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Dear Ed:

Don't tell me I'm going to have trouble with you again! First you don't know an iron meteorite when you see one, and now you are having difficulty with a stony one. I shall soon have to side with O'Keefe and tell you that these slags, etc., you have been turning down all these years are really meteorites!

More, seriously, I am not going to agree with your verdict without a considerable struggle. At this moment, I am still firmly convinced the specimen you have is a meteorite.

I may be as wrong as Thomas Jefferson was, but I am more willing to believe that one or more of you is making a mistake than that this was not a meteorite. First, since you presumably sent a very tiny piece to Anders, are you sure it wasn't something else that had got mixed with the material--either some foreign item we picked up off the ground, or something that got mixed in after it was in the Museum?

Second, as to the chemistry, it was my understanding that Sulphur and magnetite were very much to be expected in a carbonaceous chondrite, but of course it would be a blow if there are no Si atoms present. With all due respects to Roy Clarke's ability, remember you had a metallurgist who could reproduce the Tishomingo (or thought he could). By the way, when he makes some of that stuff, I'd sure like to have a piece!

In the case of Tishomingo, you finally concluded that you had what I think of as practically a segregation of plessite--you don't call it that, but say it is martensite, but this really begs the question of composition since you and Buchheit admit this is a structural term. I wish you'd devise a word for what it is really is. Any how, and aside

from this from this incidental dissertation, there are more things in meteorites than you have dreamed of and maybe the same could be true of a carbonaceous chondrite. Perhaps this is a little chunk of nothing but magnetite, carbon and sulphur without the serpentine or chlorite background.

I do think it essential that you determine what the "dark material" is before you condemn the piece; pretty ostensibly it is colored by carbon, but we know it doesn't take much lamp black to make something very dark. So what's the rest of the material?????

Now for some positive ideas the other way round. To begin with, you would have to admit it was a very remarkable coincidence to find this piece right on the central line of all of the other Bells if it is not a meteorite. My map shows a line drawn thru the 7 finds, and this piece is only 1/10 mile off that line. Three of the others are also that close; three are between 1/10 and 2/10 of a mile off. It is also notable that in our many trips thru that region and in our publicity and personal search we were never shown any material nor did we ever find any material remotely similar to this except the other meteorites. It does not appeal to reason that this specimen is either a native rock or an impurity brought in from somewhere else, by its very uniqueness.

Then remember the story connected with it. I do not have my detailed notes at hand, but my recollection is that the girl who reported it to us said she had found it when she got off the school bus and was walking to her house, and I believe she said this was on the Monday following the fall the previous Saturday night. She presumably walked along this driveway every schoolday. While it is possible she had missed this on previous days, it is again a most remarkable coincidence that she should see it for the first time on the first day after the fall that she had occasion to walk this driveway! She picked it up but dropped it again because she said it did not fit her ideas of what a meteorite should look like--like so many of us (maybe me included!), she was afraid to be found wrong! I do think this is a fundamental defect of our teaching nowadays.

Now for another line of attack. Before you removed the meteorite, and I think before either of us picked it up, I took 5 close-up pictures with a little Kodak Flash Bantam that I use, modified with portrait lenses to allow exposures as close as 4 to 18 inches. I have re-examined these carefully and so have Bob Brown, my confederate who was present at the retrieval of the two Crescent specimens and who is quite familiar with all

the Bells pieces except yours. We are agreed that this set of pictures looks exactly like a carbonaceous chondrite with the one possible reservation that we cannot see any of the typical lacy, melted crustal structure. That could very well be because of weathering or inability of the lens to be closer than where I used it. I suggest you examine the material carefully in a search for melted crust, for certainly this is a primary criterion of a meteorite unless weathering has destroyed it.

Furthermore, our pictures show little dots on the main piece and on some of the fragments scattered nearby which certainly look like the chondrules in the other Bells--reddish and rusted, no doubt, in this case. I would like for you to study your material carefully and tell me whether you find any of these chondrules or spots. Sitting here, I think you will

show

Finally, the pictures/a marked white spotted area, small but very white, and a ragged irregular line of lighter (paler would be a better word) whitish material below it, all looking exactly like one would expect efflorescing magnesium sulphate to appear. I took it for that, believe it was that, and suggest you check this phase, both by inspection and by chemical test. Of course in subsequent handling this material may have got detached or rubbed off, but it is most obvious on the photos. I'd send you the pictures if I thought it would do any good, but when I sent the photos of the handsome Tishomingo specimens you were simply a man convinced against his will and they apparently made but a slight impression on you.

Going back to the lack of cosmic gas, it is possible that Anders or his workers made an error, or that all parts of all carbonaceous chondrites do not have it. I had a nice visit with Anders on my way to New York in January.

I'm not bothered about the other Bells specimens being genuine. Mason, and I believe you, have seen them are have no doubts. Also Don Elstone from Tucson was thru here about a week or two ago and I showed them all to him; with a hand lens he saw satisfactory chondrules in all of them.

I'll write you separately and later about Tishomingo. Right now I'm still busy as h--- fighting the damn federal government in the person of H. U. D. to try to save our building.

I hope you get right on meteorites soon, my dear friend.