PIONEERS OF OHIO GEOLOGY: PAUL E. POTTER

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By Mike Angle

People driving along the roadways of Ohio or hiking though our many parks may casually observe alternating layers of sandstone and shale and in some areas of the state, they may also see limestone, coal, mudstones, and conglomerates. The passersby may casually wonder if there is any order to this layering.

Such musings are at the heart of the studies of sedimentology—the deposition of sediments and their lithification into rock—and stratigraphy—the order of rocks and their correlation over distances. For the geologist, as difficult as these studies may be at the land surface where the rocks may be visible, identifying these alternating layers and sequences when the rocks are buried in the subsurface becomes an even more challenging task. In these cases, a geologist must depend on random test holes; oil-and-gas or water wells; or on expensive, complex geophysical seismic surveys, such as those used for oil-and-gas exploration. These surveys typically involve a noise-generating truck or blasting to generate seismic signals that reflect off bedrock surfaces and are recorded by sensors spread out over distances of several miles.

As a young man growing up in Clermont County, Paul Edwin Potter most likely did not realize that he would make such huge impacts on the fields of sedimentology and stratigraphy. He would become not only a pioneer of Ohio geology, but also an internationally acclaimed expert who helped revolutionize our understanding of these disciplines.

Paul was the second son of Edwin F. and Mabel Y. Potter and born on August 30, 1925, in Springfield, Ohio. As a small child, his father, a shoe manufacturer, moved to Cincinnati and then bought a farm in rural Clermont County, about 30 mile east of “The Queen City.” Paul attended a two-room schoolhouse and was enamored with the rocks, creeks, and fossils around the farm. He enlisted in the U.S. Army near the end of World War II and served in the Philippines. Upon his return, he attended the University of Illinois and then the University of Chicago, earning a M.S. and Ph.D. in Geology along with a second M.S. in Statistics. During his time in Illinois, he worked for the Illinois State

Geological Survey. In 1963, he began teaching at the University of Indiana and then in 1971 began teaching at the University of Cincinnati. Once back in Cincinnati, Paul began a close relationship with the Ohio Geological Survey, headquartered in Columbus.

Paul wrote textbooks on both shale and sandstone and was one of the first geologists to research basins. From a geologic perspective, a basin is a low area, typically offshore next to a continent, which receives and accumulates sediments. Over its geologic history, Ohio was influenced by three such basins: the Appalachian Basin to the southeast, the Michigan Basin to the northwest, and the Illinois Basin to the southwest. Dr. Potter was one of the first people to identify that rocks being deposited into basins followed somewhat predictable sequences or cycles. He also found that currents such as those offshore in the ocean, and those produced by rivers and by tides, greatly influenced the deposition of sediments. This research was found to be of fundamental importance not just to academics, but to the petroleum and ground-water industries, among others. Paul became acclaimed internationally and received many prestigious awards for his research and teaching. Yet he remained a humble man, always willing to listen to and learn from others.

Paul retired from the University of Cincinnati in 1992 but didn't stop teaching and mentoring. He taught in Brazil for many years, as well as Mexico and Indonesia. He returned to Cincinnati during the summers and continued to teach and advise students there as well.

Paul remained very active with four state geological surveys—Ohio, Kentucky, Illinois, and Indiana—and greatly valued them. He continued doing research and mentoring employees at all four surveys throughout his remaining years.

Paul studied the geology of the Cincinnati area extensively and was one of the first people to tie the widespread landslide issue of that community to a specific geologic unit, the Kope Formation, a thick, mostly shale unit. He would eventually map the Kope Formation and provide publications describing the impact of landslides in the region.

Paul worked extensively with the staff of the Ohio Geological Survey doing subsurface research on the deeply buried formations of Ohio. He was one of the first geoscientists to determine that the sequences of rocks seen at the land surface could also be interpreted in the subsurface by using the geophysical logs associated with oil-and-gas exploration wells. Paul also had a keen eye for geologic structures, both at the land surface and as deeply buried structures and faults. His discoveries and observations were important to oil-and-gas exploration and waste disposal in Ohio. In his later years, Paul enjoyed visiting the Ohio Geological Survey and talking to the staff to learn what it was working on.

His last publication with the Ohio Geological Survey was a map of the Little Miami River Watershed (Map MG-6), which was published just a few months before his passing on July 4, 2020. Independence Day seemed fitting for one of the few remaining citizens from the “Greatest Generation” that contributed so much to our country, state, and the geologic community.

Both photographs of Paul E. Potter courtesy of TP White and Sons Funeral Home

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