THE PALIMPSEST

EDITED BY JOHN ELY BRIGGS

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The Estherville Meteor

At the north end of the public square in the small frontier village of Estherville in northwestern Iowa, a baseball game was just being concluded. It was late in the afternoon of Saturday, May 10, 1879. At the end of the game a dispute arose and the argument waxed exceedingly warm. Just as the self-control of some of the partisans reached the breaking point there was a terrific crash above. Out of a clear sky came an explosion that shook the earth, followed by a deafening, rumbling roar and punctuated by a second detonation of less violence than the first. The noise, reverberating across the valley of the Des Moines River, gradually subsided, and after several seconds became inaudible. It was as if "the gods had taken a hand in our dispute", declared one who was present.

Looking quickly up toward the west, whence came the awful roar, they beheld a strange spectacle in-

deed! There, against an almost cloudless sky, appeared a long trail of whitish smoke "like that coming from a locomotive when under high speed," apparently passing from southwest to northeast, obliquely with the line of the horizon and at no very great distance above the surface of the earth. As little air was stirring at the time, this smoke column maintained its alignment in the heavens momentarily, then it slowly disintegrated and in a few minutes became invisible.

Probably no one at the ball game actually saw the meteor in its flight, because attention was not directed to it until the sound reached the earth some seconds after its passing. A few miles north of Estherville, however, S. W. Brown, being in the edge of the timber and having his eyes directed upward at the moment for the inspection of some oak trees, saw a red streak in the sky. While he gazed in amazement the explosion occurred. It appeared to him, "that the meteor was passing from west to east, and that when it burst, there was a cloud at the head of the red streak, which darted out of it like smoke from a cannon's mouth, and then expanded in every direction."

Mrs. George Allen and her brother happened to be driving across the prairie near the village of Superior in an open rig. They were almost directly beneath the exploding mass and upon looking up were astonished to see it apparently separate into three distinctly visible portions, each fragment thereafter

pursuing a course independently of the others from the southwest toward the northeast. The paths of the three pieces were readily discernible by means of spectacular pearly ribbons of smoke which seemed to radiate from the point of the explosion and hang glistening in the bright sunlight, tracing the outline of a gigantic crow's-foot across the sky.

That the flight of the meteor was equally spectacular when viewed from a distance is evidenced by a description written by Charles W. Irish, a civil engineer, who was engaged in locating and constructing a line of railroad from Tracy, Minnesota, westward into Dakota. On the afternoon of the "fall", he was driving to his camp, situated at the extreme head of the Des Moines River in Minnesota. A severe storm was approaching from the west accompanied by vivid lightning and heavy thunder. "The advancing edge of the cloud extended from southwest to northeast in a perfectly straight line, and in the sunlight was pure white, making a strong relief against the blackness of the cloud beneath." This peculiar feature of the storm attracted his attention, when he was "startled by the sudden appearance of a bright red streak in the cloud extending from overhead backward from the edge quite a distance towards the northeast, and at the same instant when this streak appeared there burst through the cloud just inside its silvery edge the sizzling body of the meteor. It was brilliantly white as the light of the sun, and dazzling in its appear-

ance, and seemed to be puttering like iron heated white hot in a forge for the purpose of welding it."

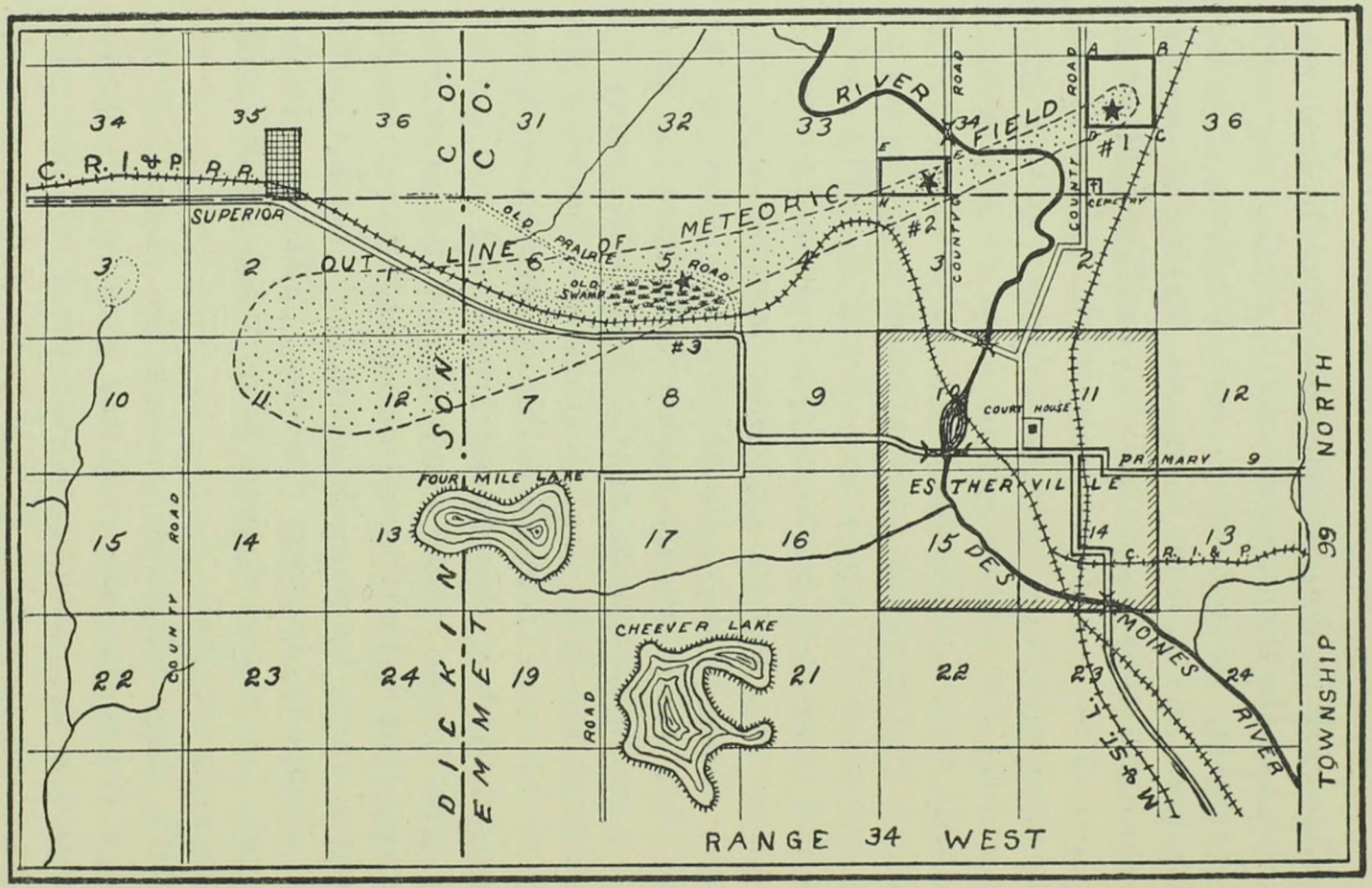
Mr. Irish and his teamster watched the flight of the meteor breathlessly as it sailed across the sky, "leaving a broad silvery white band drawn perfectly straight behind it," and disappeared in the distant horizon. "As it passed through and out of the cloud, it drew with it a long trumpet-shaped mass of the cloud vapor, which reached entirely beyond the straight edge of the cloud into the clear sky beyond it. In a few seconds this rolled into a fleecy cloud, which floated away eastward attached to the end of the silvery white band which had marked the meteor's path in the sky. This band curled back upon itself and floated away eastward, looking very much like a magnificent, broad, white silk ribbon floating away in the air, and disappearing from view in the course of three or four minutes."

Mr. Irish was probably seventy or eighty miles from the spot where the meteorite finally landed. He afterward met people along the Big Sioux River and in Dakota who saw the meteor at least one hundred and fifty miles to the westward. "Some of them saw it passing across clear sky, while others saw it passing through and above the clouds as I did." He told his teamster to listen sharply for sounds of explosion, for he fully expected to hear them, "but if they came at all the roar of the storm was so mingled with them that they could not be distinguished."

The resulting detonation seemed terrific, however, to those in the immediate vicinity, causing the earth to tremble, jarring doors and windows, rattling furniture, and in some instances shaking the dishes in the cupboards. It is said that window-lights were broken in at least two houses in the neighborhood. The concussion was heard for a distance of over fifty miles and the subsequent roar, as of a powerful tornado, was of indescribable proportions, deafening and shrill, producing a sensation of terror never to be forgotten by those who heard it. The noise seemed to proceed westward, back along the path of the meteor. That the explosion occurred at considerable distance above the earth is evidenced by the fact that it was plainly visible well above the horizon from Emmetsburg, nearly thirty miles away.

Almost the first direct testimony concerning the actual fall came from a breathless, bareheaded, barefooted herdsboy, doubtless "frightened half out of his wits", who came running into Superior, declaring that it had been raining stones out on the prairie where he was stationed, and that his cattle had stampeded in every direction. The water in the slough, he reported, had been "peppered" with fragments like hail.

Still other witnesses, noting the course of the larger fragments, observed that each apparently descended to the earth at no very great distance. Indeed, it is a singular fact that in such a sparsely settled region several individuals saw the largest



FROM A MANUSCRIPT MAP BY BEN HUR WILSON

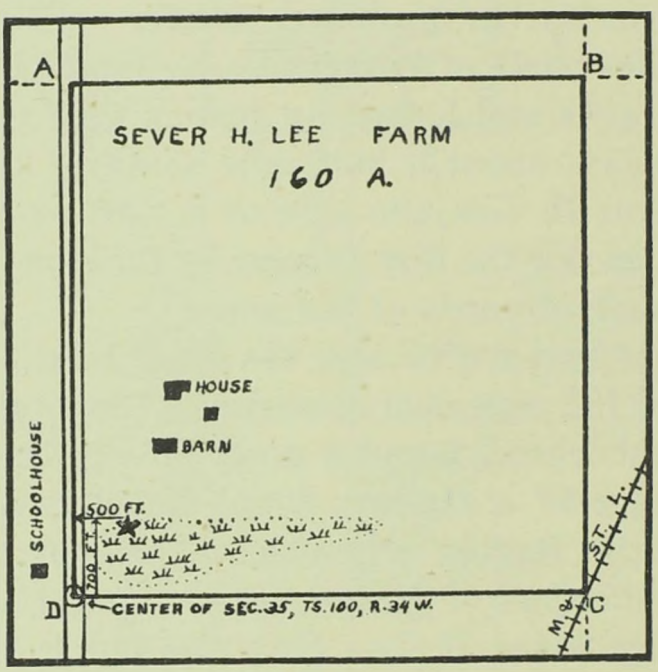
THE GEOGRAPHY OF THE ESTHERVILLE METEORIC FALL

piece hit the earth. Charles Ega, looking west in the direction of the report, could see nothing on account of the sun's rays, since it was five o'clock in the afternoon, but, following the direction indicated by the roaring sound that succeeded, he saw dirt thrown high into the air at the edge of a ravine about one hundred rods northeast of where he was standing. John Barber, a pioneer farmer residing about three miles north of Estherville, was pumping water for his cattle and looked up just in time to see the flying debris about a half mile south of his place. Mrs. Sever H. Lee, the wife of a Norwegian immigrant, also saw the dirt fly over by the slough within a few hundred yards of her house.

With so many witnesses the exact location of the principal fall was soon discovered. Several boys in the neighborhood found a great hole in the ground at the edge of a shallow slough about twenty rods east of the Barber schoolhouse, on and near the southwest corner of the quarter section recently purchased by Sever H. Lee from the old Des Moines Valley Railroad Company of Keokuk. The hole was funnel shaped, somewhat irregular, ten or twelve feet in diameter at the top, with the apex of the cone pointing toward the northeast, evidently away from the direction in which the meteorite had come. Investigation showed the bottom of the hole to be filled with mud and water.

Surrounding the hole on every side, particularly toward the northeast, lay great "gobs" of earth and

mud, splattered about on the grass. Small fragments of metallic, ore-like stones, foreign to the material usually found in the soil of that region, were also observed upon the surface, radiating out from the edge of the hole in streamers as far as a hundred yards. These particles, however, were for



THE APPROXIMATE LOCATION OF MASS NUMBER ONE

the moment ignored in the more intense interest and speculation as to the nature of the larger body at the bottom of the pit.

Several young men of the neighborhood arrived on the scene early and assumed command of the situation. There were Sam, Bob, and Jim Weir, George and Charley Barber, Elmer Crumb, Elmer Barrett,

and Chester Rewey. Whether they obtained the formal consent of Mr. Lee, on whose farm the meteorite had landed, to retrieve the stone is not certain. Lee was a hard-working man who had but recently come to America and had no time or inclination to dig for meteorites. Perhaps his consent to let his neighbors have whatever they could find at the bottom of the hole in the slough was inferred from his inability to express himself clearly in English. At least he offered no opposition. Moreover, until recently the land had belonged to the railroad and had been regarded as public domain.

Whatever the rights of the various parties concerned may have been, the boys began digging to secure the coveted meteorite. All day Sunday they worked in the mud, but by night had only succeeded in making a deep hole. In spite of their labor and all the ingenuity they could muster, the heavy stone was still at the bottom of the pit. Without any mechanical equipment, about all they could do was to pry up on the piece and chink under it with dirt. But it soon appeared that this was to be an endless job, for the heavy object seemed to settle back each time about as much as they had raised it.

At last they decided to secure the services of George Osborn, a farmer who owned a well-digging outfit. On Monday morning Osborn appeared with block and tackle, a windlass, and plenty of strong rope. That same forenoon the editor of the Estherville *Vindicator* wrote that "there are several men

engaged digging for the supposed mass, the hole having filled with mud and water. Nelt Barber has shown us a fragment that was found near the spot which is supposed to be a part of the fallen mass. It is a hard, dark-colored metallic substance, looking like molten lead, and when scraped with a strong knife reveals a bright lead-colored interior, but much harder than lead.''

A day or two later the editor visited the site of the fall and reported that a piece nine by twelve inches and about three inches thick had been taken out Monday afternoon. This fragment is said to have weighed thirty-two pounds. On Tuesday ''what is supposed to be the main body of the meteor'' was recovered. It weighed four hundred and thirty-one pounds and measured twenty-seven inches in length, twenty-two and three quarters in width, and fifteen inches in thickness. The unusual depth of fourteen feet to which it penetrated was probably due mainly to the swampy condition of the soil.

While working in the pit, Mr. Osborn's foot slipped off to one side into a deep hole at the bottom of which he declared he could distinctly feel another stone. His hip boot was filled with water on account of the accident, so he climbed out to empty it. The stone he had felt was never recovered.

The surface of the largest piece was described as ''fearfully rough'', with jagged projections of metal. When Osborn was asked what his services were worth he replied that if he were permitted to knock

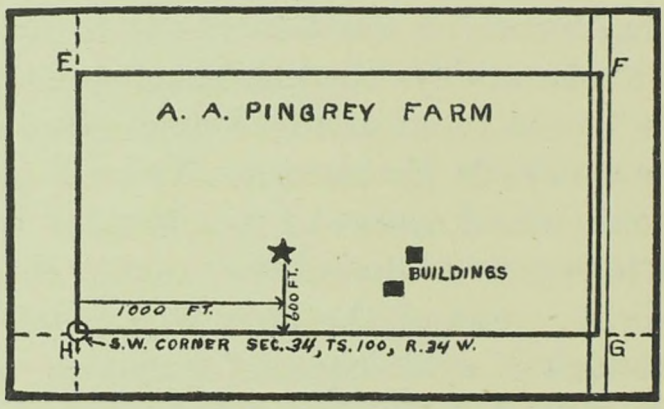
off a knob about the size of his thumb for a keepsake, that would settle the bill. But when he struck one of the knobs with a hammer, he was surprised to find that it bent to one side instead of breaking. The projection had to be bent back and forth many times before it came off. Indeed, the meteoric substance possessed almost perfect ductility, even without heating. It became quite the fashion to have rings and other ornaments made out of small fragments that were found scattered over the ground. To this day some of these relics of the famous meteor, hammered out by a local blacksmith, are still retained by residents of Estherville.

The large meteorite was taken to town for exhibition. For several days the big, black stone lay on a dry-goods box in front of the Emmet House facing the public square in Estherville. There it attracted much attention and scores of people came from far and near to see it. Noticing the popular interest in the meteorite, some of the boys who found it conceived the idea of exhibiting it for money. Accordingly they put it in a strong box, loaded it in a wagon, and started out across Minnesota, proudly displaying a placard bearing the following information:

I am the Heavenly Meteor.
I arrived May 10th at 5 o'clock.
My weight is 431 lbs.
From whence I came nobody knows,
but I am En Route for Chicago!!

The boys had not proceeded far, however, until disquieting rumors reached their ears concerning the legality of their ownership. Hastily returning, they stopped at George Osborn's place where they wrapped their prize in an old quilt and buried it in a cornfield, marking the spot by means of two pairs of stakes whose lines intersected over the place of burial. There the meteorite remained during part of the summer, while the boys hoped it would be forgotten.

Those who had witnessed the explosion of the meteor were convinced that it had divided into at



THE APPROXIMATE LOCATION OF MASS NUMBER TWO

least three pieces. A search was made west of the Des Moines River and on Wednesday, May 14th, a large meteorite was found on the Amos A. Pingrey farm two miles north of Estherville. This piece, which was reported to weigh one hundred and fifty-one pounds, was about four feet beneath the surface of the ground.

The third of the three largest pieces was not discovered until the twenty-third of February, 1880, more than nine months after the "fall". As witnesses of the meteor, the Pietz brothers, who spent the winter trapping in the sloughs then so common on the prairies of northwest Iowa, had decided upon the approximate location of the spot where another piece was supposed to have fallen. One day late in February as they were going along the old prairie road beside a swamp about four miles to the southwest of the largest fall and two miles from the second one, almost in a direct line, they observed a hole in the edge of the slough. Upon sounding it with their rat spear, they detected a hard body at the bottom. Surmising what it was, they began digging and secured the stone at a depth of five feet. Smaller pieces were likewise discovered near-by. This piece closely resembled the others and was reported to have weighed one hundred and one pounds. The Pietz boys soon disposed of it to E. H. Ballard and George Allen of Estherville who afterward sold it to Charles P. Birge of Keokuk.

For some reason, Amos Pingrey, upon whose farm the second largest stone fell, failed to appreciate its true value and so gave the piece to a neighbor, John Horner, who concealed it in a cave on Ab. Ridley's place. Later, when Professor Gustavus Hinrichs, representing the State University of Iowa, visited the locality and pronounced specimens of the fall to be of rare value, Mr. Pingrey regretted his gener-

osity or carelessness and took steps to retrieve his meteorite. Thereupon Horner employed Frank Davey, an attorney and editor of the Estherville *Vindicator,* to assist him in defending what legal rights he might have in the matter.

Meanwhile Governor John S. Pillsbury of Minnesota had sent Dr. E. J. Thompson, then a professor in the University of Minnesota, to obtain as much of the meteorite as possible for the cabinets of the University's museum, in which the Governor was tremendously interested. Provided with considerable cash and the Governor's check in blank, Professor Thompson appeared at Estherville in company with George Chamberlain, editor of the newspaper in the neighboring town of Jackson, Minnesota, who was a good friend of Editor Davey of Estherville. This proved an excellent stroke of business strategy. In company with Horner, the three made rendezvous at Ridley's cave in the middle of the night, where the "celestial visitor" was produced for inspection. A bargain was struck and a bill of sale executed, without Professor Thompson having to resort to the Governor's check. Thus the State of Minnesota obtained possession of an object of great scientific value which might otherwise have remained in Iowa where it fell. This meteorite is the only large piece of the Estherville meteor known to have been retained in America.

The subsequent history of the largest meteorite is even more involved. It seems that it was removed

from its grave in Osborn's cornfield about "barley harvest time". This proved to be a great mistake, for the existence of the valuable stone had by no means been forgotten.

Charles P. Birge, a Keokuk lawyer of speculative inclinations, had obtained possession of the contract with Sever H. Lee for the purchase of the quarter section of railroad land on which the meteorite was found. This contract contained a forfeiture clause in case the purchaser defaulted in any of his payments. Now it appears that Mr. Lee had neglected to make one of his payments on time and Birge hastened to take advantage of this opportunity to gain temporary possession of the land and thus obtain "color of title" to the meteorite. At any rate he shrewdly bided his time until the stone "had finally come out of hiding," when he suddenly appeared in Estherville.

There are several versions as to just how Mr. Birge proceeded to accomplish his purpose, but that of Frank Davey, editor of the *Vindicator* and himself an attorney in a position to obtain all the facts, seems the most plausible. According to him, Birge quietly obtained a writ of attachment and without revealing his plans to any one he hired J. W. Ridley, who was running a hotel and livery barn, to take him to Chester Rewey's and introduce him so that he could view the meteorite. He also took Sheriff Rob Roan along "just for a social ride". After they all arrived at Rewey's and were in the presence of the

meteorite, Birge pulled out his attachment papers and made the sheriff serve them. That night he hustled the meteorite out of the county before the other boys who had an interest in it could get a chance to file a delivery bond. The case was not contested.

Attorney Birge also purchased for speculation the large piece in the possession of Dr. Ballard and Mr. Allen as well as over one hundred pounds of the smaller fragments which had been gathered up over the prairie. Eventually he sold the largest piece to the British Museum of Natural History in London, at a splendid profit to himself. The British Museum sawed it into three sections, keeping the larger portion, weighing 60,512 grams, and exchanging the others — 50,488 grams going to the Musée National d'Histoire Naturelle in Paris and 23,208 grams to Naturhistorisches Museum in Vienna. The one hundred pound piece, found by the Pietz boys, as well as the thirty-two pound fragment found with the largest meteorite, seem to have disappeared, though they, too, may repose in some museum.

During the summer and autumn of 1879, particularly after the fires had burned over the prairie, hundreds of small meteorites, ranging in size from bullets to hen's eggs, were picked up in the meteoric field between Superior and Estherville. The amazing story of the herdsboy who had witnessed the rain of stones was thus confirmed. These pieces seemed to be droplets, formed as if they had fallen from the

molten surface of the mass along the line of its passage. Many a Sunday afternoon picnic consisted of a buggy ride out on the prairie to "hunt for meteors", and usually the searchers were rewarded by finding a few pieces and often as much as a pocket full of the coveted material.

Most of the important museums in the United States, including the Field Museum in Chicago, the United States National Museum in Washington, the American Museum of Natural History in New York, the Peabody museums at Harvard and Yale, and the meteorite collection at Amherst, are liberally supplied with small fragments of Estherville's famous meteor. Nearly a thousand pounds were gathered and distributed throughout the world; yet there remains nowhere in Iowa a single collection that is worthy of the name. Even at Estherville only a few small fragments have been kept by individuals who fully appreciate the importance of their possessions. None is for sale.

During the years which have elapsed, the elements have completely filled the great hole from which the largest piece was recovered. The slough has been drained and the ground has been plowed and cropped, so that its exact location is known only approximately by the Lees themselves who still own and reside on the farm which was deeded to them by Birge the following October.

BEN HUR WILSON