A NEW MASS OF METEORIC IRON.

In late years the discovery of quite sizable masses of meteoric iron has been of frequent occurrence in the United States, and it has almost become unnecessary to call public attention to them, because of their great similarity.

Unless of rare form or of unusual composition, lengthy descriptions of them tend to repetition of much that has been written before.

Where these masses are seen to fall, by competent observers, all particulars concerning the time, velocity, direction, and distance are of value, and merit immediate and faithful record; especially as the data for these several particulars is very meager and not wholly satisfactory.

The mass of meteoric iron hereinafter described was not seen to fall, but was discovered in the surface soil, and thus its history is incomplete.

Of the 130 or more known masses of meteoric iron, only about half a dozen were seen to fall, all the others being accidentally discovered in a manner similar to the one here noticed. Of the stony meteorites in the collections, perhaps of all of them the exact date and hour of fall is known or closely approximated.

Of a necessity these wanderers in space make no choice of locality when they come down to us. As many may be discovered in one place as in another; we know of no law prescribing the latitudes wherein they must arbitrarily fall.

Attention is called to this because the writer has lately seen, in a foreign publication, a map of the world on which were indicated the localities where meteoric bodies had fallen, and it was evident that the majority of these discoveries were in regions of the earth's surface *most densely populated.*

For instance, on the continent of North America, the region between the 20th and 44th parallels east of the Mississippi River monopolized the great majority of these occurrences; while in Europe the same statement would apply west of the Urals, between the 44th and 60th parallels; and in India, between the 10th and 30th; while the great domains of Siberia, Africa, Australia, South America, British America, and Alaska present (according to the records) only a few scattering discoveries of this character.

All this shows to us that these regions of the United States, Europe, and of India, which have been so prolific, are only indicators of the immense number of these celestial bodies which have fallen to the earth, and which must be ultimately discovered in the as yet almost unknown areas as they become peopled.

China, with her dense population and immense area, has kept within her borders all specimens and all data relating to her meteorites, and, reasoning from analogy, a very goodly number must exist there. Altogether only about 400 distinct finds of meteorites (stony and metallic) are recorded, which number is certainly not very great when we consider it covers all historic time.

We now pass to the consideration of the lately discovered mass of meteoric iron in Arkansas.

This mass was found in the latter part of June, 1884, in the manner set forth in the communication from Mr. John Hindman, surveyor and civil engineer, of Elmo, Ark. He writes under date of July 2, 1885, as follows:

"As to the history of the meteoric specimen: It was found about the last of June, 1884. My stepson, George Whitfield Price, accompanied by my son, John W. Hindman, and a young boy by the name of Monroe Marshall, concluded to take a ramble through the woods. They went along the north side of White River, to a mountain known as the 'Joe Wright Mountain.' This small eminence is situated about six miles below Batesville, Independence Co., Ark. The boys wended their way to a spur of the mountain running northwest, densely overgrown with cedar and pine. The soil there was underlain with a kind of shale, into which time had made many inroads in the way of deep gullies. As these gullies led down the mountain side they converged into one. It was where these gullies met that my stepson found the meteor. It had undoubtedly been embedded a short depth below the surface, and as the earth washed away it became exposed and dropped to the bottom of the gully at the place where it was found. The boys rigged up a 'drag' of poles and bark, and brought it home, where it remained until we took it to Newport, Ark., to be sent to the New Orleans Exposition."

It was at the World's Industrial and Cotton Centennial Exposition that this mass of meteoric iron first came to the writer's notice. It formed a part of the very attractive mineral exhibit of the Arkansas section. It remained there until June, 1885, when it came into the possession of the writer and was sent to Newark, N. J.

By referring to the engraving (Fig. 1), the reader will get a correct idea of the exterior appearance of this celestial visitor. Its surface is pitted with ovoid depressions, which lie with their longer axis in nearly the same general direction, this direction being parallel to one set of the Widmanstatten lines.

The surface was almost black in color, and looked blistered. No rusty appearance or alteration from oxidation was noticed on any part of the mass, which would go to prove that this meteorite had not long been on the earth.

Its weight is ninety-four pounds. It is seventeen inches long, and eight inches thick in its greatest diameter.

While in point of size it is unusual, yet several masses lately described excel it in this respect, notably the

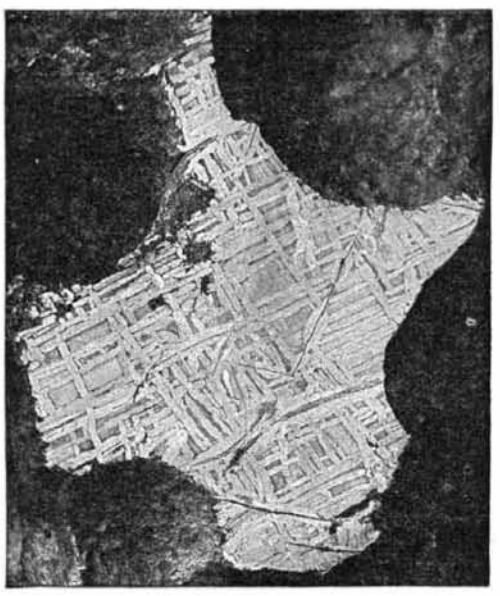

Fig. 2.—NATURAL SIZE OF THE WIDMANSTATTEN LINES ON THE INDEPENDENCE CO., ARK., METEORIC IRON.

mass from New Mexico and the "cigar-shaped" mass from Tennessee. This Arkansas mass has a very large surface compared to its weight, on account of being thin on its edges and of the many hollow depressions.

Its most interesting feature is the presence of a *hole* through its edge measuring five-eighths inch in its smallest diameter. (The situation of this hole is shown in the engraving by a ribbon tied through it; see Fig. 1.)

The length of the aperture is one and three-quarter inches and is cone-shaped from both sides, being smallest in the middle. This very remarkable feature is almost without a parallel among meteorites. It reminds us of the famous natural ring of meteoric iron in the Smithsonian Institution, that weighs more than half a ton; the aperture being large enough for a man to crawl through.

The small surface which in Fig. 1 shows faintly the characteristic Widmanstatten lines is better illustrated in Fig. 2, which is of *exact natural size*, and was taken direct from the meteorite by the Ives photo-engraving process.

Probably no better representation of the Widmanstatten lines—one having the *natural* appearance—has been published heretofore. The use of the iron itself to print from is wrong, for surface printing, since it gives in the impression dark lines for white lines. If a section was properly prepared for use, after the manner of copper-plate printing, results quite as good as this new process gives might be obtained.

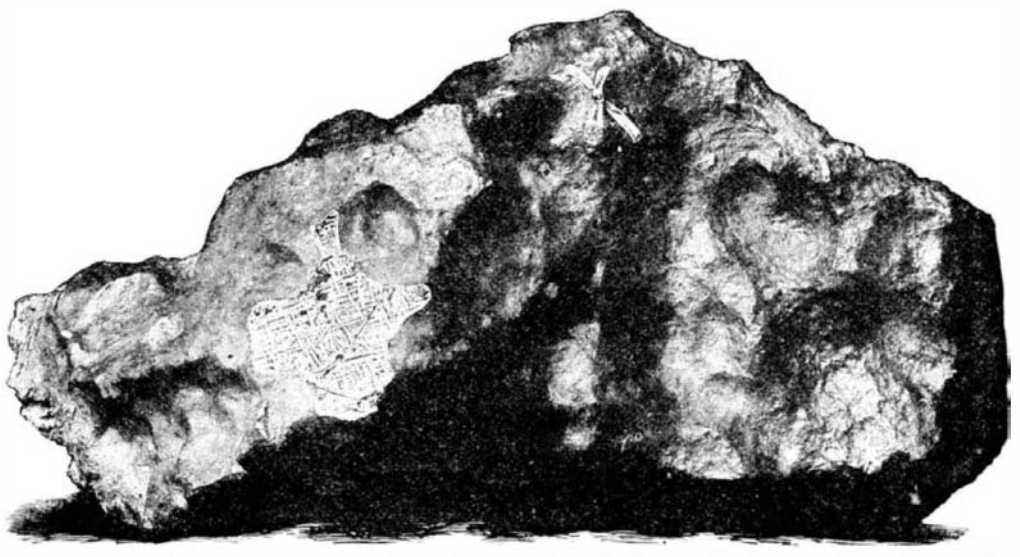

Fig. 1.—THE INDEPENDENCE COUNTY, ARK., METEORIC IRON.—ONE-THIRD NATURAL SIZE.

The Widmanstatten lines in this iron are remarkably perfect and abundant. Their apparent tendency to produce right angles is a rather uncommon feature.

Troillite (Fe.S) was noticed on the polished face as thin seams, having a bronze luster, which penetrated deeply into the mass.

An analysis of the main mass of the meteorite by James B. Mackintosh, E.M., gave 91·22 per cent of iron, 0·16 per cent phosphorus, and 8·62 per cent (by difference) of nickel and cobalt, nothing unusual thus appearing in its composition.

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N. B.—If any of our readers should know of the existence of masses similar in nature to the above, they will confer a favor by notifying the SCIENTIFIC AMERICAN office. Should any meteorites fall in their vicinity, or within their knowledge, we would be glad to receive early information of them, and also samples of the fall.

The Times We Live In.

On all hands the cause of the recent stagnation in trade is assigned, by business men, to overproduction. It has been said that overproduction means simply the clogging of the markets by too much wealth. It is meant that there is too much wheat, too much corn, too much iron, too much coal, too much cotton, too much of the great staples of wealth generally, preventing those who complain from getting as much for what they have for sale as they expected to get, or to sell as much to others as they expected to sell, or to make prices fluctuate in a manner profitable to modern speculation. In short, such an abundance of any of the staples that speculators cannot create a corner in the market, and thereby oppress the poor laborers in the interests of questionable methods, to say the least, in speculation.

If we look over the world, we will find that there never was a time in the history of the race when the luxuries of life were so widely disseminated and enjoyed by so large a portion of the commonalty of mankind as now. The ability to afford the luxuries and pleasures of life is increasing very rapidly among the working classes, and most rapidly among the most industrious and hardest working classes.

It has been pertinently remarked that "putting aside the wealthy classes, there never was a time in which more people could wear silk and broadcloth, have vacations, take journeys, eat ice cream, provide pianos and organs for their families, go to the races, the theater, and the polo ground," than at the present time. And it is safe to say that, as a rule, these classes take advantage of the opportunities offered. It is also equally true that there is a great deal of extreme poverty existing throughout the country in connection with crime and ignorance and indolence in many places and employments; but this is the exception to the general rule of widespread prosperity in the middle and lower classes of humanity generally.

That there is a general tendency all over the world to an increase in the production of the luxuries and common comforts of life cannot be doubted; and if this overproduction is an evil, it is unmistakably an increasing evil. This is necessarily the case. The constant progress made in the invention and manufacture of labor saving processes, the increase of the productiveness of labor, with increasing intelligence, cannot result otherwise than in an increase in the surplus production. This may in one sense be an evil, but it certainly is not an evil when you regard it in the light of the comfort and progress of the race; for whatever increases the facilities for making home more comfortable and attractive increases the pleasures of home and home life, ennobles work, and makes the ties to government and an upright living tenfold stronger. It will also tend to shorten the hours of labor and increase those of recreation and pleasure. This cannot be regarded as an evil by any save those who regard a laboring man as simply a drudge, and his every hour of recreation and pleasure, above those actually required for sleep, as so much precious time wasted.—*Jas. M. Kerr, in Chicago Current.*

Car Builders' Association.

The committee appointed by the Master Car Builders' Association and several representatives of brake companies met at Harrisburg, Pa., on Jan. 6, to devise a plan for the testing of the brakes now in use. It was decided to have two tests at Burlington, Iowa, on the Chicago, Burlington & Quincy Railroad. The first trial is to be on July 13 next, and the second on the 13th of April following. Each brake company is to furnish fifty cars fully equipped with its apparatus.

The cars are to be returned to their owners and put in actual service between the times of the tests. On their return, a careful record of the cost of maintenance and the number of miles traveled is to be submitted to the committee. At the final test, a year from next April, the brake which is decided to be the most effective is to be adopted as the standard, and recommended for adoption by the different railroad companies in the United States.