



# **PAPERS IN CELEBRATION OF H. RICHARD LANE**

edited by

James E. Barrick and Paul L. Brenckle

## A RICH POTPOURRI



Wang Zhi-hao, Rich, and Wang Xiangdong at the National Science Foundation, Arlington, Virginia, 2008



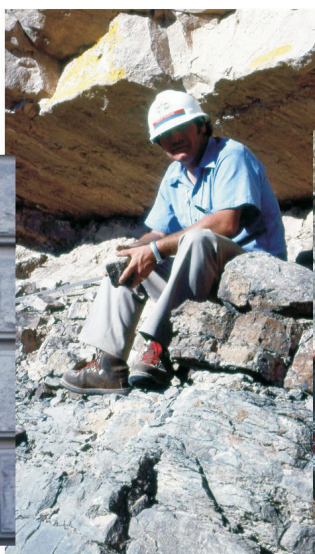
Bill Ramsbottom, Alan Higgins, Tamara Nemyrovska, Rich, and Walt Manger, Donetsk Basin, Ukraine, 1988



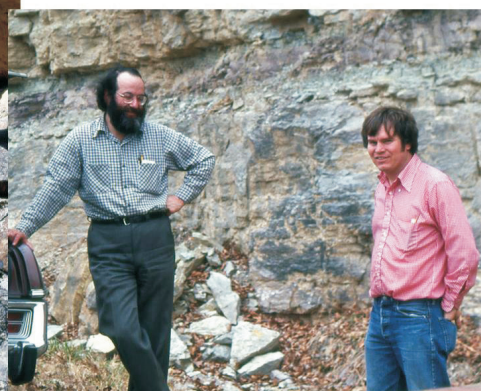
Rich at Keokuk Limestone near Peerless Park, west of St. Louis, Missouri, 1981



Sherry, Rich, and Joan Brenckle in East Berlin, 1978



Rich at the Mid-Carboniferous boundary, Arrow Canyon, Nevada, 1977



Gil Klapper and Rich at Roaring River State Park, southwestern Missouri, 1977



Eva Paproth and Rich, Guizhou Province, China, 1992



Erich, Sherry, Rich, and Chris at Lane family reunion in Danville, Illinois, 2007



# A tribute to H. Richard Lane (1942–2015)

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Rich Lane is probably best known to North American geologists for his distinguished career at the NSF (National Science Foundation), but he also had an outstanding international reputation as a conodont taxonomist, stratigrapher, and administrator during his 28-year employment with Amoco Production Company in Tulsa, Oklahoma, and Houston, Texas. After a childhood in Danville, Illinois, Rich graduated from the University of Illinois with a BS degree in geology (1964), followed by MS (1966) and PhD (1969) degrees at the University of Iowa. His graduate work concentrated on the systematics and zonation of Late Mississippian–Early Pennsylvanian conodonts in the type Morrowan region of Arkansas and Oklahoma (Lane and Straka 1974). Charlie Collinson introduced Rich to the conodonts during his undergraduate days as a research assistant at the Illinois State Geological Survey, and with the encouragement of Brian Glenister and Gil Klapper, his thesis advisors at Iowa, he interned at the Amoco (then Pan American Petroleum) Tulsa Research Center during summers in the late 60s. Upon receiving his PhD, Rich accepted an appointment in Tulsa as a Research Scientist specializing in conodont studies, a position that gave him the opportunity to investigate diverse geological problems worldwide, leading to more than 100 published articles, abstracts for oral presentations, and edited volumes, as well as an even greater number of internal Amoco research reports and technical memoranda.

The early part of his career focused on Mississippian and Pennsylvanian biostratigraphic projects in North America, but also included other stratigraphic and taxonomic research. At that time there was major disagreement in conodont- and foraminiferal-based age assignments of North American Mississippian rocks. Rich (along with the junior editor of this memorial volume) initiated a long-term research study to describe and collect type Mississippian outcrops (e.g., Lane and Brenckle 1977; Lane, Brenckle and Baesemann 2005) and calibrate the conodont and foram occurrences (e.g., Brenckle, Lane and Collinson 1974), the latter of which were commonly found to be mislocated stratigraphically in the then-current literature. The results of this study were later summarized in an Illinois State Geological Survey guidebook on the stratigraphy and biostratigraphy of the type Mississippian region (Heckel et al. 2005) that also included Rich's comprehensive conodont zonation for the North American Mississippian and Early Pennsylvanian.

Rich's eclectic research interests produced at the same time many fruitful publications covering topics as varied as Siluro–Devonian conodont biostratigraphy in east-central Alaska (Lane and Ormiston 1979), Devonian–Carboniferous conodonts from Malaysia (Lane, Mueller and Ziegler 1979), a preliminary Lower Carboniferous conodont zonation (Lane, Sandberg and Ziegler 1980), the distribution of Waulsortian

bioherms in the Lake Valley Formation of southern New Mexico (Lane 1982), taxonomic studies of the genera *Scaliognathus* (Lane and Ziegler 1983), *Rhachistognathus* (Baesemann and Lane 1985), and *Polygnathus* (Klapper and Lane 1985), evolutionary cycles in Devonian–Mississippian conodonts (Ziegler and Lane 1987), and even a description of a Mississippian radiolarian fauna from Oklahoma (Ormiston and Lane 1976). His biostratigraphic work in southern New Mexico and on the Midcontinent Burlington Shelf (Lane 1974, 1978; Lane and De Keyser 1980) led to development of the 'Biothem', a sequence-stratigraphic unit identified solely on its fossil content (Lane, Frye and Couples 1994, 2000). The authors felt that application of the biothem concept would yield "more refined and time-stratigraphically accurate correlations in the same sequences than those previously derived solely from geophysical...or lithostratigraphic methods". Some of these research projects were incubated during Rich's leave of absence in Germany (1977–78) as an Alexander von Humboldt Fellow, where he studied (and practiced his German language skills) with Prof. Dr. Willi Ziegler at Marburg University. His leave of absence—considered at the time somewhat unusual for an oil-company employee—paved the way for other Amoco Research Center paleontologists to take sabbaticals to update knowledge in their specialties.

One of Rich's major research-career accomplishments was his leadership role in the selection of the GSSP (Global Stratotype Section and Point) for the Mid-Carboniferous (Mississippian–Pennsylvanian) boundary in Arrow Canyon, Nevada, USA. At the 1975 Carboniferous Congress in Moscow, titular members of the SCCS (Subcommission on Carboniferous Stratigraphy) proposed dividing the Carboniferous into Mississippian and Pennsylvanian subsystems at the base of the Kinderscoutian Stage (*Reticuloceras* ammonoid zone), although ensuing discussion showed that there was also strong support for placing the boundary at the base of the underlying Chokierian Stage (*Homoceras* ammonoid zone) where major changes in fossil assemblages could be demonstrated. In 1981 the SCCS assembled an expert panel in Leeds, UK, to identify potential taxa for defining the boundary (Ramsbottom, Saunders and Owens 1982). Following that meeting Rich was selected to chair an *ad hoc* Mid-Carboniferous Boundary Committee charged with producing a recommendation for a boundary-defining taxon to be presented at the 1983 Carboniferous Congress in Madrid. That recommendation—the evolutionary appearance of the conodont *Declinognathodus noduliferus*, essentially a proxy for the entrance of the geographically restricted *Homoceras* faunas—was approved by the SCCS titular membership in Madrid, who then appointed Rich Chairman of a Mid-Carboniferous Boundary Working Group to locate an appropriate stratigraphic section for a boundary stratotype (Lane and Ziegler 1985). After visiting numerous candidate sections in Eurasia and North America, the working group in 1994 chose the appearance of *D. noduliferus* in

the lower Bird Spring Formation at Arrow Canyon for the GSSP, a selection later approved by the SCCS and ratified by the International Union of Geological Sciences (Lane et al. 1999). [For a detailed account of the events leading to the selection of the Mid-Carboniferous GSSP, please read Walter Manger's paper published in this volume.]

Rich's management career started in 1984 when he became supervisor of the Paleozoic Biostratigraphy Group in Tulsa. He definitely was not a micromanager. He set research goals with input from his supervisors and staff and, while keeping track of progress, expected individuals to carry out assignments independently as befitting their positions as research paleontologists. He transferred to the Amoco Houston office in 1988 to become an exploration manager for West Texas and Southeastern New Mexico, where he led a group of geologists, geophysicists, and engineers in devising new Paleozoic exploration strategies for that mature hydrocarbon province. Following the relocation of regional (Denver, New Orleans) and research (Tulsa) paleontologists to the Houston staff in the early 90s, he became the Manager of Worldwide Paleontology and later Director of Biostratigraphic Support and Development before retiring from the company in 1997. In those latter positions he supervised almost 50 paleontologists, geologists, and support staff, and oversaw the development of both the company's worldwide biostratigraphic database and new quantitative stratigraphic techniques to provide relevant technical help for exploration projects. The use of graphic correlation was central to the group's activities, and he conceived and helped organize an SEPM research conference explaining the methodology and application of that technique (Mann and Lane 1995). He was also involved in the formation of the SEPM Research Committee on Quantitative Stratigraphy and organized the Industry Paleontological Managers Group that brought together paleontology supervisors from major oil companies to discuss mutual problems and avenues for cooperation. Even with his extensive managerial duties Rich maintained outside interests in biostratigraphy/paleontology, including a position as vice-chairman of the International Commission on Stratigraphy and chairing the organizing committee for a workshop on 'Paleontology in the 21<sup>st</sup> Century', a look at future directions for the discipline, held at the Senckenberg Museum in Frankfurt (Lane et al. 1997).

Rich finished his career with the NSF, which he joined in 1998 as Program Director for the Sedimentary Geology and Paleobiology Program. In that position he and his staff semi-annually reviewed numerous research proposals and funded more than 1000 of them during his tenure. He was also deeply involved in many other ancillary activities. He helped lead the Advancing Digitization of Biodiversity Collections Program, the Genealogy of Life Program, and the Coastal SEES Program. He was instrumental in supporting the NCED (National Center for Earth Dynamics), the Paleobiology Database, Macrostrat, NEOTOMA, Morphobank, the IEDA (Interdisciplinary Earth Data Alliance), iDigBio, the University of Texas CT-Scanning Facility, the Tree of Life, Chronos, Earthtime, SESAR (System for Earth Sample Registration), the Earth-Life Transition, and the STEPPE office.

He promoted cooperation between the NSF and its Chinese counterpart and created a bilateral workshop on the Critical Transitions in the History of Life between the USA and China that met yearly from 2005–2015. He led an international quali-

fication and assessment in 2003 for the Nanjing Institute of Geology and Palaeontology of the Chinese Academy of Sciences and developed a close relationship with the staff of that institute, with whom he continued his research on conodont biostratigraphy and systematics, especially of assemblages in Chinese candidate sections for Carboniferous stage GSSPs.

Rich was a traveler and a collector. He denied the first but often was on the go, fulfilling his many research and managerial commitments. His travels started early. At age two he wandered alone down the railroad tracks near his house in Danville to visit his grandmother's 2½ miles away, became lost, and was rescued by some older boys who brought him home. Traveling with Rich was always an adventure: sometimes humorous (caught 'stealing' morels near the type Warsaw section in Illinois), generally benign (teaching an English class in a country high school in southern Guizhou Province, China), and occasionally testy (being strip-searched by the *Volkspolizei* when trying to enter East Berlin at Checkpoint Charlie). He was an avid collector of Native American art, having been introduced to the Cherokee genre by Donald Toomey, a research center colleague in Tulsa. His tastes included Southwestern and Inuit pieces, the latter acquired during trips to Alaska and Canada. The walls of his Tulsa, Houston, and Washington homes were comparable to museum displays with delightful discoveries to be found around each corner. He also had a passion for Midcontinent Americana (aka junk-shop finds) collected mostly from towns along the Mississippi River and its tributaries. Though some were judiciously distributed in his city home, the bulk of them were kept in his cabin at Grand Lake north of Tulsa, where they provided many talking points during summer gatherings.

During his graduate school days at Iowa, Rich met and married Sherry Fennell, his wife of 47 years and a major contributor to his success. An accomplished biofeedback specialist, Sherry was a perfect complement to Rich's personality, keeping him organized and on track and enabling his activities later in his career when health problems threatened to slow him down. Their union produced two sons, Chris and Erich. Rich was a devoted father and took an active role in their development (under Sherry's watchful eye, of course). He was an assistant scoutmaster during their Boy Scout years, and as they became older, had them and Sherry join him on his overseas trips to experience firsthand the diverse cultures these travels offered. Rich also took an active hand in shaping their artistic careers after they graduated college in Los Angeles.

First and foremost Rich was a paleontologist. Especially in his NFS days he vigorously promoted the profession with some success to counteract the decline that has overtaken the science in the past few years. As a fitting tribute to his enthusiasm and involvement, the Paleontological Society recently announced creation of the H. Richard Lane Student Research Award to help fund research grants. It is an appropriate way to honor this individual who devoted so much of his career to the pursuit of excellence in paleontology and related fields.

#### ACKNOWLEDGMENTS

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