

domestic animals or food plants of either the modern or ancient Chinese were of native origin. Not only did these forms appear in the Near East long before they appeared in China but also there appear to be no wild forms native in China from which they could have come. However, the migration of these foods and plants was accomplished before the beginning of China's historical period.

At the earliest known historical time in China—about the middle of the second millennium B. C.—society was divided there into two great classes; land-holding feudal lords and a great mass of serf population. The former class can be said to have been in the Bronze Age of civilization, while the latter were still, in effect, in the New Stone Age.

Then, about the 11th century B. C. came the invasion of China by the peoples of unknown but probably related origin, the Chou. With this invasion came significant changes that occurred slowly but surely. By 200 B. C., China was finally coming into her Iron Age, said Mr. Bishop.

Autocratic government in China, centered in a single emperor, did not arrive until the third century B. C., Mr. Bishop added. With this important change Chinese civilization took on those characteristics that marked it for the next two thousand years; or until the impact of sea trade routes led to its collapse.

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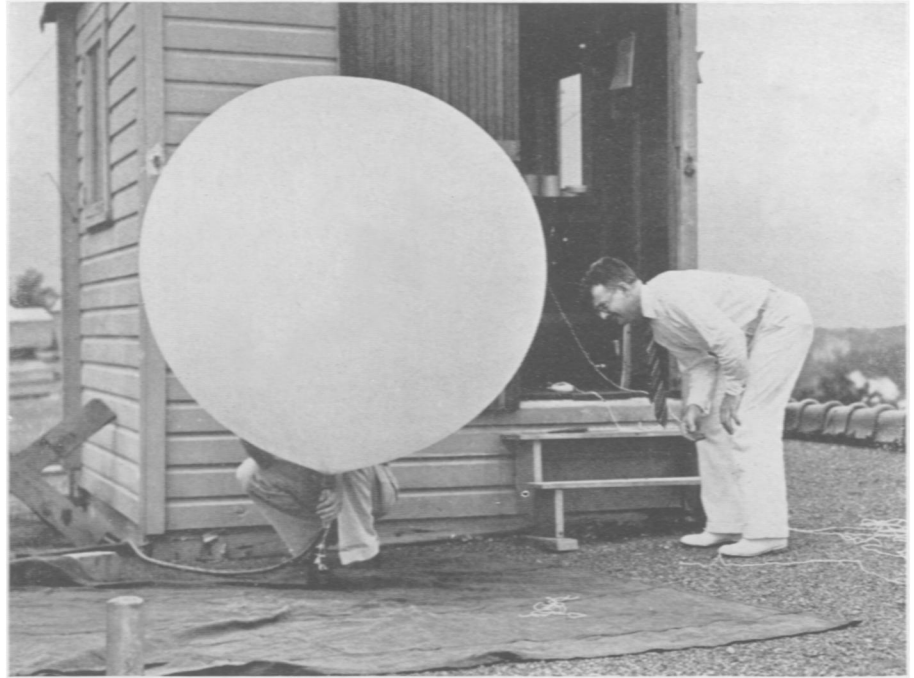
ANTHROPOLOGY

Oldest Man Once Lived Where Fighting Now Rages

WHERE modern man's most ancient ancestors known to science lived, loved, worked and fought, Japanese and Chinese soldiers are now using the most modern methods of killing each other. Reports from the Peiping area indicate that the famous archaeological sites near Chou-kou-tien are well within the battle zone. Here have been unearthed from caves the bones of *Sinanthropus*, the Peking Man, who lived perhaps half a million years ago and who is considered to be perhaps the most ancient ancestor of modern man.

Chou-kou-tein is only 45 miles from Peiping on a branch of the Peiping-Hankow Railway. Scientists here are concerned that the present fighting will endanger the collections and studies of the geologists and anthropologists engaged in studying Peking Man, as well as other scientific work in the Peiping area.

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BALLOON

Dr. L. F. Curtiss, National Bureau of Standards scientist, oversees the inflation of one of the small robot balloons which bear aloft radio transmitting equipment that helps science probe the upper air secrets of weather and cosmic rays. Recently Dr. Curtiss sent up a balloon which reached an altitude of 17 miles and then fell at a speed of 150 miles an hour. At 8,000 altitude it was seen by . . . (See next page)

PHYSICS—AERONAUTICS

Cosmic Ray Radio Balloon Followed by Plane to Ground

A STAR fell on tobacco row at a farm near the little town of Aquasco, Md., some 30 miles from Washington. Moreover an airplane chased the star to earth. Or at least that is what Franklyn Irvin Gibbons thought as he stopped hoeing his tobacco recently and watched a plane following a shining object coming down from the sky into his nearby cornfield.

The "star" was a radio balloon sent aloft by Dr. L. F. Curtiss of the National Bureau of Standards, which ascended some 17 miles and transmitted, back to earth, cosmic ray data. The zooming airplane was from the U. S. Naval Air Station, flown by W. B. Fuller, radioman first class, and O. T. Cooper, chief radioman. They noted the shining bag of the radio balloon falling at the rate of about 150 miles an hour at an altitude of 8,000 feet and dove to follow it to its landing. The coincidence is the

first ever known to occur in the new field of radio meteorology by which scientists are now probing the upper air to learn its weather and cosmic ray secrets.

Tiny radio transmitting sets carried aloft in small, unmanned balloons are reaching far beyond the limits of human flight in either airplanes or balloons. The particular "star" which farmer Gibbons recovered had gone up nearly 90,000 feet. Other and similar instruments sent up by Dr. Curtiss have reached altitudes of 25 miles or about 132,000 feet.

Tobacco-hoeing Mr. Gibbons thus described the landing for Science Service: "It sure fell fast and I ran down the valley and around the woods after it. That airplane was so close that it scared the children. It carried two men; I could see them, it was so close. The balloon stopped in the cornfield just two corn

rows from the woods. You sure was lucky it didn't go farther."

The Navy plane overhead circled the farm until farmer Gibbons could be seen clearing a barbed wire fence with the balloon and its precious instrument held high over his head and approaching his home. Then the Navy pilots started to figure out where they were.

The little town of Aquasco appeared on the aerial maps they carried and then by noting the color of the roads, concrete, macadam and mud, and their various turns the pilots believed they could return to the farm by motor.

Quickly they raced back to the Naval Air station and soon were at the Gibbons farm, where Mr. Gibbons said:

"It's all right except for the balloon part. I tied it to a post near the chicken yard there and it went off like a cannon. You should have seen those chickens go—under the house, behind the barn and everywhere. I'm sure sorry they're taking it away, 'cause the kids can't play with it any more."

The playing, it should be explained, consisted of taking power from the tiny 135-volt battery in the device and hooking it on to a small motor designed to be powered by 1.5 volts.

Dr. Curtiss, receiving the instrument, declared it was in the best condition of

all the 12 similar radio balloons which he had released. Eight of them have now been recovered, but none so close to Washington. Some of the balloons have been returned from the state of Delaware.

Because of the great height to which the balloon ascended and its rapid descent, the chance of its being sighted from an airplane was infinitesimally small, said Dr. Curtiss. He congratulated

the Navy flyers on seeing and finding it for him. At the Naval Air Station the feat of spotting the house from the air so that the pilots could later drive right to its door was also commended.

The accompanying pictures show Dr. Curtiss inflating a similar balloon, the Navy flyers who followed it to earth, and Farmer Gibbons holding the "fallen star" of science.

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PUBLIC HEALTH

First Two Weeks Are Hardest; Chicago Wants to Know Why

New Campaign To Reduce Infant Mortality Centers On Newborn; Prematurity and Hemorrhage Responsible

IF a baby lives to be two weeks old he will probably live a long time. But it is tough going for the first fortnight.

Chicago, notable for its health activities for infants, has embarked on a campaign to save the newborn.

The death rate for infants from 7 days to 1 year of age, in the United States registration area, has been reduced 53 per cent. during the years 1916 to 1934 inclusive.

During the same period the death rate for infants under 7 days has been reduced only 10 per cent.

If infant mortality is to be further materially decreased, the chief efforts must go to prevent the deaths that occur during the first few days of life, declares Dr. Herman N. Bundesen, president of the Chicago board of health.

Before such an effort can be successful the causes of early infant deaths must be accurately determined, Dr. Bundesen states.

The Chicago plan, which got under way in January, 1936, is to have autopsies performed by competent pathologists on as many deceased newborn infants as possible.

A protocol covering all the facts uncovered by the autopsy is obtained. An investigation is made by trained workers of the clinical history and available laboratory results.

After consideration of the entire record—clinical, laboratory and pathologic—a conclusion is reached as to the most probable cause of death.

Cerebral hemorrhage and prematurity are the two leading causes of death among newborn babies, Chicago has found. Therefore the chief attack will be centered on these two conditions.

In the *Journal of the American Medical Association*, (July 31) Dr. Bundesen, Dr. William I. Fishbein, Dr. O. A. Dahms and Dr. Edith L. Potter, all of Chicago, discuss the factors responsible for failure further to reduce infant mortality.

Carelessly filled out and incorrect death certificates, and methods of disease classification that emphasize the



SIGHTED

. . . Radioman first class, W. B. Fuller, left, and O. T. Cooper, chief radioman of the U. S. Navy, above, flying a plane from the U. S. Naval Air Station at Washington. The flyers zoomed earthward following the falling balloon and circled until they saw it had landed, to be rescued. Then, spotting the farmhouse where the balloon was taken, they later returned to greet the astonished finder . . .



RECOVERED

. . . Franklyn Irvin Gibbons, Aquasco, Md., tobacco farmer, shown here holding the intricate scientific apparatus, which fell "like a star" in his field. Gibbons tied the balloon to a post in his yard, where it exploded and sent chickens scurrying. Scientist Curtiss reports the instrument was returned in good condition. Says farmer Gibbons: "I'm sure sorry they're taking it away, 'cause the kids can't play with it any more."