Our Little Dinosaur in Mongolia

For many years, intrepid members of the Cornell faculty have been shepherding Cornell alumni, families, and friends on far-flung expeditions sponsored by Cornell’s Adult University (CAU). In August 2001, Richard McNeil, professor emeritus of natural resources, and his former student Shel Severinghaus, who for many years served as representative of the Asia Foundation in Mongolia, led 25 people on CAU’s first study tour to Mongolia, the land of Chinggis Khan and dinosaurs. This essay, written by Severinghaus and two fellow Cornellians, describes a special moment in the Mongolian outback. For information about upcoming CAU programs on campus and abroad, log on to <www.cau.cornell.edu>.

There we were, just the three of us, bent over at our waists, eyes scanning the parched ground, inching our way down a crumbling gulch in a scorching-hot, blinding-white sandstone escarpment in the Gobi Desert. A relentlessly blistering sun hung in a brilliant blue sky overhead—the bluest blue you will ever see. It was hot. And it was dry. So dry that we didn’t even sweat in the 100-degree temperature.

What were we doing? Well, what else does one do in the Gobi at mid-day in August? Of course, shuffle along bent at the waist looking for 70-million-year-old dinosaurs who just might be lying around somewhere. Gary had brought a shovel from our vehicle, so the three of us were ready for bear or, rather, dinosaur.

In a few minutes, Joe spotted what appeared to be some bone chips lying on the sandy surface of the gulch. Might they be the remains of a dinosaur? And how do you tell the bone of a dead dinosaur from that of a dead goat or sheep which litter the Gobi anyway? Easy: you do the “taste test” by touching the bone to your tongue. If it sticks to your tongue, it’s a dinosaur. If it doesn’t, it’s not.

We did the taste test. The bone chips stuck—a bit sandy and not much taste after 70 million years, but they stuck. Shel started brushing off the sand at the surface. He figured if there were so many bone fragments lying on the surface, maybe there were more beneath. Then Gary came in with the shovel and he began shoveling off, ever so carefully, the top layers of sand. Then we all paused and started using our fingers very delicately to dig deeper.

We noticed the sand in the area where we were digging was grayish, but in surrounding areas it was white. Strange. Then, all of a sudden, our fingers hit something hard in the gray sand. And it wasn’t a rock. Well, the three of us lay down on our sides on the sand around our 3-foot-diameter excavation site. We kept brushing and scraping away and blowing at the sand around the object to expose it. Gradually a leg bone emerged from the sand. And it stuck to our tongues. Have you ever kissed a dinosaur?

We kept excavating with our fingers, following the gray sand and trying to see where that one leg bone might lead. We were sure we were onto something. Then another leg bone began to appear. More gentle excavating with our fingers and moving the sandy debris to the side in a small mound led to a widening pit. Shortly after that, good grief! A rib cage emerged, and then shortly after that the pelvis revealed itself. Everything passed the taste test. We were thrilled, exhilarated. It was a dinosaur.

During those moments of discovery, the three of us felt like kids playing in a huge natural sandbox with real dinosaurs. We were lying on this scorching, sandy gulch, uncovering a wonderful creature, a creature that no human had ever seen alive and which was 70 million years old.

This was no ferocious Tyrannosaurus rex like you see in the movies. It was a humble Protoceratops dinosaur, as identified by Chimed, the experienced, robust, and colorful Mongolian paleontologist who accompanied us on this adventure. Protoceratops was the first of a genus of small dinosaurs with horns on its forehead. It was the size of a sheep. This species had only one horn on its forehead (hence the name “Proto”). It had a long tail and short legs and walked close to the ground. Chimed drew a picture of it in the sand for us. Later species of this genus (including one in the United States) had two or three horns on the forehead.

We are not complaining about finding such a small creature. The three of us had found our own little one-horned dinosaur and were enthralled with the discovery and the whole process.

We didn’t have the time to excavate our whole dinosaur so, in the end, we buried it again, perhaps for another 70 million years, in the parched, dry, and scorching sandstone escarpment in the Gobi with the relentless sun above. In some ways, it was a bit sad. It was like saying farewell to an old friend. And, indeed, our friend was old!

Gary Marshall ’64 (ALS)
Shel Severinghaus ’62 (ALS)
AM ’64 (A&S), PhD ’77 (ALS)
Joe Compton ’41 (A&S)