

HEINZ W. KOZUR (1942-2013)

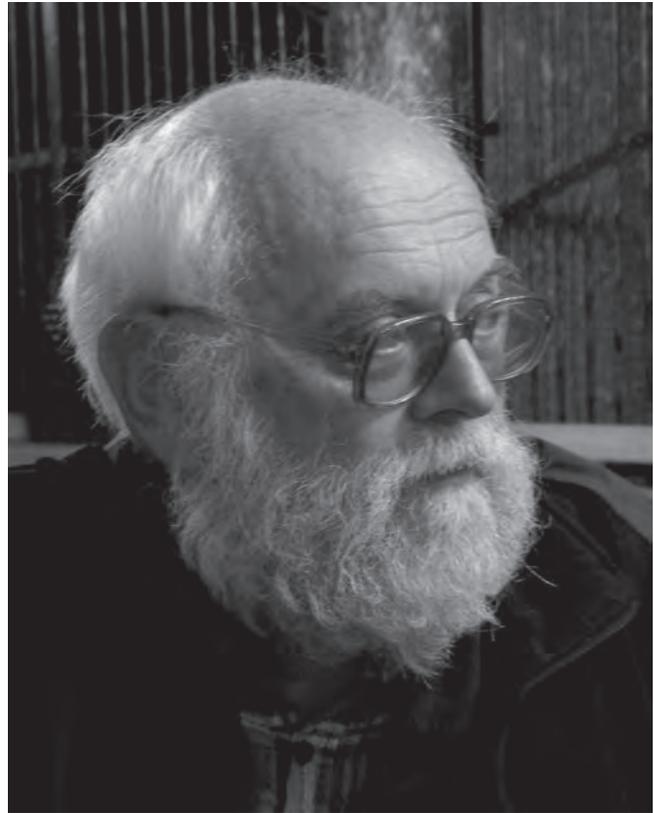
On 20 December 2013, Heinz W. Kozur died in Budapest, Hungary, after a long struggle with illness caused by several brain strokes. Born in Hoyerswerda (Sachsen), Germany, on 26 March 1942, Heinz began his studies of geology at the Bergakademie Freiberg/Sachsen in 1961. There, he completed a diploma thesis in 1967 on the conodonts and scolecodonts of the Upper Muschelkalk of Middle Europe under the supervision of Professor Dr. A. H. Müller. For this, and his other student accomplishments, Heinz was awarded the Agricola Medal.

Postgraduate study at Freiberg under the direction of Müller followed. In 1971, Heinz received his doctoral degree (Dr. rer. nat. geol.) for his dissertation (awarded *summa cum laude*) on the micropaleontology, biostratigraphy and biofacies of the German Middle Triassic. By the time he received this degree, he had begun employment as the Chief of the Department of Natural Science at the Staatliche Museen Meiningen/Thüringen, a position Heinz held until 1981. In 1975, Heinz finished his Habilitation at Freiberg, again under the direction of Prof. Müller, on the biostratigraphy, facies and paleogeography of the Triassic.

Outspoken and headstrong, Heinz came into conflict with the socialist authorities in the former German Democratic Republic (GDR or East Germany). Thus, when the socialist establishment seriously impeded his scientific career in East Germany, he went into exile to Hungary in 1981. Employment at the Geological Survey of Hungary in Budapest followed (1981-1985), which led to Heinz's election to the Hungarian Academy of Science. However, in 1985, political problems resurfaced due to the long arm of the GDR authorities, and Heinz lost his position in Budapest. He was banned from his profession and had his scientific notes, documents and specimens confiscated.

Thus began the remainder of Heinz's professional career, during which regular, full-time employment was replaced by part-time or short-term employment as a visiting professor or by funds supplied by research stipends, grants and professional consulting. Heinz thus undertook most of his professional work and achieved his remarkable and extensive research results of the last three decades as a private citizen without long-term institutional support.

During the 1980s and 1990s, Heinz was a visiting professor at several universities, including Yarmouk University in Jordan, Northern Arizona University in the



USA, the University of Palermo in Italy, the University of Lausanne in Switzerland, the University of Salzburg and Innsbruck University, both in Austria, and (after the collapse of the GDR) at the University of Halle in Germany. Long-term research stipends came from Middle East University in Turkey, the Geological Survey of Japan and Innsbruck University. Additionally, Heinz received many research grants from diverse sources.

The research of Heinz Kozur covers a broad range of topics in historical geology, with a strong focus on the Permian and Triassic timescales. To those ends, Heinz served as a voting member of the IUGS Subcommittee on Permian Stratigraphy from 1976 to 2007, and remained an honorary member until his death. From 1969 until his death, Heinz was a voting member of the IUGS Subcommittee on Triassic Stratigraphy. Within these subcommittees, Heinz participated in the research and deliberations of many of the key working groups devoted to defining geological time boundaries, including the Carboniferous-Permian, the Permian-Triassic and the Triassic-Jurassic boundaries. He was also an integral member of the groups that defined the Guadalupian,

that deciphered the Tethyan Triassic and that worked to develop the chronology of nonmarine Triassic strata. He was also active in the Permian-Triassic Subcommittee of the German Stratigraphic Commission.

Most of the major advances that have been achieved in refining and defining the Permian and Triassic timescales of the last 30-40 years owe much to Heinz Kozur. As but one example, consider that the defining criterion of the base of the Triassic System (and therefore the base of the Mesozoic Erathem) is the first appearance of the conodont species *Hindeodus parvus*, a species named by Kozur and Pjatkova in 1975.

In his curriculum vitae, Heinz divided his research contributions into six areas: stratigraphy, paleoecology, bioevents, tectonics, paleogeography/paleoclimatology and paleontology/biostratigraphy. In the area of stratigraphy, Heinz contributed much to understanding Cambrian-Devonian marine stratigraphy and both the marine and nonmarine stratigraphy of Carboniferous-Triassic rocks, especially in central Europe. In paleoecology, our understanding of the complex ecosystems of the Permian and Triassic and how they responded to the end-Permian extinctions owes much to Heinz's insight. With regard to bio-events, Heinz contributed much to the analysis and timing of biotic crises, especially at the Permo-Triassic and Triassic-Jurassic boundaries.

All stratigraphic refinement has tectonic implications, and Heinz applied his work to deciphering various tectonic puzzles, particularly of the Variscan and Alpine orogenies in Europe and the Cadomitic to Cimmerian orogenies in Turkey. The paleogeography and paleoecology of Pangea, especially the Tethyan realm and the Germanic basin, was one of Heinz's great areas of expertise. However, it is fair to say that it is in paleontology and biostratigraphy that Heinz's greatest contributions were made, as his nearly 600 published articles indicate.

As a paleontologist, Heinz worked on diverse fossil groups. But, perhaps his largest contributions were to the conodonts, radiolarians and conchostracans. In all three groups, many of the new taxa described by Heinz and his collaborators were used to build landmark understandings of the evolution and biostratigraphy (especially during the Triassic) of these groups. Indeed, the work of Heinz Kozur on Triassic conodonts in his doctoral dissertation was the beginning of modern Triassic conodont taxonomy and biostratigraphy. His Muschelkalk conodont zonation is still standard, and many of the key conodont taxa used in Triassic correlations were first identified and analyzed by Kozur. The radiolarians tell a similar story, with Kozur early on the scene to recognize the value of these microfossils to the subdivision of Triassic time; all subsequent work

has built on his. And, in the terrestrial Triassic, the last eight years saw Heinz, in collaboration with Rob Weems, elaborate on Heinz's earlier work to present a Triassic conchostracan zonation built largely on the records from the Germanic basin and the Newark Supergroup basins of eastern North America. Among other noteworthy results here is the first demonstration by conchostracan biostratigraphy that the beginning of the Jurassic was in fact during the episode of CAMP volcanism that accompanied the rifting that opened a nascent Atlantic Basin, not prior, as suggested earlier. Truly, it is fair to say that nobody can touch the biostratigraphy and chronology of Triassic Pangea without using the work of Heinz Kozur.

Beyond conodonts, radiolarians and conchostracans, Heinz also made major contributions to other groups of fossils, among them ostracods, holothurian sclerites, scolecodonts, charophytes, megaspores and miospores and the footprints of arthropods and tetrapods.

Throughout much of his career, Heinz was a member of several scientific societies, among them the Deutsche Gesellschaft für Geowissenschaften (since 1990), the Ungarische Geologische Gesellschaft (since 1982), the Deutsche Paläontologische Gesellschaft (since 1990) and he was elected to the Ungarische Akademie der Wissenschaften (in 1984) and the New York Academy of Science (in 1996).

After the collapse of the Soviet Union and the loosening of restrictions on travel by scientists in Eastern Bloc countries, we both met Heinz in the early 1990s. Since then he was a valued collaborator on various projects. To add some personal insight, we can say that Heinz was a person of great energy – a tireless worker on the outcrop, at the museum, in the laboratory as well as behind the microscope and the computer. A polyglot, he moved freely from his native German to fluent English and Russian or on to a working technical knowledge of several other languages, not to forget Hungarian, the language of his adopted country and his wife Dr. jur. Zsuzsánna Tömpe. He never learned how to drive a car, so to drive Heinz to the outcrop was to transport an encyclopedia of Pangea – an earth scientist who had been all over the globe and knew its Triassic outcrops and biostratigraphic problems as well as any and better than most. When other people had to check their notes – Heinz simply knew it. But, listening to Heinz also made it obvious that the conflicts and struggles of bygone years caused many, long open wounds.

When Heinz turned 70, at its Annual Meeting at Hannover in October 2012, the Deutsche Gesellschaft für Geowissenschaften awarded him the Leopold-von-Buch-Plakette to honor his scientific contributions. In 2013,

New Mexico Museum of Natural History and Science Bulletin 61, The Triassic System: New developments in stratigraphy and paleontology, was dedicated to Heinz, and his complete scientific bibliography through early 2013 is published there.

With the death of Heinz Kozur we have lost one of the great experts on the geological timescale, particularly of the Permian and the Triassic Periods. Few scientists knew as much about the Triassic System as did Heinz Kozur, and few have ever made such a significant contribution to our understanding of its stratigraphy, paleoecology, bioevents, tectonics, paleogeography/paleoclimatology and paleontology/biostratigraphy. We will miss Heinz, a great geologist and paleontologist, a precious colleague, comrade and friend.

Spencer G. Lucas
Albuquerque, New Mexico

Gerhard H. Bachmann
Halle/Saale, Germany