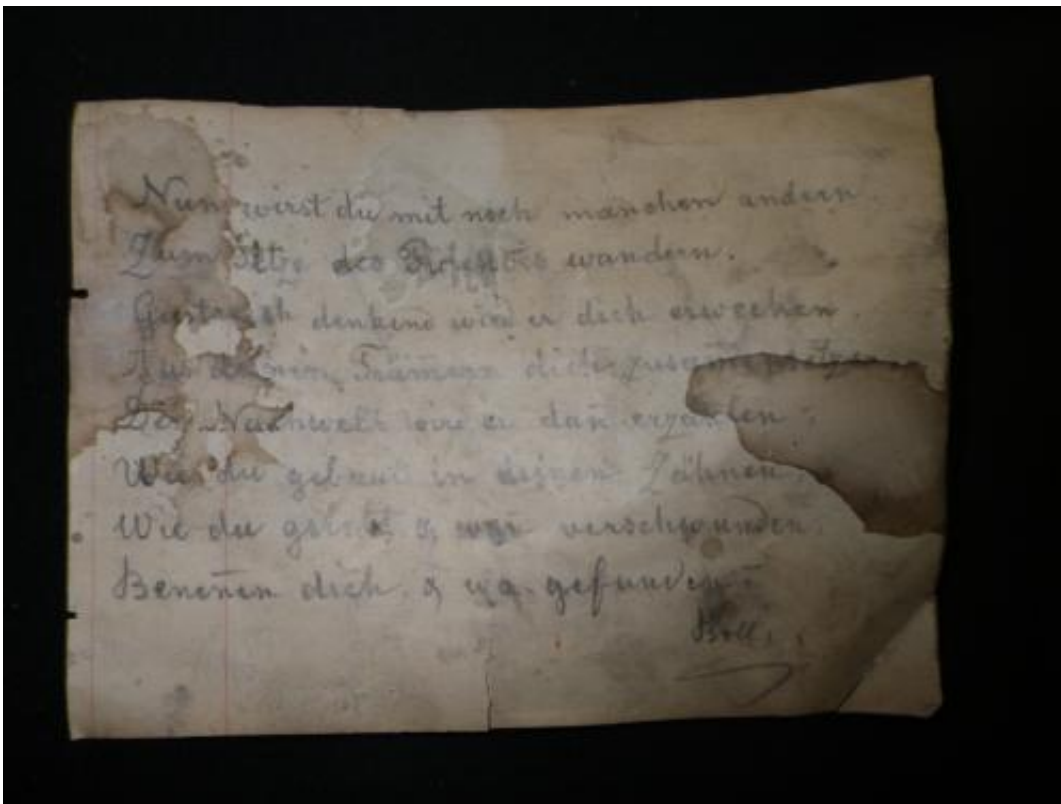


Newly discovered letters and translated German ode expand Texas link to infamous Bone Wars

September 11 2012



Jacob Boll's fascination with fossils prompted him to write in his native German an ode to Eryops, a specimen he found for paleontologist Edward D. Cope. The poem is housed at the American Museum of Natural History on a label on the back of Eryops specimen No. AMNH 4183. Credit: Louis Jacobs, SMU

In the late 1800s, a flurry of fossil speculation across the American West escalated into a high-profile national feud called the Bone Wars.

Drawn into the spectacle were two scientists from the Lone Star State: geologist Robert T. Hill, now acclaimed as the Father of Texas Geology, and naturalist Jacob Boll, who made many of the state's earliest fossil discoveries.

Hill and Boll had supporting roles in the Bone Wars through their work for one of the feud's antagonists, Edward Drinker Cope. A new study by vertebrate paleontologist Louis L. Jacobs at Southern Methodist University, Dallas, unveils new details about their roles and the Bone Wars in Texas.

Jacobs discovered 13 historic letters written by Cope to Hill. Jacobs found the letters in an archive of Hill's papers at SMU's DeGolyer Library. The letters span seven years, from 1887 to 1894.

Hill, who worked for the U.S. Geological Survey, not only provided Cope with fossils of interest but also shared geological information about fossil locales.

As for Boll, he wrote an ode in his native German to an important fossil he supplied to Cope. Jacobs came across the poem in the American Museum of Natural History. He and his co-authors on the study present an English translation of the poem.

Boll, who was a paid collector for Cope—as was the practice at the time—supplied the well-known paleontologist with many fossils from Texas. More than 30 of the taxa ultimately named by Cope were fossils collected by Boll.

"Fossils collected by Boll and studied by Cope have become some of the

most significant icons in paleontology," said Jacobs, an SMU professor of earth sciences.

Jacobs' study, "Jacob Boll, Robert T. Hill, and the Early History of [Vertebrate Paleontology](#) in Texas," is published in the journal *Historical Biology: An International Journal of [Paleobiology](#)* as part of the conference volume of the 12th International Symposium on Early Vertebrates/Lower Vertebrates.

Rush to find fossils explodes during opening of the American West

Jacobs describes the late 1800s as a period of intense fossil collecting. The Bone Wars were financed and driven by Cope and his archenemy, Othniel Charles Marsh. The two were giants of paleontology whose public feud brought the discovery of dinosaur fossils to the forefront of the American psyche.

Cope, from Philadelphia, and Marsh, from Yale University, began their scientific quests as a friendly endeavor to discover fossils. They each prospected the American frontier and also hired collectors to supply them with specimens. Cope and Marsh identified and named hundreds of discoveries, publishing their results in scientific journals.

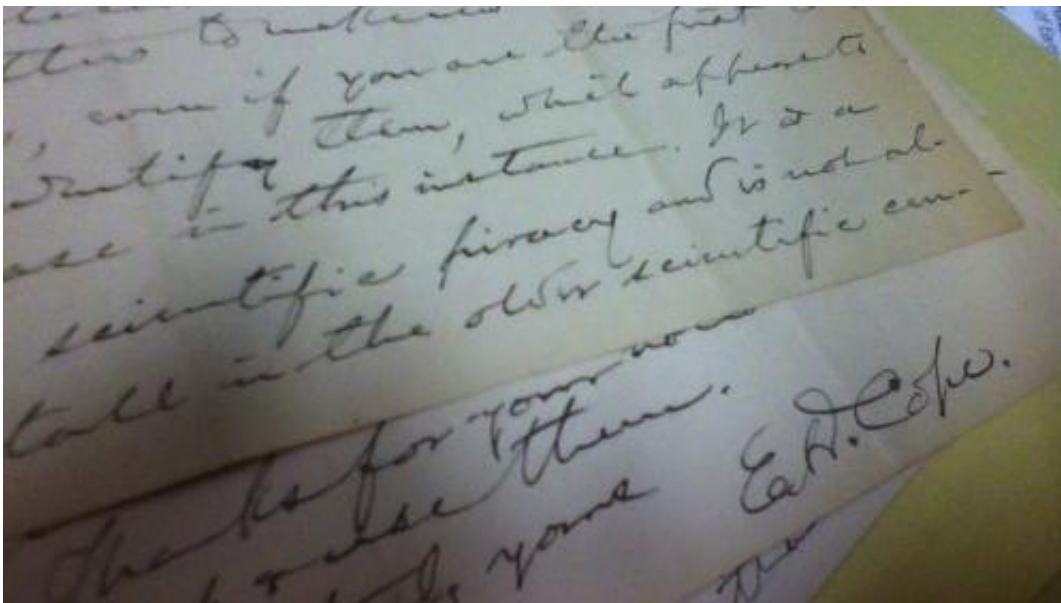
Over the course of nearly three decades, however, their competition evolved into a costly, self-destructive, vicious all-out war to see who could outdo the other. Despite their aggressive and sometimes unethical tactics to outwit one another and steal each other's hired collectors, Cope and Marsh made major contributions to the field of paleontology, Jacobs said.

Hill first to identify and map the Cretaceous geology

in North Texas

Born in 1858, Hill was a teenager when he left Tennessee as an orphan and arrived on the Texas frontier in 1874, says Jacobs' study. Hill settled in Comanche, southwest of Fort Worth, where he went to work for his brother's newspaper, the Chief. After earning a Bachelor of Science in geology from Cornell, Hill was hired as a field geologist for the USGS.

Hill is noted for being the first to identify and map the distinct rock formations in North Texas that correspond to the Earth's Cretaceous geologic period from 146 million years ago to 65 million years ago, Jacobs said. For much of the Cretaceous, a shallow sea cut North America in half from the Arctic to the Gulf of Mexico. Dinosaurs roamed the coastal shoreline and huge reptiles swam the waters, an environment that preserved plants and animals as fossils for posterity millions of years later.



Vertebrate paleontologist Louis L. Jacobs discovered 13 historic letters written by Bone Wars paleontologist Edward D. Cope to Texas geologist Robert T. Hill.

Jacobs found the letters in an archive of Hill's papers at SMU's DeGolyer Library. The letters span seven years, from 1887 to 1894. Credit: Southern Methodist University

Through his reading of the letters, Jacobs found that Cope disagreed with the way Hill named the Cretaceous rock units, and told him so. Cope counseled Hill: "You mustn't mind criticism. We all get it and get used to it; but it isn't comfortable at first."

In subsequent letters, said Jacobs, it's apparent Hill had changed his approach, for which Cope offered him high praise: "I wish to say definitely that your discovery of the lower Cretaceous series in this country is the most important addition to our geology that has been heard for a long time."

Jacobs' research found that numerous letters reveal that Cope was persistent in trying to buy a Cretaceous fish fossil that Hill had collected. In various letters, Cope expresses a desire to view the fossil, each time stating his request in a different way. Hill ultimately sold Cope the fossil for \$15. Cope named the specimen *Macrepistius arenatus*. It is housed at the American Museum of Natural History in New York City.

Hill's fish specimen was one of 1,000 species of backboned animals, from fish to dinosaurs, that Cope described and named in his lifetime.

Also evident in the correspondence is a glimpse into the battle intrigue between Cope and Marsh, Jacobs said. In one letter, Cope angles to learn from Hill details about a new director of the USGS, to judge whether "our ? friend O.C.M." would have an advantage.

Cope wrote to Hill, "Possibly you can find out how the land lies?"

Cope's other Texas connection was through Jacob Boll

Boll was a much larger supplier to Cope and ultimately made significant contributions to the field of paleontology. Boll "is mentioned, usually in passing, in virtually every history of the subject," according to Jacobs.

Born in 1828 in Switzerland, Boll was the first to discover vertebrate fossils in the Permian red beds along the drainages of the Wichita and Red rivers and their tributaries.

"The discoveries opened up an entirely new chapter in vertebrate evolution some 280 million years old," Jacobs said. "Boll's finds include some of the oldest close relatives of mammals whose evolution eventually led to humans."

Boll belonged to one of the Swiss families that founded the mid-19th century utopian society La Reunion in Dallas, Jacobs said. Boll made Dallas his home sometime after 1874. He died in the field in the Permian red beds in 1880 from a snake bite.

At least one scholar has asserted that Cope—to keep the identity of his collectors secret from Marsh—never credited Boll for the Texan's many fossil discoveries. Jacobs, however, found evidence that in 1878 Cope, in fact, did acknowledge Boll's contribution, at least for the big-headed, semi-aquatic amphibian *Eryops*. Cope wrote that the fossil was "found ... by my friend Jacob Boll."

Boll's fossil fascination erupted into a poem for *Eryops*

During a break in his field labors, Boll's fascination with ancient bones

prompted him to write in his native German an ode to fossils. Jacobs came across the poem in the [American Museum of Natural History](#) on a label on the back of Eryops specimen No. AMNH 4183.

SMU biology professor Pia Vogel translated the poem. Vogel and Jacobs worked with SMU English professor John M. Lewis to capture in English the ode's original poetry.

"Now you will with some few others

Trek to the professor's seat.

Awakened through his careful thought,

Be reassembled from your fragments,

To tell to others yet to come

From the sculpting of your teeth

How you lived and disappeared,

Name you he will, and what he found."

While Hill and Boll were linked by their relationship to Cope, it isn't known whether the two of them ever met, according to Jacobs.

"Hill and Boll both made major contributions to frontier science at an important time in American history," Jacobs said. "They may have been nearly forgotten, but their lives have influenced much that came later."

Provided by Southern Methodist University

Citation: Newly discovered letters and translated German ode expand Texas link to infamous Bone Wars (2012, September 11) retrieved 26 April 2024 from <https://phys.org/news/2012-09-newly-letters-german-ode-texas.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.