

### A Meteorite Fall in Oklahoma

On the evening of 1936 August 17, at about 7:07 P.M., C.S.T., a fireball moved through the sunlit sky across central Oklahoma. It was very well viewed in most of Oklahoma and was also seen from points in Kansas and Texas, and as far south as Waco and Tyler, Texas. A field survey of the fireball was made immediately by Robert Brown of the Texas Observers at Ft. Worth, Texas, and in addition to securing observations which will be of considerable value in working out the fireball path, Brown was successful in locating the region of probable fall of meteorites, and in retrieving one meteorite from the fall four days later. Two subsequent visits to the region of the endpoint have been made by Brown, resulting in fuller information and in the recovery of one other meteorite from the same fall, at a point about one mile from where the first one was found.

Strictly tentative results indicate that the fireball first became conspicuous over the region of Tecumseh, Pottawatomie County, Oklahoma, perhaps a few miles south thereof, at a height of about 26 miles. A few of the better observations seem to refer to an earlier portion of the path. The fireball traveled roughly northwest in azimuth at a low slope (about  $11^\circ$ ), and underwent several (perhaps three distinct) explosive flares. Detonations were heard in a region along much of the primarily observed path, in a strip at places almost 100 miles wide. A terminal explosion cloud was formed by the final flare at a height of about 13 miles just northwest of Guthrie, Logan County, and persisted with little drift for 15 minutes or more.

The meteorites were recovered beyond the terminal cloud, not far from the town of Crescent, for which they will probably be named. The first one was picked up on the third day after the fall, in a fresh condition, by a boy of about 9 named Eddie Gene Johnson, who was rabbit hunting. Brown was able to locate and examine the hole this meteorite made on striking, and to check the conditions of its fall. Another party had cut fragments off one end of this stone; 1.6 grams of these tiny bits were picked up where they had been allowed to fall when cut off, and the major piece as received by us weighed 72.7 grams, and was loaf-shaped. The second meteorite was found almost seven weeks after the fall and had gone through rains. Its crust showed a considerably different appearance, being discolored brown by spattered sand and rusting; and cracking of the stone itself had also set in, due to the deteriorating effects of weathering. It weighs only 5.7 grams, and was picked up personally by Mr. Sterling Bunch of the Texas Observers, who accompanied Brown on the third trip of investigation. It is rarely that a meteorite hunter has the privilege of picking up his own meteorite!—but the case demonstrates what large factors interest and knowledge are in the finding of these objects.

The stones themselves are a rather unusual type of meteorites, possibly of the kind classified as carbonaceous chondrites. They have a low density, not far from 2.0 (less than the density of average terrestrial rocks); the interior ground is generally a dull black, with a few scattered white and gray specks, and some glassy-looking yellowish particles; free metal is relatively sparse, but is well shown

by the stone which lay out in several rains, and was detected in the other one by X-ray photographs. The crust of the fresh stone is a shiny black and mostly very thin. The material is inclined to crumble and cannot be handled freely without some loss.

A fuller description of the fireball is being worked up on behalf of the American Meteor Society, a number of reports having been obtained by letters in addition to those procured through the field surveys. Later detailed articles will deal with the final fireball data and with proper descriptions and photographs of the meteorites. Further field work is being done to determine more extensive facts about the fall.

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