

Still The Most Amazing Thing I've Ever Seen

Robert Beauford [from: *Meteorite* magazine, August 2011, Volume 17, No. 3, p. 4]

There is nothing on this planet more exotic, older, or more distant in origin than meteorites. There is no rock more complex in its mineralogy, more diverse in its elemental composition, or more mysterious in its morphology or petrogenesis. The science of meteoritics is, as yet, still in its infancy. Generations will come and go before we see the horizons of this field.

Among the secrets we have thus far unfolded are such profundities as the age of the solar system and the nature of its progenitor stars, and yet these are only hints at what is possible. It is said that 'to name a thing is not sufficient to its understanding.' Much of our science stands at the door of merely recognizing the mystery of meteorites and naming them. While our achievements in interpretation are substantial, they are sparse compared to the question we unfold with each answer we achieve. We have put labels on objects that open doors to realms of literal 'untold mystery'.

To date we have about 40,000 known meteorites representing about 140 distinct planetary and smaller bodies within the solar system. Within these meteorites have been found intact traces of the earliest organic carbon molecules in our solar system and even fragments of the parent stars that predate it. We know, from astrophysicists, that the birth of those earlier stars still only reach perhaps halfway back to the big bang, 13.7 or so billion years ago. Our own solar system reaches only about 1/3 of the way back to that distant time. Somewhere in space floats a rock from the beginning of time itself. We not only have not found such a rock, but have found no meteorite that does not share a common solar system origin alongside the material that now resides inside our own sun and planet. Nevertheless, within our reach here inside the deep well of gravity in which we live in our own small moment of space-time, we constantly receive parcels from the dawn of our own moment in universal history and from places that, though they are relatively nearby, we may not reach and explore for hundreds of years.

Some of the samples that fall through our atmosphere may come from asteroidal bodies or planetesimals that no longer exist, that have long since fallen into the Sun. Others may have come from parent bodies that were ejected from the solar system in its earliest history and are now the holy grail of meteorites, 'extra-solar objects,' now on their way to fall upon another star, and never bound to return to this place in the unfolding history of the universe. Such samples would be like a corner torn from a letter long since mailed to a destination we can barely imagine, and which may or may not be read some day by a meteorite hunter somewhere and somewhen very, very far away.

I feel, today, as I contemplate these things, the same sense of awe and mystery that I felt the first time that I held a meteorite and looked up at space. It is a feeling of looking out at unlimited horizons that have yet to be explored and that are filled with unknown but knowable things, as well as back in time to a history so deep that it cannot be filled with all the learning of which I am capable.

I would wish this feeling for anyone, as it is one of the greatest and most humbling things I know. The awe, wonder, curiosity, and excitement of discovery and exploration... This is why I

do science. I hope that this issue awakens and deepens the sense of wonder and curiosity for each of our readers and authors as it always does for me. With gratitude, as always, for your support, we here at the magazine wish you all the best and the enjoyment of this issue of *Meteorite*.

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