

ART. XX.—*On a new Meteoric Iron, of unknown locality, in the Smithsonian Museum*; by CHARLES UPHAM SHEPARD.

HAVING received a fragment from a meteoric iron, of unknown locality, belonging to the Museum of the Smithsonian Institution, I have made an examination of it with the following results:

The mass was oval in form, with three or four prominent knobs. Its weight was probably about six pounds. The fragment for examination was separated with considerable facility, requiring only a few smart blows of the hammer; and revealed a crystalline structure. The surfaces developed were partially covered by an exceedingly thin, micaceous layer of schreibersite. After polishing, the fragment had a somewhat whiter color than artificial iron. When etched, it showed a homogeneous, finely crystalline texture, and became still whiter in color. When viewed at fixed angles of reflexion, the surface glimmered simultaneously, after the manner of sunstone oligoclasite, thus rendering it probable that the crystallization of the general mass was that of a single individual.

It is obscurely banded, in some portions, with bars about $\frac{1}{20}$ th of an inch in thickness. But the most remarkable feature of the etched surface is its thickly dotted or punctate character; the dots which are very bright, instead of being salient points, are slightly concave. On the whole, therefore, this iron differs in structure from any meteoric iron thus far known. The composition, as determined by C. U. Shepard, Jr., is

Iron	92.923
Nickel	6.071
Cobalt	0.539
Schreibersite (phosphide of iron) ..	0.562—100.095

There are traces also of copper and tin. The polished surfaces show no tendency to deliquescence. Sp. gr.=7.589.

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