They are occasionally included in metal or troilite, and in one case, together with grains of metal and troilite, form a broken ring around a chondrule.

The section, with transmitted ordinary and polarized light, shows a ground mass of minute angular particles of silicates in which are embedded some larger fragments of olivine and enstatite, a few scattered well formed chondrules and a larger number of portions of broken chondrules.

The chondrules, as is usually the case, are of various types—One, with well defined circular outline is so fine grained as to be merely translucent and was quite evidently originally a molten drop, which has incipiently crystallized or possibly became devitrified later. Another circular chondrule consists of coarse blades of enstatite, while some of the broken ones show the characteristic enstatite crystallizations in fascicles of parallel or radiating lines, in a few cases with indications of apparent cellular structure such as was described as organic by one observer in the case of the Knyahinya aerolite.

The largest chondrule is of polysomatic olivine, with some individuals showing crystal outlines, separated by a network of dark colored glass. An unusual chondrule was noted on the roughly polished surface of the slice in which the grains of olivine appear to be replaced to the extent of about 20 percent by angular grains of metal, 25 to 100 microns in diameter. No barred olivine chondrules noted.

A specific gravity of 3.48 resulted from a determination on a slice weighing 10.8055 grams, about one-half encrusted. This piece, when saturated with water but with surface dry, increased in weight by 145 milligrams, indicating that the stone is porous to the extent of about 5 percent.

Classification of chondrites is so indefinite as to have little descriptive significance, but this stone, while darker in color, agrees in important respects with those of the Holbrook fall which were classified by Dr. Merrill as Cck, crystalline Kugelchen chondrite, hence this may well be similarly classed.

As the microscopical examination of this stone does not indicate any wide variation in composition from others of similar character, it has not been considered necessary, for the present at least, to sacrifice any of its limited material for chemical analysis.

NOTULAE NATURAE

NUMBER 99 OF APRIL 30, 1942

THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA

THE BLACK MOSHANNON PARK AEROLITE

BY FRANK J. KEELEY

Curator, William S. Vaux Collections, The Academy of Natural Sciences of Philadelphia

This specimen was received by the Academy of Natural Sciences of Philadelphia from Mr. Robert H. Reed. Brief news items regarding it were published July 25, in the Philadelphia Inquirer and the Evening Bulletin, and August 24, Mr. Reed published, in the Sunday Inquirer a more detailed account from which the following paragraphs are quoted.

"On our annual vacation my wife, my 12 year old son Robert and I were camping out in Black Moshannon State Park, Pennsylvania. Shortly after 6 A. M. I stepped out of the tent to see what the weather would be like for the day. As I stood there, looking over the lake, I heard a strange whirring noise as if a million bumble bees suddenly had been disturbed. In mere seconds the noise had increased in intensity, suddenly ending with a dull thud behind me that shook the platform and tent. This was followed by the fluttering of leaves as twigs floated down from an oak tree. I went back of the tent where the twigs from the oak lay, freshly broken, upon the ground. There I noticed a hole at the base of the tree and I dug out an iron like rocky mass a little larger than a man's fist. 'It looks like a meteorite', I remarked to my wife, 'only it is quite cold'. I thought then, as most people do, that a meteorite is hot when it hits the earth. Later, I measured the distance from our tent to the hole punched in the earth by the falling fragment. It had buried itself in the ground just four feet from my son's head. Returning to Philadelphia, I took the chunky little mass to the Academy of Natural Sciences where Samuel G. Gordon pronounced it 'the real thing.'"

In conversation with Mr. Reed, he expressed the opinion that the stone must have fallen nearly vertically, judging from the hole it made in the ground and its course through the tree, the broken twigs from

which were gathered up by other campers who retained them as souvenirs.

Black Moshannon State Park is located in Center County, Pennsylvania, and the camp at approximately 40° 55′ North Latitude and 78° 5′ West Longitude, about nine miles east of Philipsburg. Date of fall, July 10, 1941, between 6 and 6.30 A. M. Eastern Standard Time.

The meteorite is an irregularly shaped stone $9 \times 6 \times 4$ cm., with seven rather flat and one curved face, and as received, weighed 523.86 grams. It is illustrated natural size, on accompanying plate from photographs made by Mr. Samuel G. Gordon. One face is the result of a fracture during its passage through the atmosphere which must have occurred late in its flight as there is but a slight secondary crust, consisting of small thin patches scarcely concealing part of the surface, but becoming continuous and thicker near two of the edges, where it is evident that molten crust from adjacent faces has been forced over by atmospheric friction.

The rest of the stone was completely coated by dull black scoriaceous crust about 0.5 mm. thick, rough to the touch. It furnishes little evidence of an oriented flight except on the slightly crusted face where the thickened crust near the margins indicates movement toward those edges, at least after the disruption occurred.

A small slice sawed from one face exposed the interior, which consists of a gray, tuffaceous complex, sufficiently coherent to permit the cut being made, but too fragile to allow the grinding of a plane surface without first saturating the porous mass with hardened balsam.

Examination with illumination from above, of a smoothed surface of the slice and of a thin section prepared from part of it, reveals numerous rather irregularly distributed grains and shreds of metal, reaching several millimeters in extent in a couple of cases but generally under one millimeter and varying down to tiny globules not exceeding one or two microns. Clouds of the latter sometimes appear in the interior of chondrules.

The larger areas of metal are very irregular in shape, draw out into areas, sinuous and deeply indented, with edges following the outlines of silicate grains with which they are in contact and containing inclusions of silicates. Similar areas of fine grained, dull colored, porous troilite are sometimes in contact with those of metal or intergrown with them.

Very irregularly scattered are black shining opaque grains not exceeding 2 mm. in diameter, which may be assumed to be magnetite.

The Black Moshannon Park areolite, natural size.

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