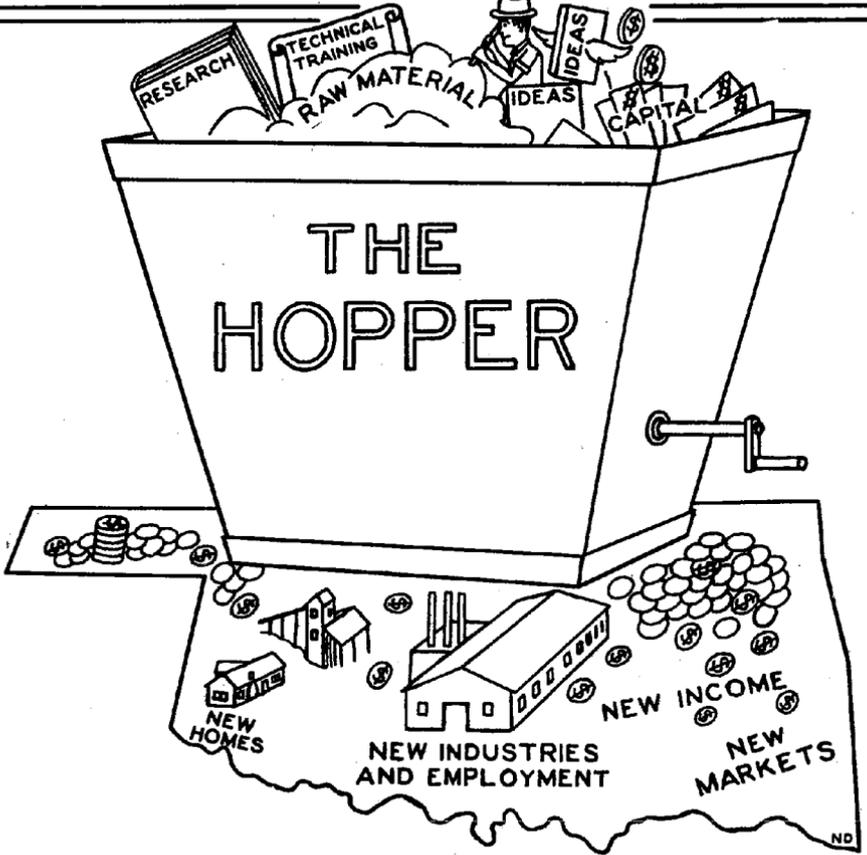


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CORRECTION

The last number of the Hopper was marked Vol. 14, No. 9. The September number is No. 9, the October number is No. 10. Please mark your copy correctly.

ANCIENT SHORE LINES IN THE WICHITA MOUNTAINS

In the October 8 number of Science (p. 571) Dr. W. F. Tanner discusses old shore lines indicated by wave cut grooves, notches, and surfaces preserved in granite in the Wichita Mountains. The most striking notches are at elevations between 2,200 and 2,270 feet above sea level, and the best developed are on Soldier Mountain and adjacent peaks. Tanner calls the wave-cut terrace the Lake Altus surface. He dates it as middle Permian, about 220,000,000 years ago.

A possible higher surface between 2,400 and 2,500 feet above sea level is recognized. The flat top of Mount Scott is part of this surface, and it is believed that the seas completely submerged the Wichita Mountains at that time.

Two older and lower surfaces are identified in subsurface by means of driller's logs and electrical logs. Slow subsidence of the mountainous area is thought to have caused the submergence.

McKINLEY IS SURVEY'S EXPERT ON PHOTOGRAPHY

Myron E. McKinley, assistant geologist on the staff of the Survey is responsible for the good photographic work in our later publications. He

produced excellent contrast in the prints used to make the plates of fusulinids in Circular 31. He took the pictures and made the prints for the plates in a report on the Baum limestone due to go to press shortly. He made the prints and took many of the pictures for Bulletins 70 and 71.

McKinley's camera works out of hours also. He won first prize in the Norman contest on children's pictures this spring, and recently took first prize in the contest for pictures of the new TV tower in Oklahoma City. Yes, he bought photographic equipment with the money.

OKLAHOMA ACADEMY OF SCIENCE TO MEET

The Oklahoma Academy of Science will hold its annual meeting on December 3 and 4 at the University of Tulsa. The president of Section B, Geology, is Professor Vernon Baker of Phillips University. An exceptionally interesting geologic program is anticipated.

OUTLINE OF THE

GEOLOGY OF THE McALESTER REGION

That the area of which McAlester is the center is rich in geologic interest is shown by the fact that it was chosen for the recent field trip of the Ardmore Geological Society. The trip was held on October 15 and 16 and was attended by 157 geologists.

A guide book of 29 pages and several maps was prepared by a committee headed by Bill McBee. A two page memorial to William B. Armstrong, president of the society, who died suddenly on June 2,

is at the front of the book.

Most of the geologic mapping of the area was done some years ago by T. E. Hendricks, M. M. Knechtel, and Bruce H. Harlton. McAlester lies in the western part of the region known as the McAlester coal basin. This is part of the even larger Arkansas-Oklahoma coal basin. The rocks of the basin are almost entirely of Middle Pennsylvanian age, and are predominantly shale and sandstone. The south edge is abruptly marked by the Choctaw fault, a huge fracture extending from Atoka in an arc to south of Hartshorne and eastward to Arkansas. The rocks on the south side were shoved over the rocks of the south part of the basin. The steep escarpment along the fault line is plain just south of Pittsburg and northeastward past Hartshorne 2 miles south of the city.

North of the Choctaw fault the rocks are warped in large anticlines and synclines. The Kiowa syncline is 3 to 5 miles wide and 25 miles long, extending from 6 miles southwest of Kiowa to 6 miles west of Haileyville. The beds dip towards the center of the trough and the axis is occupied by sandstones and shales of the Boggy formation.

The Savanna anticline is an arch of strata with its axis extending from 6 miles west of Kiowa to a point 2 miles east of Savanna. The Hartshorne and McAlester coal beds crop out in oval pattern about the axis. In the roof of one coal mine are numerous spherical concretions consisting of plant material enclosed in limestone. This occurrence of coal balls is the only known one in Oklahoma and one of the fourteen known in the world. The concretions yield well preserved tissue of fossil plants.

The Krebs syncline is a broad, shallow down-warp extending northeastward through McAlester and Krebs. North of it is the McAlester anticline, a narrow arcuate fold whose axis curves through the north part of McAlester. The north flank is faulted downward and the fault line can be seen in the grounds of the penitentiary. The sandstone beds stand vertically against the fault and support a narrow but prominent ridge.

The Adamson anticline extends eastward from Carbon. It is steep on the north side and is cut by a fault which can be seen well on the north-south road just east of Adamson. The Lone Star Steel Company Carbon mine is on the north flank. The slope extends at a 16° dip down the flank of the anticline, and according to Mr. Cameron, the manager, flattens to 6° as it approaches the parallel syncline.

East of Haileyville and Hartshorne is the Hartshorne Basin. Belle Starr Mountains are erosional remnants capped by Warner sandstone out in the central part of the basin.

The McAlester area has several good coal beds, but the Lower Hartshorne coal and the McAlester coal are the better ones. The Secor coal has been mined and stripped at a few places, and the Upper Hartshorne coal has been little used.

The field party on the Ardmore Geological Society trip saw the Savanna anticline, the Ashland anticline, and the Coalgate anticline. They stopped near Ashland to examine the Savanna and Boggy formations. The caravan then went through Stringtown and up the McGee Valley. Of high interest is the Redden oil field, where one can stand on saturated bituminous sandstone and see wells 200 feet away producing high gravity crude

from the same horizon. The field produces 9 barrels of oil per day from Stanley sandstone.

On the terrace flats in McGee Valley are numerous "flower mounds". These are the features described as prairie mounds by Dr. Melton in The Hopper, Vol. 14, No. 7.

On Bald Mountain, Dr. Harlton pointed out the outcrops of the maroon shale (Prairie Hollow member) and nearby showed an occurrence of the Chickasaw Creek siliceous shale.

Near Pittsburg a stop was made to examine the Chickachoc chert. The name is peculiar. It is said to be derived from the former station of Chickiechoc, which in turn was named for Joe LeFlore's daughters, Chickie and Chockie (for Chickasaw and Choctaw). The chert is really a mass of sponge spicules, at places with a total thickness of fifty feet. Some commercial use should be found for this unusual rock.

In the evening, Mr. Brown of McAlester, consulting engineer, talked to a large group at a dinner meeting in the Aldridge Hotel about the development of coal mining in the area and the occurrence of coal and hydrocarbons. In his fifty years of work here, he has observed the development of better and safer mining methods, and he has examined and mapped much of the coal region.

On the second day, the party stopped near Haywood to see the conglomerate at the base of the Thurman and the coal in the Boggy formation some distance below. South of Alderson they examined the Secor coal.

At Hartshorne Lake, the caravan stopped for

luncheon at the scenic spot. The group then examined the Wapanucka and Barnett Hill formations exposed in and near the old quarry.

The final stop was at the Lone Star Company Carbon mine. About 100 members of the party were taken to the bottom of the slope, and a remarkable number were rugged enough to scuttle crab-wise to the working face.

A guide book is available from the Ardmore Geological Society, Box 750, Ardmore, at a price of \$4.00. The excellence of the guide book and the fine organization of the trip are due to the hard work of many people. The guide book was prepared by Bill McBee, Phil Chenoweth, Bob Maxwell, Barney Harrington, Joe Morkey, and Leslie Vaughan. Bob Becker was field trip committee chairman. Bill Hallet handled publicity and housing. Hap Parker, Don Goeger, Jerry Womack, Bob Baash, and Dick Short arranged transportation and meals. The wives of society members prepared the box lunches. Dan Kozak had registrations excellently organized. The Schlumberger Well Surveying Co. and Halliburton Well Cementing Co. provided the loud speaker truck, refreshments, and other services. Even the weather was excellent. The Society is to be congratulated for its fine presentation in the field of the geology of an interesting and economically important area.

SUBSURFACE OF SOUTHWEST LOGAN COUNTY

In the west part of Guthrie is the Guthrie Townsite oil field, and to the west and southwest are the Northeast Navina, South Crescent, West Navina, Southwest Navina, and other oil pools. In the last number of Shale Shaker (Vol. 5, No. 2) is an article by William Jack Ford on the subsurface

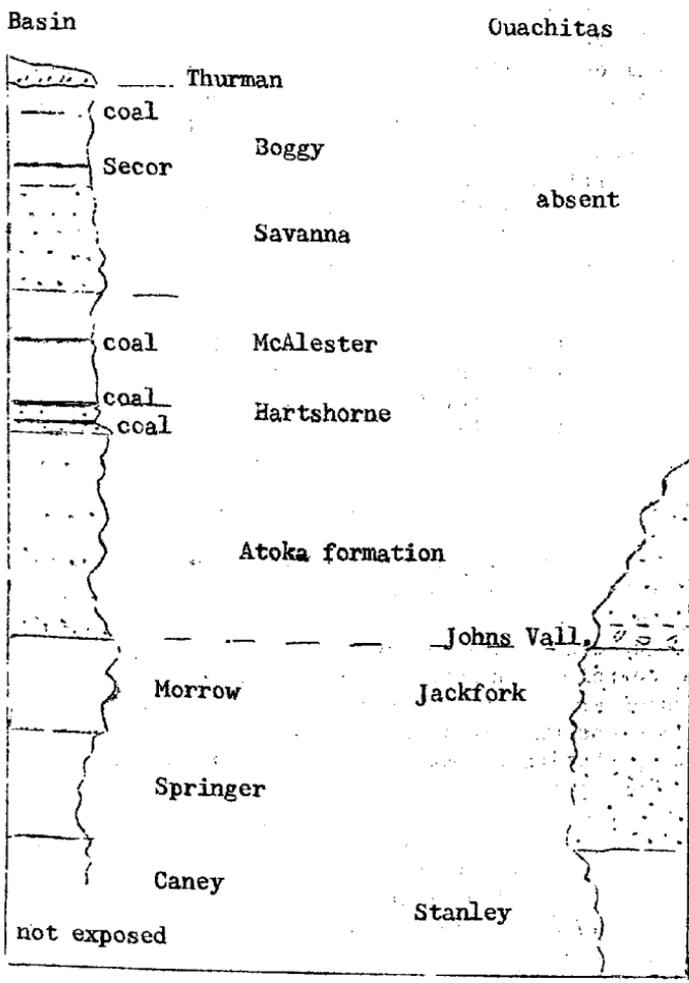
geology of the area. The article is accompanied by electric log cross sections, a structural and paleogeographic map at the base of the Pennsylvanian, a structure contour map on the Oswego lime, a structure contour map on the Viola, a structure contour map on the Wilcox, and a panel diagram illustrating pre-Pennsylvanian unconformities. The article is adapted from a master's thesis done under the direction of Dr. Carl A. Moore at the University of Oklahoma.

The Shale Shaker is the publication of the Oklahoma City Geological Society. Single numbers can be obtained for \$1.00 from the editor, Mrs. Mildred Armor Frizzell, 3321 N. Virginia Avenue, Oklahoma City, Oklahoma

NEW BOOK ON PETROLEUM GEOLOGY

Just off the press is Dr. Levorsen's new book "Geology of Petroleum." No oil geologist can afford to be without it. In the 703 pages are up-to-date discussions of every geological phase of the petroleum industry. The many black and white figures are clearly reproduced and wisely chosen. Oklahomans will be interested in Daniel A. Busch's interpretation of Booch sand conditions in the Hawkins field (p. 60, p. 577).

The volume was published by W. H. Freeman and Company. Dr. Levorsen lives in Tulsa. He has been an oil geologist in Oklahoma and elsewhere since 1917 and is the author of numerous articles on oil geology.



Strata of the McAlester region