Eagle Nest Canyon
On the Trail of Ancient Southwest Texans

Dr. Stephen L. Black is an assistant professor of anthropology at Texas State University, and is concentrating his research efforts on the Lower Pecos Canyonlands on the northeast edge of the Chihuahuan Desert. He shares his story here.

Ancient Southwest Texas (ASWT) is an ongoing long-term research program Black launched in 2009 with the broad aims of improving our understanding of the prehistoric human record of southwestern Texas and adjacent northern Mexico; sharing what we learn with the scholarly community and the public; and training the next generation of archaeologists.

In January 2014, ASWT launched the Eagle Nest Canyon (ENC) Expedition. The ENC project is a multi-year program investigating the human and natural history of Eagle Nest Canyon and conserving the canyon’s archaeological sites for future generations. The project is a collaborative endeavor led by Black in partnership with the Skiles family, the Shumla School, and contributing scientists, students and volunteers.

It is late afternoon and I sit in the mouth of Eagle Cave staring at the towering cliff face across Eagle Nest Canyon. To my left the boulder-strewn canyon floor rises in twists and turns before it reaches Bonfire Shelter, scene of spectacular bison kills 12,000 years ago and again 9,000 years later. To my right I see the mouth of Eagle Nest Canyon, where it joins the Rio Grande. I can’t see the river, but the rugged terrain in the far background is in Mexico. As the cliff turns dull orange and echoes the setting sun, I ponder the links between what lies buried beneath my feet and the faded images painted on the wall behind me.

Eagle Nest canyon is a mile-long box canyon that drains into the Rio Grande just below Langtry, the small border town where Judge Roy Bean once enforced the “Law West of the Pecos” from his courthouse saloon, the Jersey Lily, which visitors can still see at the Roy Bean Visitor Center. Local historian Jack Skiles, head of the family that owns and protects the canyon, ran the center for many years and wrote the book *Judge Roy Bean Country* (Texas Tech University Press, 1996).

The canyon lies within what archaeologists call the Lower Pecos Canyonlands, or simply the Lower Pecos. Here, just below the southwestern edge of the Edwards Plateau, the Pecos and Devils rivers carved deeply incised limestone canyons that drain into the Rio Grande between Del Rio and Langtry.
Eagle Cave

Unbeknownst to most, the region has a remarkable world-class archaeological legacy left by the ancestors of today's North American Indians. The Lower Pecos is renowned for its dry rockshelters and caves, which native people used for millennia as witnessed by vivid pictographs and thick deposits of well-preserved habitation debris ranging from basketry and sandals, to food remains and coprolites (dried feces). Perhaps most striking is the amazing rock art – polychrome compositions painted in mineral pigments as early as 4,000 years ago. Rock art panels, some quite vivid, some faded, are found in many sheltered places in the region, such as Eagle Cave.

Eagle Cave is a huge rockshelter used as a temporary home and work station for more than 8,000 years. Technically, caves are deeper than they are wide and rockshelters are the other way around, but ranchers call them caves. Eagle Cave is about 100 feet deep and 200 feet wide, and its ceiling rises 50 feet above the floor. Over time cultural deposits over 10 feet thick accumulated — plant remains, animal bones, ash and spent cooking stones — amid which many kinds of artifacts are found. Most of this material was carried bit by bit into the shelter by the hunters and gatherers who frequented Eagle Nest Canyon for so many generations.

Dozens of students have taken part in my research here in the Lower Pecos over the past several years through archaeological field schools and research expeditions like the one now underway. My students and I are using modern scientific methods to better understand the long history of the small-scale societies who called the Lower Pecos home for millennia.

Cutting-edge approach

I work in tandem with Dr. Carolyn E. Boyd, adjunct professor and executive director of the Shumla Archaeological Research and Education Center, a non-profit organization headquartered in nearby Comstock. A preeminent rock art expert, Boyd is pioneering new systematic scientific approaches to documenting and studying the pictographs of the Lower Pecos. Although dirt and rock art archaeology are traditionally seen as separate research domains, we are taking a more integrated approach. While Boyd and her team study the images painted on the walls, my team focuses on what is beneath the ground using many of the same research techniques. The painted walls and the buried occupational layers share more in common than most people realize.

A key method for both is the use of high-resolution digital photographs to precisely document what we find using a cutting-edge photogrammetric approach known as Structure-from-Motion. Briefly put, we use dozens or hundreds of overlapping images to create extremely precise graphical
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gradual decay all organic materials undergo. What makes a dry rockshelter different is that decay takes many centuries, and the stratigraphic complexity is much more apparent.

**Radiocarbon dating**

Unraveling the layers beneath the surface of an archaeological site is the everyday task of the dirt archaeologist. After we get back to the lab we can use radiocarbon dating to find out how old each layer is and how much time elapsed between occupations, and specialists help us identify bones, plants, and even insects. But in the field we are exposing and recording literally hundreds of layers, some less than one inch thick. Keeping track of these layers and of the many samples we take requires a sophisticated documentation and accounting system. Increasingly we are using tablets and other digital devices to supplement and hopefully replace our paper notes and directly enter the data into our database. This process is conceptually easy, but operationally tricky in a dusty cave where cellphone reception doesn’t exist.

The rock art team uses a surprisingly similar stratigraphic approach to unraveling the sequence in which a pictographic panel was painted. Boyd uses a handheld digital microscope hooked to a laptop to see which painted line was painted over another. To her surprise she learns the ancient painters followed a rigid sequence — black lines and symbols were always painted first followed by red, then yellow and finally white. This is one of the reasons Boyd argues the 4,000-year-old Pecos River Style rock art panels were quite deliberate, well-planned compositions that visually communicate how people saw the universe and their role within it. These paintings are, Boyd argues, “the oldest surviving books in North America.”

As our research progresses, our archaeological teams strive to read the painted walls and unravel the distorted layers left by the very same hunter-gatherers some 4,000 years ago. While some like to think of these research domains as sacred vs. mundane, we suspect the ancient southwest Texans saw Eagle Nest Canyon as part of a fascinatingly coherent world. Gaining meaningful insight into that world is our goal.

— Steve Black

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