

HINRICHS RESEARCH LABORATORIES

FOUNDED BY
GUSTAVUS HINRICHS, M. D., LL. D.

ANALYTICAL AND CONSULTING CHEMISTS

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SAINT LOUIS

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November 11, 1941.

Mr. Oscar Monnig,
Fort Worth, Texas.

3101 Hawthorne Blvd

Dear Sir:

Since several weeks have passed since receiving your letter concerning the meteorite collection, I must ask you to excuse the delay in answering your letter, for which there were several reasons.

I have been tied a good deal to my work, and had to wait for an opportunity to weigh the Iowa meteorites, verify them etc. They are as follows:

No. 3 collection	1	3.7 Kgm	
No. 12	"	2	3.1 "
No. 21	"	2	9.5 " The largest of our Amana Meteorites
No. 39	"	5	1.14 " <i>18.17</i>
No. 40	"	5	0.73 " <i>19.33 hg</i>

Also one weighing 2 lbs 9 ounces. = *1.16 hg*

See pages 22-23 also pages 4-5-6-7-18-19-20-21 for photographs of these Amana meteorites. I have verified practically all of the others. My father numbered his collection as he acquired them and these numbers are different from the numbers listed in the book (his hand collection) which are arranged as to date of fall but separated into meteoric stones, stony irons and meteoric irons. The etchings on the meteoric irons are good and clear from rust.

Another thing that has delayed my answering your letter was word from my son at Iowa State University, who, as the result of some information he has gathered about meteorite collections, is urging me to see Mr. Henry W. Nichols of the Field Museum, Dr. W.F. Forshag of the U.S. Nat. Museum, as he was told these people probably would be interested in buying the collection. I believe he has the idea that it would be nicer to have the Hinrichs Collection at one of these institutions than in the hands of a private collector. However I could not manage to get away from here, for a while anyhow, to see any of these people personally, and I don't think correspondence concerning the matter would be very satisfactory. My wife has been wanting to make a short trip to Chicago to visit a friend and thought she could see the Field Museum man Mr. Nichols.

This idea, which seems to intrigue my family, was another reason for delaying this letter. For my part, it doesn't make much difference whether the collection goes to a museum or private collector.

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Mr. Oscar Monnig #2. 11-11-41.

As to your inquiry about the Lampasas Meteorite. I have correspondence between my father and Mr. F.R.Ramsdall, which in my opinion established the authenticity of it, except for the exact location, quarter section. The date of fall was November 29, 1892. It fell some four to six miles west of Kaufman, Texas; it did not fall near Lampasas. Mr. F.R.Ramsdall was renting in Lampasas from a judge in Kaufman, who, knowing Mr. Ramsdall was interested in collecting minerals, informed him of the meteorite picked up near Kaufman. Mr. J.F. Todd was camping west of the city and said it came from a direction south of the city and fell west of the city, between 7 and 8 P.M., also noted by others in the city. There is no information as to the exact location, and that can probably never be determined, unless relatives of J.F. Todd know anything about the fall, - and that chance is remote, I imagine. I hesitate to send these letters from Mr. Ramsdall because they are frail and brittle from age, but you can see them, of course, in case you come to St. Louis. My father made an examination of the meteorite specimen sent up by Mr. Ramsdall before he purchased it. I have the note in a bound volume of the Comptes Rendues of the Paris Academy of Science. He made a separation of the mineral constituents using Ethylene Bromide of high specific gravity. He identified Tadjerite named after the meteorite of Tadjera.

In regard to your suggestion of making a trip to St. Louis and closing a deal I can only say now, as I told you before, that I could not consider your offer of \$1000.00. but if you can make a trip to St. Louis, in a few weeks from now, perhaps, (I will be tied up on a case for the next two weeks) I will be glad to see you and have you go over the collection, and give consideration to your best offer, before I, or rather the family get in touch with any of the other prospective buyers.

Sincerely yours

*wrote 1942 4-21 offering 1250⁰⁰
if satisfied above stone is meteorite for St Louis. 1200⁰⁰
if I have to call them for it.*

Translation (by L.E.B.)

Preliminary Notice on species of meteoric rock
which is inverse to the common species.

A note by Mr. G. Hinrichs, presented by Mr. Daubree,
June 18, 1894. In Comptes Rendus, vol. 118, p. 1418, 1894.

"When one first sees a collection of stony meteorites, one notices a contrast between the (outer layer crust which is black and the main mass which is generally grayish, varying from white (Utrecht, Linn County) to black (tadjera). Besides, it is known that the black crust is (due to the result a metamorphism produced by heat, for the main part of meteoric stones becomes black by mere heating (with the air excluded. The thickness of the crust indicates pretty well how far (into the stony mass) the heat (necessary to effect this change) has penetrated.

After having repeated a large number of interesting experiments made (on by Mr. S. Meunier (for this subject, I had to consider the blackish color (of meteoric masses) to be the indication of a high temperature. Three months ago when I had in my possession a small piece of a supposedly new meteorite, I recognized on it a white crust and a central almost black (core (nucleus, which contained grains of native iron I had to believe that the white parts formed the beginning of the unchanged mass and that the black mass showed metamorphosed bands of the meteorite.

While I was awaiting the arrival of a larger sample, a close examination of the small sample upset these too general ideas on the thermal metamorphism of the stony matter of meteorites. A larger sample, which I have since received, showed me very well that the meteorite in question is the first example of a new type which is exactly the (inverse (opposite of meteoric

stones known to date, for the mass of this one is almost black, (whereas while its true crust is white. When I place around this inverse meteorite my samples from Utrecht, from Linn County, from Montrejean and from Annale, the contrast is striking.

Undoubtedly, the crust of the meteorite of Bishopville is described as "white," but its mass of chladnite* is of the same color. According to Mr. Brezina, the other kinds of chladnite have a grayish or yellowish crust, (depending on (corresponding to the mass of the stone itself.

There remains only to determine the chemical composition of the white crust of the new meteorite. As I had but very little matter, I had to use microchemical and spectroscopic experiments. A tiny part of the crust, on which the effect of fusion is already recognizable when examined under the magnifying glass, when put in contact with muriatic acid effervesces; and then it dissolves completely without any order; the spectroscope showed only the calcium in this solution; the solution, repeated on silver, darkens the metal. Therefore the crust contains some monosulphur of calcium, which (ide?) is nearly insoluble in water. This compound does not belong to the minerals of the Earth, but it has been found by Maskeline (who called it "old hamite") in several meteorites, especially in Busti (1852).**

In order to complete the preliminary study of the white crust of this black meteorite, I had to produce the crust artificially. After several (trials (gropings I succeeded in this simple manner. Since the black mass, is hard (obtain and brittle, it is easy to (break off very thin scales which are fairly large, from 5 to 10 mm. When such a scale is placed in the platinum tweezers and is held for several instants perpendicularly in the blow-pipe flame, not

* Einstatite, a pyroxene - Mg silicate - OEM.

** Just the same one might wonder whether or not this material doesn't result from an infiltration into the fissures. (A.D. - Daubree?)

quite in the hottest part, I found the reverse side of the scale (smeared covered with a white crust identical with the natural crust of the new meteorite. Although I expected to see the white crust appear on the black side of the scale, I saw the contrast produced by this so simple experiment with as much astonishment as satisfaction.

Directly under the white and softened crust one distinguishes a narrow band, which is quite uniform of a brown color, which represents a metamorphism of the stone produced merely by heat. The mass of this new meteorite is quite similar to that of the tadjerite, except for the presence of the oldhamite. An examination of a fragment, ~~which~~ weighing $1\frac{1}{2}$ grams gave me 3.44 g. for the specific gravity; I was able to extract 8% of meteoric iron of which $\frac{1}{3}$ was in the form of quite large grains, each weighing 0.01 g. etc. The mass is rich with "troilite", which is almost as abundant as the iron. The stony mass contains more pyroxene (chrysolite than (peridot. The study of the scales shows crystalline parts which are transparent, or brownish, or yellowish, or uncolored. The analysis of this mass agrees quite well with that of the tadjerite (pyroxene-stone (pyroxenated by Mr. Meunier.

I have not yet been able to obtain all the necessary data on the fall of this meteorite, of which the whole thing weighed 25 kg. and which will soon be sent to me from a quite remote region. I shall have the honor to present a part of it to the Academie. At present, I (enclose with (accompany this note with 2 small samples, which suffice to verify my preliminary observations."