

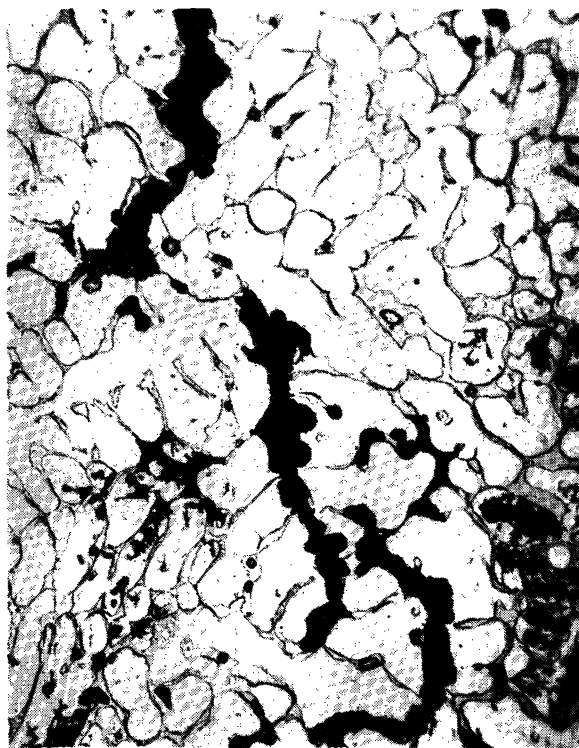


FIG. 2. Same as Fig. 1 but enlarged to 425 diameters. (Photos by A. W. Herbenar.)

The reason for this nickel-enrichment is still problematical.

Although these little objects have eluded fieldworkers for nearly 60 years, we have now proved that they exist in concentrations as high as 100 g/cu ft of topsoil. Such a concentration would amount to 3,000 tons/sq mi. Over how large an area this high concentration extends is not known, but it is thought to be rather limited. However, at least a sparse sprinkling of the material has been detected over 100 sq mi around the crater. Quantitative studies are now in progress.

Five different varieties of particles have so far been found, two of which are shown in Figs. 1 and 2. Microscopic studies have been made of the metallic spheroid variety only.

The theory of explosion of the meteorite was suggested during the very first years of exploration at the crater. But D. M. Barringer in 1909 thought he had amassed abundant evidence that such had not been its fate. He wrote:

The evidence also is all against its having gone into a state of vapour at the moment of impact. In this connec-

tion it is only necessary to again point out that the absence of staining on a grand scale, in the depths of the crater and outside, is practically conclusive proof that the projectile did not either go into the form of vapour or of metallic mist upon impact, for a small amount of such metallic vapour or mist, so to speak, would have caused an immense amount of staining of the rock fragments and silica (paper read before Natl. Acad. Sci. U.S., Princeton Univ. [Nov. 16, 1909]).

The writer would like to point out that in no place, even where the particles are most abundant, is there any evidence of staining. The soil and ash from which we separate them is plain gray, and the silica almost white. Only where they lie on the reddish brown Moencopi formation is there any evidence of rust coloration, and here it is the natural color of the formation.

Absence of staining appears to be the result of an oxide coating formed on the little globules while they were still liquid, as the cloud came into contact with oxygen in the atmosphere. This coating was so impervious that, subsequent to its formation, the particles have evidenced little or no scaling. In this respect their present surfaces differ strikingly from the silvery metallic fragments of comparable size that are sometimes found with them.

A detailed study of these particles is now in progress.

H. H. NININGER

American Meteorite Museum
Winslow, Arizona

Erratum

WE FIND a correction is necessary in the last sentence on page 625 of our article entitled "An Analog of Vitamin B₁₂" (*Science*, 113, 625 [1951]).

In our original this sentence reads:

The thiocyanate analog and vitamin B_{12a} when tested by the *L. lactis* (A) and the *L. leichmannii* "unprotected" (B) titrimetric assay methods (6) also respond in a like manner, distinct from vitamin B₁₂.

Please publish the following correction:

The thiocyanate analog and vitamin B_{12a} when tested by the *L. lactis* (B) and the *L. leichmannii* "unprotected" (A) titrimetric assay methods (6) also respond in a like manner, distinct from vitamin B₁₂.

This will also necessitate the transposition of the headings "A" and "B" in Table 1 on page 626.

R. P. BUHS

Research & Development Division
Merck & Co., Inc.
Rahway, N. J.

