

Other articles regarding Paragould meteorite will be found under "Miscellaneous".

ANOTHER FRAGMENT OF METEOR FOUND

Special to the Gazette. 3-25-30
Paragould, March 24.—Another portion of the meteor which appeared over this territory at 4:15 the morning of February 17, was believed found yesterday by Bill Hodges, on the farm of Joe H. Fletcher, 11 miles southwest of here. The meteorite, weighing 820 pounds, was found within a mile of where another fragment weighing 85 pounds was discovered the day after the meteor was seen. The piece found yesterday was buried nine feet in the earth and was dug out by farmers in the vicinity. It is not known what disposition will be made of it.

Another Record Meteorite Fell in Arkansas in 1886

Gazette June 15-1930

(Mc. Blackman's page)

Arkansas has been made a target by meteors more than once, and the recent record established by the Paragould meteorite as the largest such mass ever known to fall was not the first Arkansas record.

In 1886, an extract from the proceedings of the U. S. National Museum, Volume X, was published in pamphlet form under the title of "Meteoric Iron from Arkansas, 1886."

than either of these, but the circumstances of their coming to earth are not known.

The Johnson county meteorite was much smaller than the 820-pound mass which fell last winter near Paragould. The earlier one weighed a fraction less than 108 pounds.

According to Mr. Kunz, "It is almost an exact counterpart of the larger of the Hraschina (Agram), Croatia, me-

closet to rattle, and which she described as louder than any thunder she had ever heard. At first she thought it was caused by a bombshell, and ran out of the house in time to see the limbs fall from the top of a tall pine tree, which, she says, stands about 75 yards from her dwelling.

"She did not investigate the matter until her husband came home about 6 o'clock in the evening, when, in company with John R. Norton, their hired man, they went out to find the cause of the noise that had so startled Mrs. Shandy. They discovered that a large hole had been made in the ground by some falling object, and that the fresh earth had been thrown up to a height of 30 feet on the surrounding saplings and trees. They dug down, and a steam or exhalation arose, which on a dark night might perhaps have produced a phosphorescence similar to that described in the case of the Mazapil iron. The iron had buried itself in the ground to the depth of three feet, and the earth around it to the thickness of one inch seemed to be burned.

"The ground was still warm when the iron was taken out, and the iron itself was as hot as the men could well handle. The weather had been quite cloudy all day, but no rain fell until night. These facts are from the affidavits of Mr. and Mrs. Shandy and John R. Norton. Mr. Shandy at first supposed that their find was platinum, then silver; he finally learned what it really was and sold it. Mrs. India Ford, Dr. W. J. Bleck, Mr. S. A. Wright, constable, and Mr. L. Wright, chief of police, also heard the report caused by the fall.

"The noise was heard 75 miles away, and was likened to a loud report followed by a hissing sound as if hot metal had come in contact with water. It caused a general alarm among the people, and teams of horses 25 miles distant, becoming frightened, broke loose and ran away. In Webb City, Franklin county, on the south side of the Arkansas river, a number of bells kept on sale in a store are said to have been caused to tinkle.

"Mr. B. Caraway states that he heard two loud reports at Alma, Crawford county, at 3 o'clock on March 27, 1886. The report was also heard at Russellville and in the adjoining county of Pope. The Democrat, of that place, April 29, 1886, says:

"The wonderful meteoric stone, as it is called, but erroneously, for nothing is further from stone than it is, is now on exhibition here. We looked on the strange thing, and wondered what it was and where it came from. The noise it made when it struck the earth's atmosphere on the 27th of March and came whizzing to earth near Knoxville will never be forgotten, neither will anyone who looked at it ever forget it."

"The Dardanelle Post of April 1 contains several articles and communications in reference to the explosion. The story of the local reporter reads as follows:

"On last Saturday, the 27th instant, the people of this town were startled by an unusually loud report in the heaven, accompanied by a well marked and peculiar whirring or whizzing sound. Attention was first attracted to the northwest by the report, after which there seemed to be an immense and irregular body whiz toward the zenith and somewhat north of it, and there seemed to stop and whiz like 10,000 scalding hogs, and then, after another terrific report, to die away in the southwest.

"Mr. R. E. Cole, whose experience is corroborated by a hundred others in this section, was in his garden at the time of the report. He immediately looked at his watch and noted the time, 3:17 p. m. He followed the sound, the direction of it, with his eyes, and had no difficulty in exactly locating the point where the body appeared to stop, and as the last report died away he noted again the time and found the lapse to have been three minutes. Nothing could be seen, owing to the clouds.

"Our correspondents speak of it elsewhere, and Mr. Woolbright, of Gravelly Hill, who was in this week, said that the people of his neighborhood felt sure that it had fallen out in the mountains just north of them and were going to hunt it up.

"D. W. Maguire, of Logan, about township 8, range 24 or 25 west, sent in to inquire after it, saying that it was north of him. Mr. Charley Littleton, up the Fort Smith railroad, reported same as the other, but all agree that where the object seemed to stop and whiz was north of them. At last, yesterday, Mr. John Burkhead, who lives near Delaware, Logan county, came in to tell us that the meteor had fallen in Johnson county, four miles north of the mouth of Piney and on the east side of the creek in the Uncle Billy Norton settlement; that a man and his wife were standing in their yard and hearing the report turned their eyes in the direction and saw an object falling directly to the ground. They noted the direction by means of some trees and went in search of the spot, finding it a short way out in the woods. They secured help and dug it from the ground, into which it had penetrated about three feet.

"It weighs about 110 pounds, is of a smoky color on the surface, but pieces broken off have a bright metallic luster. We have been a little surprised at seeing no mention of the report in any of the daily papers, for it startled probably half of the population of Yell, Logan, Pope and Johnson, counties. That it was a meteor there is little doubt, and that a fragment might have fallen somewhere is more than likely. Mr. Burkhead, whom we know to be perfectly reliable, has no doubt whatever that the facts are just as stated, though he could only vouch for it through a responsible neighbor, James

Sirley, who saw a man who saw the rock itself. We hope to have more positive information and more definite details by next week.

"A correspondent signing himself 'Observer' writes:

"Editor Post: On Saturday at about 3 o'clock p. m., whilst wending along the road near Bluffton, a report in the heavens louder than a hundred piece of artillery, and much louder than any thunder peal ever heard before, burst apparently not more than half a mile north of me. It was a short of double explosion, and its reverberation rolled off in a southwest direction clear to the horizon. It was at the time a little cloudy all over, but the clouds were thin, although the smoke everywhere caused it to be dark enough to seem much more cloudy than it really was. There were scarcely any clouds where the explosion seemed to be.

"It could not have been thunder, for there was no apparent natural cause for thunder. What was it? It passed on to Gravelly Hill, six miles in the direction of where the explosion seemed to be located, but even there it seemed to the people of Gravelly that it was only a little north of them. The horses trembled and even the trees dropped their loose bark in places. Some who were standing still on the ground at the time say that they were violently shaken. My own horse was terribly frightened, and its rider felt very solemn for many minutes. What was it? What does it mean? Is it the precursor of the commencement of heavy rain-falls? Or is there a strike in the elements as there is a strike among the Knights of Labor? Who can tell us?"

"Lorenzo," another correspondent, says:

"Southern Home, Ark., March 31, 1886.

"Editor Post: We had quite an ex-

citement in our neighborhood last Saturday evening over a terrible noise in the elements. There are various conjectures as to what it was. Some insist that it was one thing and some another, but the Nestor of our community says emphatically that it was a "comic busted."

In a later letter to Mr. Kunz, G. R. Williams, editor of the Dardanelle Post, vouched for the reliability of the various witnesses, and remarks: "By the time authentic news was procurable it was the first of April, and then everybody was disposed to look upon the real locating of the fall as an April fool. In fact, I attribute the failure of the Little Rock dailies to publish the find to that fact—that they thought it an April joke."

The pamphlet further relates: "Mr. B. Caraway, who visited the spot for me informs me that the pine tree through which the meteorite fell is 107 feet high, and that the distance from the foot of the tree to the center of the hole made by the mass is 22 feet 3 inches. The limbs on the west side of the tree were broken, and the meteorite lay in the hole with the flat side down. The hole was 75 yards from the house.

"Prof. H. A. Newton, who has kindly interested himself in this matter, says that the data furnished indicates that the mass must have fallen nearly from the zenith. This was the direction of the end of its path, the earlier portion being more inclined to the vertical, as the path must be affected by gravity and the resistance of the air. The earlier direction must have been from the northeast and more nearly from the east than the north.

"Mr. Shandy sold the meteorite to Mayor Caraway, who in turn sold it to Col. J. C. Betten, a lawyer of Eureka Springs, of whom the writer obtained it. Colonel Betten bought it as a busi-

ness speculation, expecting to realize something of an income from its exhibition. Circulars headed 'The Tenth Wonder' were printed and circulated.

"It was also called the 'vertible wonder that was seen to pass through the sky, blazing, sparkling,' etc. Twenty-five cents were charged for admission to look at it."

Mr. Kunz concludes his article with a detailed and technical description of the meteorite, and an analysis which showed that it was composed of 91.87 per cent iron; 6.6 per cent nickel; a trace of cobalt; .41 per cent phosphorus and .54 per cent carbon, sulphur, etc.

The meteor which dropped the Paragould fragment last February attracted attention in three states—Missouri, Illinois and Arkansas. Its light was so bright that persons in St. Louis who saw it believed it was an airplane coming down in flames. It burst with detonations which were heard as far north as Poplar Bluff and as far east as Covington, Tenn. The meteor came from a southwestern direction. At Paragould nearly everyone in the town was awakened by the detonation, and livestock stampeded.

A smaller stone, weighing about 80 pounds, which fell at the same time was found about 11 miles from Paragould by Raymond Parkinson, a farmer, who noticed earth freshly thrown for a distance of 30 feet. The stone also had made a furrow in a northeast direction. It was found at a depth of 34 inches. Discovery of this one led to a search for others, and a month later, on March 16, the large mass now in the Field Museum at Chicago was discovered.

FALL OF METEORITE CAUSES EXCITEMENT

9-14-30

Loud Report Heard Near Heber Springs From Falling Star.

Special to the Gazette.
Heber Springs, July 13.—Residents of Heber Springs were excited at 9 this morning by a loud report similar to a dynamite blast caused by the falling to the earth of meteorite weighing 35 pounds which was located on the farm of Julian Bailey, about 10 miles southwest of Heber Springs.

Although no one saw the object, Mrs. Bailey said she saw a cloud of dust and upon investigation found the meteorite. Those who saw it said it is black and the shape of a heart.

The report of the falling star was heard for many miles and the operator in charge of the telephone exchange here reports that many calls were received from nearby towns asking the nature of the explosion. The meteorite was imbedded in the ground about 18 inches.



Under side of the Johnson county meteorite which, like the recent Paragould fragment, set a record for size of such masses known to fall

The extract was written by George F. Kunz, vice president and gem expert of Tiffany & Co. of New York, and, at that time, a special agent for the U. S. Geological Survey. Mr. Kunz wrote:

"The Johnson county meteoric iron, the latest whose fall has been observed, is of more than ordinary interest, because its fall is so well substantiated. It is the largest mass ever actually seen to fall; and it is noticeable that it fell within five months of the date of the last previous authentically recorded fall, that of the Mazapil iron."

Now, 44 years later, "the largest single meteoric stone ever known to fall" was buried nine feet deep on the farm of Joe H. Fletcher, 14 miles southwest of Paragould, early on the morning of February 17, and is now in Field Museum, Chicago.

There have been others much larger

teoric irons, the first of the recorded falls. The Agram iron fell in two fragments, one weighing about 40 kilos (88 pounds) and the other about nine kilos (19.8 pounds), the combined weigh being about equal to that of the Johnson county iron."

The circumstances of the falling of the meteorite are described in detail by Mr. Kunz:

"This mass fell about six miles east of Cabin Creek (now Lamar), Ark., in longitude 93 degrees 17 minutes west of Greenwich, latitude 35 degrees 24 minutes north, within 75 yards of the house of Christopher C. Shandy. Cabin Creek is on the north side of the Arkansas river.

"Mrs. Shandy states that about 3 o'clock (at 3:17 exactly) on the afternoon of the 27th of March, 1886, while in her house she heard a very loud report, which caused the dishes in the

178
ALL OFFERS FOR
METEOR REFUSED

Farmer Says He Prefers to
Keep Stone Which Fell
Near His Home.

7-15-30

Special to the Gazette.
Heber Springs, July 14.—Scores visited the farm home of Julian Bailey, eight miles northwest of Heber Springs, today to view the meteor which fell in a field 25 yards from the Bailey home yesterday morning.

The meteor weighs about 40 pounds. It is a dark, iron-hue and has metallic ring.

Bailey has received offers up to \$100 for the meteor but has refused all.

He prefers to keep it rather than to accept any of the offers received.

The meteor was seen by hundreds as it roared through space, coming from the northeast. A dense cloud of smoke appeared in its wake. Two loud explosions were heard just before it struck and some witnesses said the meteorite was torn to pieces with one or more larger fragments resuming their course.

Mrs. Bailey rushed to the front door just in time to see the cloud of dust arising from the spot where the stone fell. It was buried 15 inches in the plowed ground.

Lucky Farmer Sells His
Meteorite for \$650

Democrat 8-18-30
Heber Springs, Aug. 18.—(Special.)—Julian Bailey, a farmer living west of Heber Springs, in whose yard a meteorite fell July 13, has received from an institution in Rochester, New York, a check for \$650 for the stone. The meteorite was 11 inches in diameter and weighed 37 pounds.

BELIEVES METEOR
LANDED NEAR CITY

Jack Weas, 312 Maple street, former municipal judge of North Little Rock, said that he saw a large meteor fall in the west about 10:08 last night. Weas said the meteor was unusually large, with a long tail, and that it fell slowly toward the north. Mr. Weas said the star appeared to be not much farther out than White City, and that it was at the level of the tree tops when he saw it. The size of the meteor, and the slowness with which it fell, aroused his curiosity, and he telephoned to the Gazette for enlightenment.

No other report of a comet had reached the Gazette late last night, and no other telephone calls concerning it came in.

Meteoric Shower on
Lake Catherine Seen

Democrat 11-17-30
Hot Springs, Nov. 17.—(Special.)—A beautiful and amazing spectacle was witnessed by Municipal Judge V. S. Ledgerwood, Al Reynolds and Dr. Bethel Bourdier in this city, early Monday. While putting out decoys on Lake Catherine and preparing to hunt ducks, the three saw probably 500 shooting stars, a veritable shower. The display continued from about 4:30 a. m. to about 5:30 a. m., they said.

Shower of Meteors Reported
Near Malvern.

Democrat 11-17-30
Hot Springs, Nov. 17.—(P)—A shower of meteors which fell between 4:30 and 5:30 a. m. was observed by a party of hunters near here today, Municipal Judge V. S. Ledgerwood reported.

Meteor Falls on Farm Near
Arkadelphia.

Special to the Gazette. 4-9-33
Arkadelphia, April 8.—A meteor which fell at noon today on a farm at Alpine, 20 miles northwest of here, caused Mrs. J. R. Duce, who saw its descent, to believe the sun was falling. She had the presence of mind to look for the sun and was relieved to see Old Sol was doing business as usual. Two wash tubs of fragments of what appear to be burned stones and cinders were picked up by Mrs. Duce, and they were viewed with much curiosity in that community. The land on which the meteor fell belongs to Mrs. Duce's father, J. R. Payne. Felix Adams is cultivating the land and is thanking his stars he was not at that time working in the field.

Meteors and Whence They Come

By A. M. HARDING, Ph. D.

University of Arkansas.

June 12, 1932



The 820-pound Paragould meteor (supporting stand 28 inches wide.)

Ever since man has been on the earth he has watched the movements of the sun, the moon and the stars. These heavenly bodies appeared to him to be moving slowly in an orderly manner, furnishing him light and heat and even revealing his future career if only he were wise enough to read their story. He seemed to feel that these objects were created for his special benefit and that there was nothing to fear from their presence. Even in the hymns of today we sing about the sun, the moon and the stars just as if there was nothing else in the universe.

On rare occasions a comet with its long train would appear in the sky, a meteor would shoot across the heavens, a new star would blaze out at a place where there had been no star before, or the sun or the moon would be eclipsed. Being ignorant of the fact that each of these phenomena is a direct result of certain natural laws, ancient peoples looked upon them as "signs" that had been sent by an angry God to warn his earthly subjects.

Occasionally an object resembling a ball of fire falls upon the earth out of the sky. Here was a "sign" from heaven which, like a comet or an eclipse, was an object of terror to the superstitious people of early times. Of course we of the Twentieth century are also afraid of these objects, some of which weigh several tons, and we shudder when we think about what would happen if one should fall in the center of one of our large cities but, after it has fallen in the ocean or on some desert plain, we are no longer worried, because the danger from that particular fire-ball is past.

These bodies are known as meteors and are traveling in orbits around the sun. We are unaware of their presence unless they happen to collide with the earth. In this case they become visible because of the intense heat which is generated by their rapid motion through the atmosphere. If they are so small that they are completely consumed by this terrific heat, we call them shooting stars. On almost any clear evening it is possible to see several of these small starlike objects dart across the sky and then disappear from view. Those meteors, which are large enough to survive this collision with our atmosphere, finally strike the earth and we then call them meteorites. Occasionally, a blazing fire-ball, which is simply a very large and bright shooting star, flashes out in the sky followed by a luminous train. We see a flash, hear a report and then find a piece of stone or iron buried in the ground.

The mass that falls is sometimes one piece, but more usually there are many fragments sometimes counted by the thousands. Meteorites are mostly stones,

about three per cent of the total number being nearly pure iron. At the present time we have specimens of more than 300 meteorites which have actually been seen to fall, about 30 of these having fallen within the United States.

We feel sure that meteors belong to our solar system because, although they contain about 30 known chemical elements, they do not contain any elements with which we are not already familiar. A meteor which fell in Russia in 1887 was composed largely of carbon. Their slow velocities would also indicate that they do not come to us from beyond the solar system. They strike our atmosphere with an average velocity of about 26 miles per second. Since the earth is moving about 18 miles per second those meteors which collide with the earth early in the morning have an apparent velocity of about 44 miles per second, while those which overtake us in the evening appear to be moving with a speed of about eight miles per second. Of course this velocity is very rapidly reduced by the friction in the atmosphere and cases have been known where small meteorites have fallen on thin ice and rebounded.

Perhaps the largest meteorite that has ever fallen on the earth was the one that caused the famous crater in Arizona. Here we find a meteor crater resembling very closely those on the moon, although on a much smaller scale. It is almost a mile in diameter and about 500 feet deep.

In June, 1908, what appeared to be the nucleus of a small comet fell in Siberia. Many people actually saw this swarm of meteorites strike the earth and many

more heard the terrific roar with which it shot through space. It would be very difficult to estimate the damage that would have resulted had they fallen on some thickly settled part of the earth. It is said that these meteorites literally plowed the ground over an area more than a mile in diameter.

On one of his Arctic trips Peary discovered a very interesting meteorite in western Greenland which weighs about 36 1-2 tons. This meteorite may now be seen in the American Museum of Natural History in New York. The largest meteorite known at present, the gigantic meteor which caused the crater in Arizona not yet having been dug up, is the Grootfontein meteor which was discovered in South Africa in 1929. This meteor weighs about 60 tons and is extremely hard, being about 17 per cent nickel and 81 per cent iron.

The largest meteorite which was actually seen to fall is the Paragould meteorite, which weighs 820 pounds. This huge stone fell at Paragould, Ark., about 4 a. m. on February 17, 1930, and was found on Sunday, March 16, buried eight feet in the ground. This meteorite measures 26 by 36 inches and is now in the Field Museum at Chicago.

Arkansas not only claims the largest stone meteorite but the largest iron meteorite which was actually seen to fall. An iron meteor which fell near Cabin Creek (now called Lamar) in 1886 weighed 107 pounds.

Where do meteors come from? Many attempts have been made to answer this question. Some have suggested that meteors were perhaps projected from lunar

volcanoes ages ago and that they have been moving around the sun like planets since that time. The theory that meteors result from the disintegration of comets is very popular today, since several comets have actually been seen to break up. There seems to be no question but that there is a very close connection between comets and meteors. In fact, the head of a comet is not a single solid mass, but it seems to be made up of a multitude of small pieces. As the comet makes its regular trip around the sun it may perhaps be pulled to pieces and caused to disintegrate by the gravitational attraction of other heavenly bodies. Biela's comet is one whose disintegration was actually observed. This comet made several trips around the sun but finally came back broken in two pieces. When it was again due it failed to appear and the earth passed through a shower of meteors which were supposed to have resulted from the disintegration of the comet.

Some authorities maintain that meteors are simply the small fragments of material which was left over when the solar system was made. After the passing star had pulled enough material finally collected in certain centers and formed the planets and moons. The material that was left over is still revolving around the sun and is furnishing the celestial fireworks which we are now considering.

Everyone should be able to recognize at least 20 of the brightest stars in the sky. Hence I shall, from time to time, point out certain of these stars which are in a favorable position for observation. At this time I want to call your attention to the star Spica (Spi-ka) in the constellation Virgo (Vur-goh). This first magnitude star will be on the meridian at about eight tonight and can be easily identified. If you are living in latitude 40 degrees north you will find Spica about 30 degrees above the Southern horizon. Those of you who live in other latitudes will find this star lower or higher in the sky when it crosses the meridian, according to whether you are living north or south of 40 degrees north.

Spica is one of the few bright stars located in the Zodiac which is made up of 12 well known constellations. The constellation Virgo seems to have derived its name from Ceres, the Virgin of Harvest, since the sun enters this constellation at harvest time. When the sun passes through the autumnal equinox next September it will then be not far from the star Spica.

Let us all study the Southern sky for several evenings this week until we are sure that we have identified the first magnitude star Spica.

Question for next week: How hot is the sun and what keeps it hot?

Apparently Narrow Escape From Meteor Described By Mail Pilot

Hiram Sheridan, American Airways Flier, Says Dazzling Missile Seemed Certain to Strike His Plane Near Texarkana.

The strange experience of being bombarded from space by a meteor was described by Pilot Hiram Sheridan, flying the eastbound night American Airways mail plane, when he arrived here last night from Fort Worth, Tex.

"It was some experience," the pilot told R. A. Culppepper, Airways operation manager at the Municipal Airport.

Shortly before he reached Texarkana, Sheridan said, he saw the meteor break into flame as it struck the earth's atmosphere and describe a huge arc, coming directly toward the plane.

"I watched it a second or two," Sheridan said, "and realized that it was coming straight at me. I changed my course and put on speed, but it looked like it would strike the plane anyway."

"When it seemed that something was sure to happen, I banked sharply to the right and at about the same moment the meteor burned out and disappeared."

"Just how far the meteor was from the plane is hard to say, and it probably wasn't as close as it looked, but I thought it barely missed me. It was too close, to say the least."

"When I first noticed the meteor it apparently was just entering the stratosphere and it gave off a dazzling blue-white light that blinded me. As it came closer it lost its brilliance until at the time it reached the altitude at which I was flying, it was just a glowing red ball. It went out completely just after it passed us."

Believes Aviator Misjudged Meteor

Adrian, Mich., Feb. 16.—(P)—Stuart H. Perry, publisher of the Adrian Telegram and an authority on meteors, said today that Hiram Sheridan, air mail pilot who reported his plane nearly was struck by a meteor near Texarkana, Ark., last night probably was farther from the falling body than he supposed.

"The aviator had an extraordinary and thrilling experience," Perry said, "and there is no reason to doubt that he relates the occurrence exactly as it appeared to him."

"The meteor, however, probably was very much farther from him than he supposed. It is impossible for a single observer to judge the size distance or path of a meteor at night."

"Observers often say that a meteor dropped a mile away, or less, when the actual distance was 100 miles, or more. Distance and direction can be established only by reports from a number of observers widely separated."

"The fact that he saw it disappear is conclusive proof that he was not very close to it, because falling meteors cease to glow at a height of about five miles."

Interest in Meteors

Because They Are the Only Celestial Objects Which Can Be Examined in Detail by Man, They Continue to Attract Attention. The Arkansas Meteor Has Received Much Notice From Astronomers.

By A. M. HARDING, PH. D.

University of Arkansas Feb. 18, 1934.

Gazette.

Interest in meteorites continues to increase. This is only natural for meteorites are the only celestial objects that we can examine in detail. We have much valuable and accurate information about the sun, the moon, the stars and other heavenly bodies, but all of this knowledge has been gathered through our sense of sight. Rays of light traveling at a speed of 186,000 miles per second bring us information as to what was happening on those heavenly bodies several hours—sometimes centuries—ago. We feel much more interested in meteorites because we can actually handle them and examine their structure in detail. At one time every meteorite was a meteor which moved regularly about the sun—probably as a part of some comet—until it struck the atmosphere of the earth. Here its extra-terrestrial life ended and it became a part of the crust of the earth.

As a matter of fact, meteorites seem to have played a very important part in the formation of the earth's crust. There seems to be no question but that the well known meteor crater in Arizona is the direct result of the impact of a large meteor. This crater is almost a mile in diameter and about 500 feet deep. At some time in the dim distant past a giant meteor seems to have plowed into the earth and it probably now lies buried below the bottom of this crater. There are other craters in Australia and in Arabia and Siberia that seem to have been caused by the fall of meteors and these same crater-like formations are to be found in some of our Southern states.

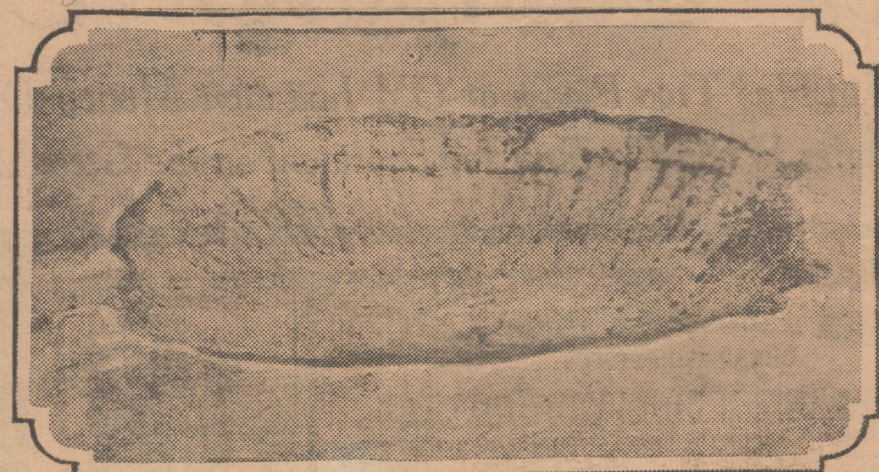
Bacteria in Meteor.

Several years ago Professor Lipman announced the discovery of bacteria existing inside of meteorites. This announcement naturally aroused much interest and discussion, for if bacteria are found in meteorites then we are forced to admit that there is a possibility of the existence of life germs throughout the length and breadth of the solar system, unless we assume that these bacteria made their contact with the meteorite after it had finished its wanderings through space and had fallen upon the earth. Professor Lipman's discovery has not yet been confirmed by other scientists, but no matter what the final verdict may be we are all interested in meteors and meteorites. A shooting star attracts the attention of every casual observer and a fire-ball, with its long trail of light and its hissing noise with sometimes a loud explosion, will arouse the countryside.

The Arkansas Meteorite.

The people of Arkansas are especially interested in meteorites for its so happens that the largest stone meteorite and the largest iron meteorite that have actually been seen to fall hit the earth in Arkansas. Of course there are larger stone meteorites and larger iron meteorites than those claimed by Arkansas, but none of these others were noticed until they had fallen. On February 7, 1930, a huge stone weighing 820 pounds fell at Paragould and buried itself eight feet in the ground. This meteorite, which is now on exhibition in the Field Museum in Chicago, is three feet long and more than two feet thick.

In 1886 an iron meteorite weighing 107 pounds was seen to fall near Cabin Creek. It is said that lightning never strikes twice in the same place, but we are never sure about meteors. At any rate, soon after this huge piece of iron struck Arkansas near Cabin Creek the inhabitants of this thriving little town had its name changed to Lamar, and Cabin Creek no longer appears on our maps.



Meteor Crater in Arizona. From Moulton's Astronomy. By permission of Macmillan Company, publishers.

The American Meteor Society, under the direction of Dr. Charles P. Olivier of the Flower Observatory at Upper Darby, Pa., for some time has been making a special study of meteors. The members of this society have devoted much time to the counting of shooting stars and determining the direction from whence they came. In this way much valuable information has been secured with reference to the

Perseids, the Leonids, the Andromedes and the other meteoric showers which occur at regular intervals. This association has also been very active in securing data with reference to meteorites that have been seen to fall. By means of this information it has been possible to determine the direction in which these meteors were moving before they struck the earth.

New Society.

There has recently been organized the Society for Research on Meteorites with headquarters at the Nininger Laboratory, 1955 Fairfax Street, Denver, Col. The purpose of this society, as stated in a recent issue of Popular Astronomy, is "to promote the discovery, collection, investigation, and preservation of meteorites, and to advance the science of meteorites, and related science, through the increase and dissemination of knowledge concerning meteorites."

If any of our readers are interested in learning more about meteors or meteorites, or would like to have a part in this interesting phase of astronomical research, which can be carried on by the average person with little or no knowledge of mathematical astronomy, he should get in touch with one or both of these associations. Both societies have issued cordial invitations to the general public to accept membership. Anyone who happens to see a fire-ball flash through the air and has reason to believe that it struck the earth anywhere in his vicinity should immediately notify the writer, or one of the above named societies.

Sounds From Meteors.

When the 820 pound stone fell near Paragould in the early morning hours of February 17, 1930, the noise was so great that many people were panic stricken. We can imagine what would have been the result had this stone fallen through the roof of one of our city apartments rather than on a farm. In a recent number of Popular Astronomy Dr. C. C. Wylie thus describes the fall of the Paragould meteorite:

"The detonations in the immediate vicinity were violent enough to awaken practically everyone and to stampede stock on the farms. Persons were awakened from sleep not only in Arkansas, but also in the adjoining states of Tennessee and Missouri. Near Poplar Bluff, Mo., about 70 miles from Paragould, the night police

made the rounds of the banks believing that the explosion heard was caused by someone dynamiting one of the banks. In the same town a railroad man, who had stepped out of a locomotive to telephone, thought when he heard the explosion that the boiler of the locomotive he had just left must have blown up, or that another train had crashed into his."

Watch for Mercury.

This week we have another good chance to catch a glimpse of the little planet Mercury which is so close to the sun that it is extremely difficult to observe. Mercury is now evening star and sets about an hour after the sun. Perhaps you may be able to see this little companion world in the southwestern sky some evening this week. It will be found almost directly north of Fomalhaut and almost on the boundary line between the constellations Aquarius and Pisces.

From time to time people have wondered whether there might be a planet between the sun and Mercury. In fact, such a planet was announced in 1859 and was even given a name, Vulcan. What better name could be found for this tiny world, which apparently existed almost within reach of the flames from the sun, than Vulcan—the god of fire and of the forge. Again in 1878, this same announcement was made but recent observations have convinced the astronomers that Vulcan does not exist.

Many people become interested in the planet Mercury because it is so difficult to see. This planet never gets very far from the sun and consequently it must be observed very soon after sunset or before sunrise if it is to be seen at all. It is usually completely lost in the brilliant light of the sun's rays and goes down below the horizon before it becomes dark enough for us to see it. Our curiosity is naturally aroused by a world which remains hidden most of the time and many people are wanting to know more about Mercury.

Observing Mercury.

Recorded observations of Mercury go back to 264 B. C. The planet was not recognized by the Greek scientists as the same body when east of the sun as when west of the sun. They called it Apollo when it was morning star and Mercury when it was evening star. Mercury is invisible most of the time. In fact Copernicus, the celebrated astronomer, is said never to have seen it.

The amount of heat received from the sun per square mile on two planets varies inversely as the squares of their distances from the sun. In the case of Mercury we find that every square mile of its surface receives about seven times as much heat on the average as the same area on the

earth, so that it would probably be rather uncomfortable for us if we should try to live on that world. Since Mercury is much closer to the sun at some times than at others, the amount of heat falling on the planet varies from time to time. In fact, when Mercury is closest to the sun it receives two and one-half times as much heat as when it is farthest away. In six weeks the sun would increase to more than twice its apparent size if observed by someone living on that planet. This alone would be sufficient to cause seasons on the planet.

The honor of the discovery of the new planet Pluto rightfully belongs to Lowell Observatory and Dr. C. W. Tombaugh, who picked up the image of this new planet on a photograph taken January 21, 1930, will go down in history with Sir William Herschel and Leverrier as a discoverer of a new world. This honor was in no way diminished by the fact that Miss Arville D. Walker of Harvard College Observatory recently found the image of Pluto on a photographic plate that had been made on the night of November 11, 1914, and stored away. Dr. E. C. Bower of the University of California worked out an orbit for Pluto soon after its discovery was announced from Lowell Observatory and it was by making use of his calculations that Miss Walker was able to find the image of the planet on the photographic plate made more than six years before the actual discovery of the planet. This reminds us of the way the planet Neptune was discovered by Galle after its position in the sky had been carefully computed by Leverrier.

The Grootfontein

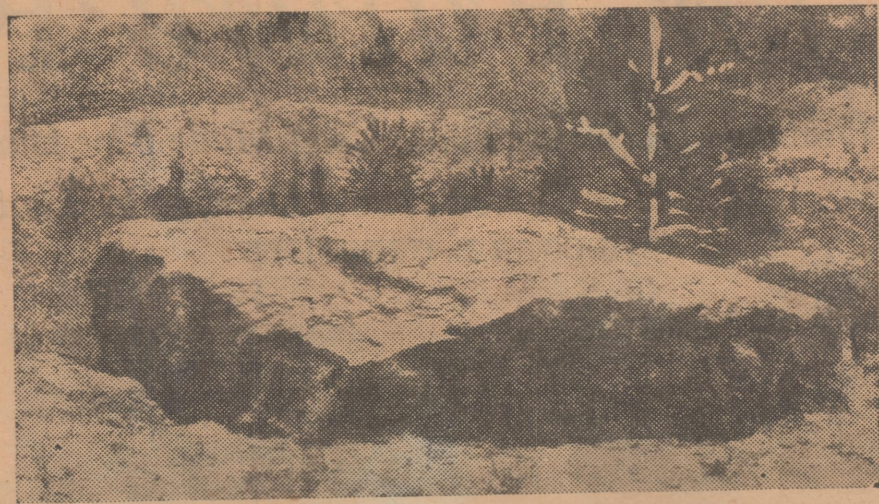
The Distinction of Being the Largest Meteorite in the Years Ago in Southwestern Africa. Its VOL. VIII.

Gazette May 20, 1934 By A. M. HARI University of

Until the gigantic Arizona meteor has been uncovered and brought to light, the distinction of being the world's largest meteorite belongs to the Grootfontein meteor found in Southwest Africa several years ago.

In a recent issue of Popular Astronomy, Dr. William J. Luyten gives us an interesting account of his trip of 1,550 miles for the purpose of verifying reports about this meteor. After a rather tedious journey and many inconveniences due to the method of travel, Dr. Luyten finally found this massive visitor from the depths of space and has released photographs and other information about it.

Arkansas Meteors. In this connection it might be interesting to raise the question as to what has become of the meteorites that formerly belonged to the people of Arkansas. The largest stone meteorite that has ever actually been seen to fall anywhere in the world buried itself in the ground near Paragould in 1930, and in 1886 nature presented Arkansas with the largest iron meteorite that has ever been seen to drop out of the sky when an enormous piece of metal weighing 107 pounds fell near Cabin Creek—now called Lamar.



THE GROOTFONTEIN METEOR. Courtesy—Popular Astronomy.

Of course many other meteorites have been found in Southwest Africa. Just east of Gibeon is a valley that has been peppered with small meteors, about 50 of which have been dug up and preserved. These meteorites are all of about the same size, weighing about 500 pounds and containing about seven per cent nickel.

New Metal Extracted From Meteors, Report Says.

Newark, N. J., Aug. 10.—(AP)—A report that a new metal has been extracted from meteors was made tonight on behalf of the Newark branch of the American Electroplaters Society by Dr. E. A. Smith of Secaucus, N. J., and M. E. Steinbach of Newark. The metal was not described in detail. But it was intimated as something atomically heavier than uranium, now the heaviest of all known elements, and as radioactive.

This description indicates that the meteor metal is considered by its finders as a break into a new field of substances, comprising heavy elements whose existence was generally doubted until recently. The Italian scientist Fermi a few weeks ago reported that he believed he had created one of these heavier substances, element 93. Later Dr. O. Koblitz of Czechoslovakia announced he had extracted from pitchblende, the source of radium, a yellow salt which appeared to contain element 93. The meteor metal was mentioned in a discussion of improved methods of chromium plating.

Meteor Nearly Hits Plane, Flier Writes

Bazette 1-2-1935 A narrow escape from collision with a fragment of falling meteorite while flying at an altitude of 3,000 feet near Fort Smith December 26 was described by A. D. Hanks of Monroe, La., in a letter written to the Gazette following the publication of articles relative to a five-pound meteorite which fell last week near two men who were chopping wood on a Washington county farm.

"I read your account of the falling meteor near Fayetteville with great interest," Mr. Hanks said. "At 11:55 p. m. on December 26, while flying at 3,000 feet 10 miles southwest of Fort Smith, a blaze of fire approximately two feet wide and 10 feet long, trailed by white smoke for 100 feet, missed my plane not more than 50 feet.

"I spiraled down to see the blaze disappear, and a solid black form apparently one and one-half feet in diameter fell on the sandbar in the second bend of the Arkansas river above Fort Smith, on the Oklahoma side."

Huge Meteorite, Believed to Be One Seen Here, Is Found By Two Jonesboro Residents

A 460-pound meteorite, believed to be the same which was seen by several local residents the night of December 3, has been found near Jonesboro by Herbert Songer and the Rev. Charles Parker and is now on display there.

Songer saw the flaming meteorite fall just inside the city limits and the following day he and the Rev. Mr. Parker had it removed from the ground, the heavy mass having embedded itself several feet.

Science department faculty members at Arkansas State College there analyzed a fragment of the meteorite and announced that a trace of aluminum was found but that the mass was about 50 per cent iron.

Songer said that the meteorite exploded just before it struck the earth fragments as large as a person's head dropping about. The falling star narrowly missed the railroad tracks and telephone wires, he added.

The flaming meteorite was seen shortly before 2 a. m., December 4, by P. Homard, 2120 West Second street, engineer for the Missouri Pacific Lines, and A. C. Knight, superintendent of the Pulaski Heights postal sub-station, and C. O. Stuckey, a carrier at the same station.

Mr. Homard said he saw the display about five miles east of McRae when bringing the Sunshine Special train from St. Louis. He described the meteor as being as big as a house with a long tail similar to a comet, which shed a blinding phosphorous light like an acetylene torch.

The United States Weather Bureau received no official report of the meteor but H. S. Cole, meteorologist at the Weather Bureau explained the fact with the announcement that none of his observers were on duty at the time.

INFORMATION ON METEOR SOUGHT

National Society's Director Requests Reports on Phenomenon.

The American Meteor Society, with headquarters at the University of Pennsylvania in Philadelphia, has found reports of the meteor observed in Arkansas December 4 to be of "unusual interest" and it seeks more details.

A clipping of the Gazette's article of the meteor was sent to the society, and Prof. Charles P. Olivier, director, responded immediately with a request for more data.

He sent a questionnaire, and would like for all readers of the Gazette who saw the phenomenon to answer the following questions:

- 1. Give your name and address.
2. Where were you when you saw the meteor? (If the town is small, give county as well.)
3. Give the hour and minute when the meteor appeared; also kind of time used. (In Arkansas, Central Standard Time.)
4. In what direction did it appear (or in what direction was it first seen)?
5. In what direction did it disappear (or in what direction was it last seen)? (For Questions 4 and 5, simply north, east, south or west is not accurate enough unless these were the exact directions.)
6. At what height did it appear? (Use degrees in answering, as use of miles, yards, etc., has no possible meaning.)
7. At what height did it disappear? (Use degrees in answering.)
8. Did it pass directly overhead (i. e. through the zenith)?
9. Describe the trail, if one was left.
10. Which way did it drift?
Information should be addressed to the managing editor of the Gazette, who will forward it to Professor Olivier.

Home Burns After Apparently Being Struck by Meteor.

Special to the Gazette. Poplar Bluff, Mo., June 23.—Firemen said today members of a church congregation in Vinegar Hill, a suburb, reported last night the fire which destroyed the Perry Mitchell home started after a meteor fell, apparently striking the building. They said indications were the meteor hit the top of the Mitchell home and that fire flared up within a short time.

To Erect Zero Milestone On State Capitol Grounds

Ark. Gazette - Aug 2, 1931

Arkansas is soon to have a zero milestone.

The monument will be erected on the grounds of the state capitol by "the engineers of Arkansas," and will serve as the starting point and standard of linear measurement to all points in the state.

The exact site of the marker was chosen last week by a committee composed of State Geologist George C. Branner, chairman, W. Terry Feild, City Engineer, W. H. Marak, M. Z. Bair, D. L. Phillips, land commissioner of the Missouri Pacific railroad, and Charles S. Christian, chief highway engineer.

The spot chosen is directly in front of the central flower bed and near the

Department put up such a marker on the capitol grounds. Mr. Blackwood agreed that it would be a "splendid idea," but added, "I hesitate to start a movement of this kind out of state highway funds. I rather think this should be the work of some civic organization."

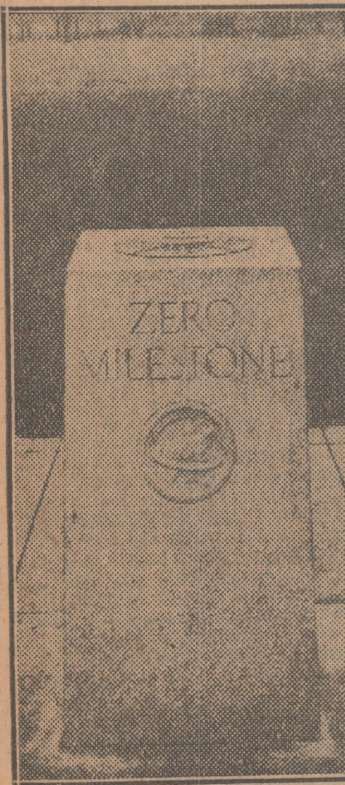
Mr. Phillips then dropped the idea, but in June of this year, it recurred to him, and he busied himself about starting the movement which now is coming to fruition. He wrote dozens of letters, the first of which was addressed to the director of the United States Geological Survey.

The letter was referred to R. S. Patton, director of the U. S. Coast and Geodetic Survey, who answered Mr.

Mr. Phillips also wrote to H. E. Smith, president of the Pike Manufacturing Company of New Hampshire, to ascertain if the company could furnish a piece of Hot Springs novaculite large enough for the monument (about five feet tall and two feet square). Mr. Smith replied:

"... We are in hearty accord with your plan and will be glad to do anything we can to help the matter along. The immediate problem is to secure a piece of the Arkansas rock, so called, or the fine novaculite, in the size that you indicate. Usually this stone comes out in comparatively small pieces and it is quite difficult to secure pieces as large as you desire.

"However, I will take this matter up



At the left above is a picture of the zero milestone in Washington, D. C., which probably will serve as a model for the Arkansas marker. At the right is a reproduction of the plate on top of the monument.

first flight of steps leading from Capitol avenue to the capitol grounds, where it will be readily available to motorists, engineers and others interested in measuring distances.

The monument will be designed by a committee of the Arkansas chapter of the American Institute of Architects, of which George H. Wittenberg is president, and will be installed with the approval of the Capitol Art Commission, of which former Gov. George W. Donaghey is chairman.

On the flat top of the monument there will be a bronze disc showing the points of the compass, the exact geographical position according to longitude and latitude, and the elevation above mean sea level. There also will be an auxiliary marker a few hundred feet away giving true north bearings.

The marker will be made of a stone typical of Arkansas, such as novaculite, black marble, or granite, to be decided upon later by the committee. Novaculite will be used if it is possible to find a piece large enough, since it is unique to Arkansas.

The idea of a zero milestone for Arkansas was conceived by Land Commissioner Phillips of the Missouri Pacific after a visit to Washington, D. C. in 1929. While there he came upon an advertising folder distributed by a hotel, containing a map of Washington. One of the points of interest marked on the map was the "Zero Milestone."

Mr. Phillips had never heard of a zero milestone, but his interest was aroused, and when he learned its purpose, it occurred to him that a similar marker for Arkansas, located at a central spot in the capital city, would be useful and interesting.

When he returned to Little Rock he wrote to D. H. Blackwood, chairman of the Arkansas State Highway Commission, suggesting that the Highway

Phillips' requests for information and suggestions. Director Patton wrote:

"I am inclined to think that zero milestones are most desirable objects at state capitol grounds and, in fact, in many other large cities of the various states. I believe that such monuments or stones add much to the interest taken in transportation and other matters by tourists and also by the citizens of a state. We are very prone, in this country, to pay very little attention to historical things, with the result that buildings which might, in the years to come, become shrines or objects which could be visited by many people, are destroyed and replaced by new buildings. I believe that zero milestones, placed even now, would have increased interest for the people in the years to come.

"With regard to a zero milestone in Little Rock, I wish to say that this Survey has triangulation stations and accurately determined bench marks in or close to our city. It would be a very simple matter to determine, by traverse or in some other manner, the latitude and longitude of the milestone and, by a short line of levels, to obtain the elevation of the stone.

"You will be interested to know that we expect to have a leveling party in Arkansas next winter, and, if your milestone is erected by that time, our engineer could assist you, or someone whom you might designate, to determine the elevation and geographic position of the milestone."

Mr. Phillips communicated with Mr. Branner, who discussed the project at a meeting of the Little Rock Engineers' Club. The engineers were interested, and it was decided to sponsor the movement. A committee was appointed, with Mr. Branner as chairman, to make plans for the erection of the monument.

with our Mr. F. N. Rix, who not only is treasurer of our company but also a stockholder, and who is located in Hot Springs and is president of the Arkansas National bank. Mr. Rix in conjunction with our superintendent of quarries at Hot Springs, Mr. A. J. Smith, will take the matter up with you direct and make such arrangements as it is possible to consummate."

It is probable that the Arkansas marker will be similar to the zero milestone in Washington, which was erected by the Lee Highway Association and dedicated with elaborate ceremonies June 4, 1923.

The Washington monument is a bench-mark and standard of linear measurement of the U. S. Coast and Geodetic Survey. Its exact center is the starting point for the measurement of distances on Lee highway, the Bankhead highway, and all other highways radiating from Washington. It was the starting point of the first Transcontinental Motor Convoy over the Lincoln highway and of the second Transcontinental Motor Convoy over the Bankhead highway.

Zero milestones date back to ancient times, when the Romans marked the beginning of their system of highways by a golden milestone in the Forum.

ZERO MILESTONE WILL BE PLACED

Plans for Marker at Capitol Grounds Completed by Committee.

12-13-31

Plans of the Little Rock Engineers Club to erect a zero milestone at the entrance to the capitol grounds on Capitol avenue are nearing completion and the marker will be placed within the next few weeks, it was said yesterday by G. C. Branner, chairman of the committee in charge of the project.

R. E. Overman Sr., operator of a marble yard, has offered to donate a piece of Izard county marble, three feet, six inches high and one foot 10 inches square, for the marker, and Justin Matthews has offered to furnish labor and materials for the foundation.

George W. Donaghey, chairman of the Capitol Arts Commission, and Secretary of State Ed F. McDonald, custodian of the capitol and grounds, have given their permission for erection of the stone.

All distances in Arkansas will be measured from the site of the marker. The exact altitude, latitude and longitude of the spot will be furnished by engineers of the United States Geodetic Survey. The project was proposed by D. L. Phillips, land commissioner for the Missouri Pacific Railroad Company, several months ago, and it was approved by the Engineers Club.

FAVORS ARKANSAS ENGINEER FOR JOB

Dean Gladson Urges Audit Board to Select One From This State.

Jan 10, 1931

W. N. Gladson, dean of the College of Engineering, University of Arkansas, Fayetteville, again urged employment of Arkansas engineers in the survey and audit of the state Highway Department in a letter to R. A. Kern, president of the Little Rock Engineers Club, who read it to the club members at their weekly meeting at the Hotel Marlon yesterday. Dean Gladson attended at the preceding meeting and advocated the employment of Arkansas engineers.

"I was much interested in the discussion by your club last Saturday of the selection, by the state Highway Audit Commission, of engineers to inventory and appraise the state highways and equipment," Dean Gladson wrote.

"A professional engineer's report is the same for buyer and seller. His testimony as an expert witness is alike for plaintiff and defendant. When employed as a professional engineer he lays aside any personal preference or prejudices and seeks the truth, irrespective of the results, reporting the exact facts according to his findings, without the slightest shading by personal feeling or wishes of friends. Engineering is an exact science, and accurate findings of physical quantities can be had."

Many Available.

"We have in the state of Arkansas a large number of registered professional engineers, who subscribe to the above code of ethics, who are amply qualified by formal education and professional practice to render our state expert valuable service in the highway audit, if given the opportunity. We are often persuaded that the sun is brighter, the fields are greener and opportunities better in some distant land.

"It is a fallacy, not confined to any people or locality, to discount what we have at home in favor of some foreign product of which we have heard; to think that a professional man in a great metropolis from a distant state or country is necessarily superior to our own people. This mistake has been made repeatedly by Arkansas people in selecting physicians, lawyers and engineers.

"It is time that we take stock, that we pause to realize that Arkansas people are not inferior; that our people, industrially, educationally and professionally are equal to those of any state in our great union. We have men in many lines who measure up to the highest standards and are not excelled in their professions.

"I believe our state Highway Audit Commission, in selecting men to do the technical engineering work of their audit, will give due consideration to our registered professional engineers, and, if Arkansas men are selected, I have sufficient faith in the ability, integrity and high character of these men to believe that the Highway Audit Commission and the people of Arkansas will not be disappointed in the results."

To Place Milestone Soon.

George C. Branner, state geologist, reported that the state zero milestone probably would be installed within the next 10 days. The stone will be set in place in the rose bed, just above the steps at the Capitol avenue entrance to the Capitol grounds and will be used as a point for measuring all distances within the state.

A solid stone of dark plattin has been quarried at Gulon and will be prepared by the Southwestern Tile and Marble Company. The stone was contributed by R. E. Overman. Labor will be supplied through W. H. Marak, city engineer, and Lieutenant Fish of the United States Coast and Geodetic Survey, will locate the elevation, geological position, bearing and true north for the stone.

An exhibition and explanation of the operation of an electrical robot by its builder, K. D. Andrews, Pine Bluff, electrical engineer in the Information Department of the Arkansas Power and Light Company, was given at the club meeting. Mr. Andrews gave a survey of recent developments in the light-ray field.

Zero Milestone at Entrance To Capitol Completed.

9-15-32

Erection of a zero milestone at the east entrance to the capitol grounds has been completed, except for the placing of a bronze plaque bearing technical data on top of the stone.

The Little Rock Engineers Club sponsored erection of the marker and preparation of the foundation was started several months ago. The stone, which is three and a half feet high by a foot and a half square, was donated by R. E. Overman Sr., head of the Southwestern Marble and Tile Co. of North Little Rock. The limestone marker came from the company's Gulon quarries.

The Big Rock Stone and Material Company furnished concrete for the foundation, which is five feet square and six feet deep. W. H. Marak, city engineer, provided labor for excavation for the foundation, and the stone was placed by Monahan & Son.

Some technical engineering calculations remain to be made before data can be prepared for the plaque, which will show the latitude and longitude, elevation and true north and south. All distances on the state highway system will be measured from the marker, but this phase of the undertaking probably will not be completed until after the next legislature enacts legislation recognizing the marker as the official zero milestone for the state highway system.

G. C. Branner, state geologist, was chairman of a committee in charge of plans to erect the marker.