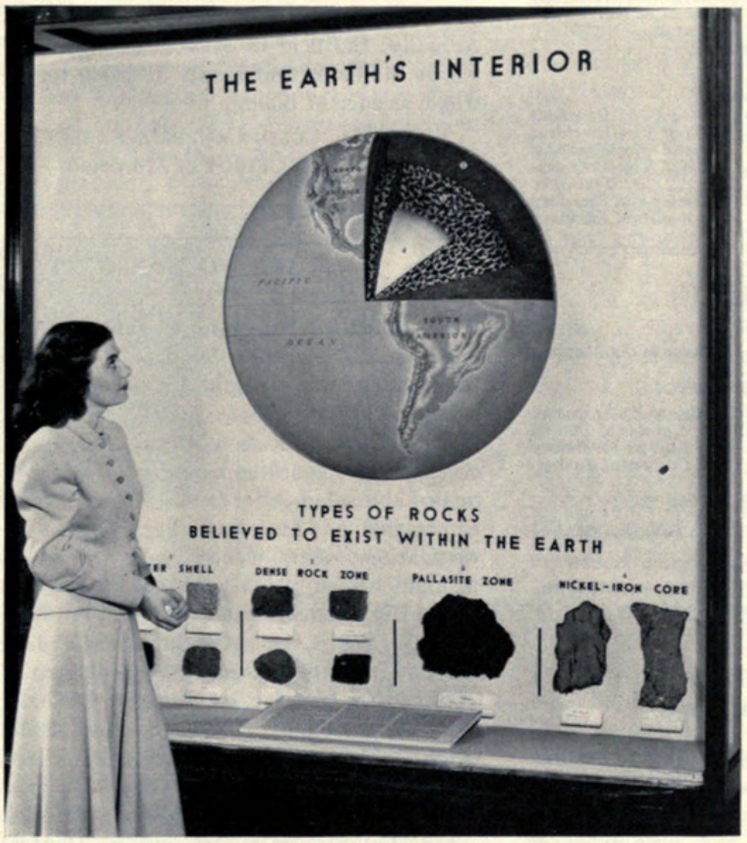
Although securing the barking frog was really the highlight of our stay at the Prade Ranch, Mr. Prade aided us in obtaining quite a few species of other amphibians and reptiles. Of these the most noteworthy was a species of neotenic salamander. Neotenic salamanders are those that retain certain larval characteristics, such as external gills, and are consequently obliged to spend their entire life-cycle in water. This locality represents an extension of the known range of these salamanders 100 miles westward.

The barking frogs we obtained represented the first of that species in the collections of the Division of Reptiles. Although we were unable to make any observations of their breeding habits, we hope to be successful in future trips. The distribution of the neotenic salamanders represents another problem for further study in the region of the Edwards Plateau.

A QUICK PEEK INTO THE INTERIOR OF THE EARTH

By SHARAT K. ROY
CHIEF CURATOR, DEPARTMENT OF GEOLOGY

The earth has a radius of nearly 4,000 miles. Of this, no more than five or ten miles has been seen by direct observation. What lies beyond? What are the materials and conditions that exist at great depths? Does the density and composition of rocks change with depths? Is any large part of the interior in a liquid state?



220 MILES TO THE INCH

That's the scale of model illustrating the principal features of the interior of the earth, on exhibition in Clarence Buckingham Hall (Hall 35). Miss Joanne Neher of the Department of Geology staff is shown inspecting it.

To illustrate what is known of the answer, a new model of the interior of the earth has been constructed and placed on exhibition in Clarence Buckingham Hall (Hall 35) of the Department of Geology.

Our chief sources of knowledge concerning the interior of the earth are the average density of the earth and the varying velocities with which earthquake shocks are transmitted through the earth at different depths. The average density of the earth as a whole is 5.5. No surface rock with which we are familiar has a density much above 3, and the average density of surface rocks, using rocks of all kinds, is only 2.7. As this is less than half the density of the whole earth, the interior must consist of much heavier material than the outer part. The density change from the surface to the center is due either to the presence of intrinsically heavier material toward the center or a diminution in volume of surface-type rock caused by the tremendous pressure existing at great depths.

Doubtless, this pressure has an effect in compressing the deeper material, but from the behavior of earthquake waves it is unlikely that the surface-type rocks can be compressed sufficiently to give the high average density of the earth. If the entire earth were composed of such rock, the speed of transmission of earthquake waves should increase with depth at a nearly uniform rate, so long as the material remains rigid.

This is not the case, however. There are irregularities in the rate at which the speed of earthquake waves increases downward, indicating that at and around the center there is a considerable amount of heavier material, presumably some metal such as meteorites, the majority of which are composed of iron and nickel with an average density of about 8. The sum of evidence supports the view that the earth has a "density stratification," with the heaviest material near the center and the lightest near the surface.

Instead of a thin crust over a molten interior as was once believed, the model, which is made on a scale of 220 miles to one inch, shows an earth composed of several concentric layers of rocks of increasing density. The outer layer consists of lighter, granitic and related rocks. This is underlaid by a dense rock zone composed of rocks, such as gabbro and peridotite. Beneath this is the pallasite zone, a mixture of compounds of metallic and stony materials. The core or the innermost layer, as has been stated, is composed of an alloy of iron and nickel.

The problem of the earth's interior has not yet been conclusively solved. The model shown here presents only the information known to us. Further advances in the field of geophysics may provide a more satisfactory and accurate conception.

The model was made by Mr. Joseph B. Krstolich, Museum artist, and Mr. John Janacek, former staff illustrator.