

Kirbyville

The second meteorite to be treated, while obtained as a result of local publicity, came from a more distant region of Texas. Mr. Gordon Grimes, of Ft. Worth, having seen a display of meteorites here and knowing our interest in the topic, recalled a meteorite in the possession of his relatives in East Texas. This turned out to be a small but almost perfectly preserved stone meteorite from Jasper County, Texas. The exact point of fall is on the J. W. Morgan 40 A. tract, in the southeast portion of the Calvin Donahoe 320 A. Survey. This is 11.8 miles south of the square in Jasper, Texas, along the new Jasper-Kirbyville highway; thence 0.5 mile east along the lateral road to Roganville. The ~~exact~~ ^{approximately} latitude and longitude are $30^{\circ} 48' N.$, $93^{\circ} 56' W.$ Roganville is only a very small lumbering town, while Kirbyville is larger and better established. Hence ~~the~~ meteorite has been named "Kirbyville".

On the afternoon of Nov. 12, 1906, at about 3.30 C.S.T., Thomas W. Morgan, familiarly known as "Bud", and his uncle, Jerome Davis, were building a sugar furnace in the yard in back of their house, which is ^{just south of the road} at the location identified above. J. W. (Wallace) Morgan was in the front yard of the same place, some 75 or 100' away from the others (to the north of them). Also on the premises were Mr. and Mrs. John Morgan ^{and} their daughters Manda, Laura and Lora, ~~and Mr. Davis Morgan~~. Some of these were probably in the house. Of these ^{nearly} witnesses of the fall, only the three daughters and Wallace ~~and Davis~~ Morgan are still living, and all have been personally interviewed. ~~except the last.~~

As nearly as these immediate witnesses can recall----a modification which must necessarily apply to all of the details, after

the lapse of so many years---the day was clear. There was suddenly a noise "like a buzzard coming down", and the meteorite was seen to strike the ground only a yard or two from the foot of a stump (still intact) some 40 or 50' from where Jerome Davis and "Bud" Morgan were standing, and between a barn and the house. Bud immediately ran over and dug or scraped the meteorite out of the ground with his hand. The surface was a soft, loose sand; the meteorite had penetrated only a few inches, not over 6", and more likely 3 or 4". He at once carried it to the house, some 25' away, and put it into a pan of water. Mrs. Laura Willingham (nee Morgan) states that it "fried", and others confirm this fact; obviously, to them, Bud immersed the stone because it was hot, and yet they cannot recall that he had any particular difficulty in handling or holding it. He subsequently broke off a portion of the crust to examine the interior.

As a matter of speculation, it seems worth while to note that since the physiological sensations of heat and cold are easily confused, Bud Morgan might have only thought the stone was hot, when it was really uncomfortably cold.* Or perhaps it actually was uncomfortably warm, the modern authorities would tend to throw ^{great} doubt on this possibility. The "frying" is more difficult to explain. A ^{bubbling} ~~slaking~~ action in the case of freshly formed meteoric glass is hard to conceive; but thin cracks ^{now showing} in the crust might permit ^{have} ~~had~~ water to get to the interior, displacing gas. Or if the meteorite crust was actually warm the additional sudden cooling and contraction caused by contact with the water might expel gas bubbles thru cracks.

In the front yard, Wallace Morgan heard the sound as a "popping noise" such as he had never heard before, something "like guns shooting, but a little keener." All the others on the premises insistently

* This hypothesis seems worth a general trial in view of the conflict between the old idea of freshly fallen meteorites being hot & the more modern scientific belief that they are cold to moderately warm.

confined their description of the noise to a comparison with a buzzard descending, and resisted suggestions of "whizzing", "roaring" or "whining". Those who have heard a buzzard swoop down are aware of the uniqueness of the sound, which is but poorly described as between a whirr and a muffled whizz. The direction from which the noise apparently came is not plain, but is thought to have been SW, some inclining to south, others to west. In general, the sound seems to have been heard in the community to the west, possibly as far away as 10 miles (near Magnolia Springs). A cotton picking party, including Abe Jerome, was off to the southwest about $3\frac{1}{2}$ miles, and heard it "pass over" or "heard a roar", ~~but saw nothing~~. Noah Davis, who was about 2 miles off to the west, was interviewed personally; he described the sound as a "roaring", and later used the adjective "whizzing"; he saw nothing.

Of all the parties talked to, none remembers seeing a fireball or daylight meteor; no smoke train was seen; and no one saw the meteorite itself falling. Is it possible for a daylight fall to occur without visual phenomena? This case is some evidence of a positive answer.

The year is ~~certainly not in error by more than one (it might have been 1907)~~; it is fixed by reference to the death in the following year of ^{the} man who picked up the meteorite. The month is fixed by reference to the activity of syrup making, as well as other memories, but might have been October. The day might be in error by as much as a week, but Mrs. Wallace Morgan gives the accepted date with great positiveness. In spite of the fact that the fall took place near the Leonid maximum, there can obviously be no connection as the radiant was well below the horizon at the place and time.

The region of the fall contains much cut-over timber land which has never been cultivated; therefore the chances of finding additional material from this fall still exist, tho admittedly slight. Surface rocks, either as detached stones or outcropping ledges, are rare in the immediate vicinity, which is a favorable factor. The surface geology is the Citronelle and Fleming groups of the Pliocene and Miocene (Cenozoic). This is the first meteorite to be recorded from a large area of Southeast Texas.

The beautiful preservation of the stone is a credit to the family which has possessed it. It weighs 97.7 gms., and has the general an irregular shape of a truncated pyramid. The base of this pyramid, about 4 x 4 cm., is by no means flat, but has a marked, tho small, knob in the center, several ridges, and several well marked areas where material has been removed during the fusing process--"pits" in a very broad sense. The base was apparently the brustseite, as the flow lines clearly originate on it, curving away from the little central knob, and "spilling" beautifully over the edges and back along the sides of the pyramid. Two of the pyramid sides are roughly in planes at right angles to each other, but the other two are combined in a gentle, sweeping curve. The pyramid is about $3\frac{1}{2}$ cm. high. Its truncated top is rectangular, about $2\frac{1}{2}$ x 2 cm., concave, well marked with small pits, and beautifully encrusted. This was apparently to the rear in flight, and is much smaller than the assumed brustseite.

The crust is typically black and shines beautifully, especially at what was apparently the rear side in flight, where it is thickest and blackest. Where the crust is thin, as on the forward side (pyramid base), it has a brownish cast ~~in color~~, perhaps a result of handling or deterioration. About 4 sq. cm. of the crust, and perhaps a very small portion of the original meteorite, is missing; the major

breaks are on two corners and along the edge joining them. As these are on the side which was forward in flight, the crust might have here been weakened by the impact with the ground.

The exposed interior ^{seems relatively hard; it has been} ~~is~~ mostly dirtied thru handling. ^{It seems relatively hard.} It is obviously a gray ~~in general~~ ^{general} in original color, and casual examination with a 10x hand magnifier seems to show black ~~chondrules~~ ^{tiny particles} in a white groundmass. Showing thru the crust are numerous tiny yellowish to brown globules (olivine?). Sparkling flecks, possibly metallic, can ~~also be seen.~~ ^{had no rust spots have developed.} However, 8 X-ray photographs of the stone, taken with exposures ranging from $\frac{1}{4}$ second to 4 second, with peak kilovolts ranging from 70 to 100, and with a current of 10 milliamperes, do not reveal any ~~matrix~~ ^{definitely} recognizable sign of metal. An X-ray cassette with a double fluorescent screen was used. ^{Like most meteorites} The stone is not well adapted to such an experiment on account of its squarish shape. ~~The interior of the stone is relatively hard.~~ ^{Altogether, it seems probable that the metallic content will be low.}