

## From the Editors

### What price meteorite collections?

Meteorite collections are at the heart of hands-on research in small body planetary science. Yet, curators aside, we generally give them little attention, taking them for granted until we need to make our requests for research samples. But the record shows that the well-being of some of them can occasionally hang by a thread.

According to the data base of Koblitz (1996), there are about 30 collections in the world with more than about 350 meteorites (Table 1). Six are in major national museums, five are in private collections and the remainder are in universities, observatories or similar research institutes. All the national museums are included in the twelve largest collections in the world, the remaining collections being university or private collections. In the middle of the national collections is the collection in the Center for Meteorite Studies in Arizona State University in Tempe. This is remarkable. Without the resources of national museums, ASU has managed to assemble a collection that, at least in terms of numbers, places it among some of the world's biggest meteorite collections and exceeds many of the historically famous national collections.

The meteorite collection at the Center for Meteorite Studies started in 1960 with the purchase of the collection owned by Harvey Nininger. Founder member of the Meteoritical Society, Nininger was a collector and dealer of meteorites for over three decades. The University, NSF, and philanthropist Herbert Fales paid for the collection, and Dr. and Mrs. Nininger added some additional meteorites as donations. Sixteen years later Fales helped the Center acquire another major private collection, that of the meteorite expert C. U. Shepard. The last published catalog listed 1240 samples, but the collection now numbers 1451 (Lewis *et al.*, 1985).

Many of the meteorites at ASU are weathered finds from the US prairies and it might be argued that this makes them less interesting. But what a mistaken argument this would be. The ASU collection contains a particularly fine collection of pallasites—Admire (5.9 kg), Albin (13 kg) and Brenham (over 175 kg)—and iron meteorites—Henbury (IIIa, 174 kg), Santa Clara IVB (45 kg), and Toluca (IA, 180 kg)—and some important stony meteorites, like 135 kg of the Allende CV chondrite and 93 kg of the Plainview gas-rich regolith breccia. Other catalog browsers, with different interests, would no doubt produce a different list but would agree that the ASU collection is not just one of the biggest, it is one of the best collections of meteorites in the world. It is comparable with the national collections in quality as well as in size.

Scientifically speaking, meteorites are a precious natural resource. They are pieces of astronomical bodies that will not be visited in our life time, or the life times of several generations to come. Even if fortune smiles most graciously on the space programs of the world, most meteorite parent bodies will not be visited for many generations and visits to Mars and the moon will enhance the value of the martian and lunar meteorites, not diminish it. It is essential that we nurture these collections and try to render them as accessible as possible to scientific research.

Support for the private collections is not usually a problem and their existence facilitates the recovery of new specimens since their owners are usually avid searchers. But like dealers, private collectors are not motivated primarily by scientific interest. There is no automatic right of access for scientific research and when astronomical prices are paid for small rare meteorites of popular interest the samples will be driven beyond the reach of even the scientists whose work generated interest in them. Neither are there any guarantees over the fate of the collection after the demise of its owner.

TABLE 1. The top 30 meteorite collections in the world according to data in MetBase (version 2.0) by Jörn Koblitz\*.

No.	Collection <sup>†</sup>	City	Country
9613	National Institute of Polar Research	Tokyo	Japan
5404	Johnson Space Center	Houston	USA
2800	U.S. National Museum	Washington	USA
1669	Naturhistorisches Museum	Vienna	Austria
1592	The Natural History Museum	London	UK
1287	Mus. Naturkunde, Humboldt Univ.	Berlin	Germany
1186	Center for Meteorite Studies	Tempe	USA
1137	Amer. Museum of Natural History	New York	USA
1122	Field Museum of Natural History	Chicago	USA
1090	The Open University	Milton Keynes	UK
988	DuPont Collection <sup>‡</sup>	Watchung, NJ	USA
959	Museum d'Histoire Naturelle	Paris	France
851	Max-Planck-Institut für Chemie	Mainz	Germany
689	Münster University	Münster	Germany
605	Bartoschewitz Collection	Gifhorn	Germany
594	J. Schwade Collection	Kankakee, IL	USA
569	Tiara Observatory <sup>‡</sup>	Colorado Springs	USA
569	T. Stuedi Collection	Grenchen	Switzerland
552	Geological Survey of India	Calcutta	India
514	Academy of Sciences	Moscow	Russia
507	University of California	Los Angeles	USA
504	Harvard University	Cambridge, MA	USA
461	Franger Collection	Gloggnitz	Austria
436	Vatican Observatory Collection	Rome	Italy
424	Helsinki University	Helsinki	Finland
393	University of Bonn	Bonn	Germany
386	University of New Mexico	Albuquerque	USA
379	University of Greifswald	Greifswald	Germany
378	Max-Planck-Institut für Kernphysik	Heidelberg	Germany
365	Texas Christian University	Fort Worth	USA
358	Tübingen University	Tübingen	Germany

\*A spot check showed that some of these meteorite numbers are low, either because Koblitz does not include very small samples or because the writers of catalogs include paired fragments or meteorites not in the literature. However, these differences had little if any effect on their position in the Table. It is unclear whether the surprising number of private collections in Germany is the legacy of Chladni's or a reflection of a German love for museums.

<sup>†</sup>For the two depositories of Antarctic meteorites at the top of the list, the number refers to fragments rather than individual meteorites. The Washington and Vienna numbers are also inflated this way since they own large numbers of Antarctic or Saharan meteorites. The Open University collection consists entirely of Antarctic and Saharan meteorites.

<sup>‡</sup>Following the death of their owner's, the DuPont Collection is currently being reorganized, and a museum established, while the Tiara Observatory collection is being sold.

Some private collections become part of a permanent collection and a fitting memorial to their collectors, but some are dispersed and much of the material is lost. Is it enough to rely entirely on the good sentiments of the collectors and their families? Some national governments think not. The Indian, Mexican and Australian governments have declared meteorites state property, so that meteorites are forced into state collections or the black market. United States' law decrees that they belong to the owner of the land on which they appear, so that dealing in meteorites is rife and growing. True to the British spirit of compromise, the matter is left unresolved in the UK. For the university collections, the primary concerns are not only access, but degradation of the samples. The separation of a meteorite and its label is not as uncommon as we would like to believe.

Should the Meteoritical Society endorse any particular policy with regard to public vs. private ownership of meteorites? Maybe

the society should endorse a series of statements about responsible policies for meteorite curation and accessibility. Such a document might persuade private collectors to open their collections to research and bequeath them to national museums after their death. They might also strengthen the hands of university curators struggling to raise resources.

In the present fiscal climate, the treatment received by the university collections from their institutions and the funding agencies is very uneven, with large collections receiving minimal support and small collections receiving generous support. Some are being placed in jeopardy. This neglect is especially short-sighted since it is the research of the universities and the funding agencies that the collections subsidize through the loan and donation of samples. But surely if a university accepts large collections of meteorites, whether using public or private funds, it is under an obligation to look after those samples and make them readily available to the scientific community. Otherwise it is acting irresponsibly, and probably failing to live up to its own mission statements. Perhaps this represents the strongest case for the Meteoritical Society working towards centralizing the collections in the nations' major museums, and discouraging regional university collections. If the owners of some of the world's greatest meteorite collections are unable to provide adequate support for them, then they should donate the samples to one of the national museums.

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Editor

#### REFERENCES

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