

ART. XXVII.—*An account of a New Meteoric Stone that fell on the 25th of March, 1865, in Wisconsin, identical with the Meno-Meteorite; by J. LAWRENCE SMITH, Louisville, Ky.*

THE Wisconsin meteorite, which fell on the 25th of March, 1865, and is one of much interest, attracted no attention at the time of its fall outside of the immediate neighborhood where it was observed, a fact due to the comparatively sparsely inhabited condition of the country. It was brought to my attention only a few months ago by one living in the region not far from where it fell. He sent me a small fragment that had been presented to him, and so similar was it in its appearance to the Meno-Meteorite that fell in 1861, that, not having heard of any fall at the period when this one was said to have been found, I considered it at first a fragment of that rare meteorite which had found its way to that part of the country. But on further inquiry and search I was soon satisfied that it was a piece of an undescribed meteorite; I have designated it the *Claywater* meteorite.

The following is the account I have been able to gather in relation to its fall.

In Vernon County, State of Wisconsin, about lat. $43^{\circ} 30'$, long. $91^{\circ} 10'$, at nine on the morning of the 25th of March, 1865, a body was seen by several persons passing rapidly through the atmosphere, accompanied with a loud rumbling noise. It was luminous and showed flashes of light. Its course was from northwest to southeast, and it exploded at a supposed altitude of four miles. At the time that the small fragments were thrown off from the main body, a noise like the rolling of musketry was heard. The main body seemed to have a rotary motion, making about one revolution in two seconds of time.

The observer from whom the above facts were obtained, thinks that the main body did not fall but passed into space.

No fragments were found until about five days after the fall, when two were discovered, weighing in all fifteen hundred grams. The curves of the surfaces of these fragments would indicate that they had pertained to a mass having a diameter of about thirty centimeters. No data were obtained by which to calculate its velocity, but the observer already referred to says that it was variously estimated from fifteen to twenty-five miles per second. Of the two fragments that fell, one has been lost or destroyed; the other has been placed in my possession by Mr. Claywater, who made the observations already recorded, and to whom we are indebted for the preservation of what we have of this interesting meteorite; for it differs in its physical aspects from any yet observed in this country.

The fragment in my possession, and which is all that has been recovered from this fall, weighed seven hundred grams; about one-third of the surface was covered with a thick, dull black crust; the fractured surfaces are quite granular, and its structure porous; it belongs to the hard variety of meteoric stones. Examined with a glass the grains are of a dirty green color with a greasy aspect, and in some places have a globular structure. Particles of iron are disseminated abundantly through the mass, and particles of troilite are also visible.

Its specific gravity is 3·66 and it is composed of:

Stony matter	78·33 per cent.
Metallic particles	17·07 “
Troilite	4·60 “
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	100·00

The stony matter treated with aqua regia furnished:

Soluble matter	47·20 per cent.
Insoluble matter	52·80 “
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	100·00

The composition of these two portions are:

	Soluble.	Insoluble.
Silica	32·55	57·41
Protoxide of iron	30·40	9·50
Alumina	trace.	4·00
Magnesia	35·80	22·80
Lime		3·70
Soda	·60	2·01
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	99·35	99·42

The metallic particles, completely separated from the stony portion, are composed of:

Iron	92·15
Nickel	7·37
Cobalt	·28
Copper } very minute quantity;	
Phosphorus } not estimated.	<hr/>
	99·80

In regarding the above analyses, it is very evident that the meteorite is made up of:

Bronzite, with probably a little anorthite	41·35
Hyalosiderite (olivine)	36·98
Nickeliferous iron	17·07
Troilite	4·60

As I was not able to find any analysis of the Meno (Alt. Strelitz Mecklenburg) meteorite, which fell Oct. 1st, 1861, at midday, and as the physical aspects of the one just described

were so strikingly similar to those of the Meno, I was interested to ascertain the mineralogical and chemical relations of the two.

An examination was made of this last meteorite, the result of which is placed in contrast with those obtained from the Claywater meteorite.

	Claywater.	Meno.
Stony matter	78.33	77.76
Metallic particles	17.07	18.00
Troilite	4.60	4.24
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	100.00	100.00
Stony part, soluble	47.20	48.70
Stony part, insoluble	52.80	51.30
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	100.00	100.00
Stony part, analyzed as a whole.		
Silica	44.98	44.70
Protoxide of iron and alumina...	21.95	22.26
Magnesia	29.30	28.97
Lime	1.80	1.85
Soda	1.32	1.20
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	99.35	98.98
Metallic particles.		
Iron	92.15	91.86
Nickel	7.37	7.53
Cobalt28	.13
Copper and phosphorus	traces in both.	
Specific gravity	3.66	3.65

It will be observed that the specific gravity of the Meno here given, is lower than that stated in Poggendorff's *Annalen*, cxvii, 637, it being there given as 4.1; but this must have been taken with a fragment containing some large particles of iron. My determination was made on two good average fragments, broken from a very fine specimen sent me by the late Wm. Nevill, of London, which were examined in my usual method, viz: after weighing the fragment to immerse it in water contained in a small vessel, and, placing this beneath the receiver of an air pump, thereby extracting all the air from the surface and cavities, and completing the process in the usual way.

In regarding the above comparative statement of the composition of these meteorites, it will be seen that the compositions of the two as made out by me do not differ more than those of two fragments of the same meteorite, while they both differ in their *physical aspects* from the ordinary type of meteorites, and, in fact, they have few or no parallels in the collections of these bodies; there are certainly none in mine, embracing stony meteorites representing over one hundred falls.