Meteoritics & Planetary Science 40, Supplement, A9–A10 (2005)
Abstract available online at http://meteoritics.org

Award

2005 Barringer Medal for Billy P. Glass

These days impact cratering research has come of age and is now accepted as a legitimate part of the geosciences. Forty years ago, in the mid-1960s, things were a bit different. This was long before the discovery of the evidence for an impact event marking the Cretaceous-Tertiary boundary, and even before the seminal works on shock metamorphism were published. It was around that time that confirming evidence for the impact origin for the Ries crater in Germany was found. But it was also before the first manned missions reached the Moon, and there were still some researchers vehemently opposing the idea that craters on the Moon had been formed by impacts. There was still a vigorous discussion going on about the origin of tektites. The question was, did they form on the Earth as a result of an impact, or did they come from our neighbor in space, the Moon, yielding cheap lunar samples. Geochemical studies were tilting the balance towards a terrestrial impact origin. The mid-1960s were also the time when a Ph.D. student at Columbia University made the most important discovery in tektite research in decades: Billy P. Glass discovered microtektites in deep-sea sediments.

Tektites are a group of natural glasses that have puzzled mankind for many centuries. They are chemically homogeneous, often spherically symmetric objects that are in general several centimeters in size. They are found in four known strewn fields on the surface of the Earth. Strewn fields can be defined as geographically extended areas (in the case of tektites, larger than just a few square kilometers) over which tektite material can be found. Tektites found within each strewn field are related to each other with respect to their petrological, physical, and chemical properties as well as their age. The occurrence of tektite glasses is not restricted to the continents. Since the mid-1960s, microtektites from three of the four strewn fields have been found in deep-sea cores at stratigraphic positions that agree in age with the radiometric ages of tektites found on land. And this was basically the work of one man: Bill Glass. Microtektites are generally less than 1 mm in diameter and show a somewhat wider variation in chemical composition than tektites on land, but with an average composition that is very close to that of "normal" tektites. Microtektites have been very important for defining the extent of the strewn fields, as well as for constraining the stratigraphic age of tektites, and to provide evidence regarding the location of possible source craters. Bill Glass and his students found that, in some places, microtektites occur together with melt fragments, high-pressure phases, and shocked minerals and, therefore, provide evidence for the association of tektites with an impact event.

Bill Glass has spent most of his career studying microtektites, tektites, impact glasses, and other forms of distal impact ejecta and their petrographic, mineralogical, and chemical characteristics. Over the past 40 years, he has authored about 90 papers on these topics, many of which became classics in their field. Five of his six first papers were published in *Nature* and *Science*—not a bad start for a young researcher. After his student days at the Lamont-Doherty Geological Observatory, a part of Columbia University, he spent two years at the NASA Goddard Space Flight Center. In 1970 he joined the Geology Department at the University of Delaware, where he has spent most of his career, became full professor, head of department, and from where he just retired after a distinguished research and teaching career. In 1982 he published what (at least to me) remained the best planetary sciences textbook for more than a decade: *Introduction to planetary geology* published by Cambridge University Press. Never the one for large and spectacular undertakings, Bill

spent long and lonely hours patiently picking samples under the microscope. He is an example of a disappearing species of researchers who had something that many of us have lost or cannot afford today: he had patience and he took his time. His careful work is ample witness of these traits. As a person, Bill is a quiet man of few words who does not like much fuss or attention about himself or his work. In fact, his name says it all.

To recognize his important and seminal contributions to tektite research and the study of impact processes, Bill Glass is receiving the 2005 Barringer Medal—a much deserved honor.

Christian Koeberl
Department of Geological Sciences
University of Vienna
A-1090 Vienna
Austria