Exploration, Discovery, Documentation, Preservation

Explorer • Scientist • Archeologist

Editorial: Jill Heinerth
Photography: Wes Skiles

The catalyst behind countless great discoveries is not the scientist or the archeologist, but rather the explorer — the individual or group of dedicated individuals who spend innumerable hours and personal finances just for the thrill of discovery. Large universities, government grants, and private investors do not fund these individuals. They are the typical, hard working, Monday through Friday individual with a couple of odd jobs on the side to assist with their uncontrollable habit.

This irrepressible desire is not learned; it is genetically installed at birth. To forcefully contain this drive or attempt to prohibit these individuals from seeking their obsession would be akin to taking away an artist's canvas, a photographer's camera, or a wild animal's territory.

Since the beginning, mankind was nomadic — chasing the seasons across the planet. He explored, wandered, and extended his tribe around the globe, investigating almost every inch of dry land and leaving only the most challenging environments untouched. With the development of technology, man opened up otherwise impervious realms, and for the first time in the history, the whole world became accessible, both above and below the surface.

For all of history, humanity lived alongside and depended on the natural waterways for survival. All major civilizations were constructed within arms reach of a water source. But along with man's quest for prosperity came loss, destruction, and death. Man has either lost or intentionally discarded much of his possessions beneath the water's surface either by acts of nature, human tragedy, or even intentional sacrifices.

After the advent of SCUBA, divers gained a reputation for being scavengers — raping and pillaging the oceans and natural waterways for personal glory and financial gain. Scientists, archeologists, and government agencies shunned the recreational explorer because of

their belief that the common diver was not capable of offering intelligent assistance.

Today, cave and wreck divers are forging a different path by getting involved in science and fostering a better understanding of our environment and human history. More and more explorers are working closely with scientists, archeologists, government agencies, and private foundations on projects that combine efforts in synergistic relationships.

Because of their dedication to the sport, technical divers often have tools and experience that agencies lack. The ability to safely push the envelope further, dive deeper, discover new places, and retrieve previously unrecoverable items make technical divers an important asset to science at the extremes.

In May of 1999, *Advanced Diver Magazine's* publisher, Curt Bowen, coordinated a cave diving expedition to Mexico's Yucatan peninsula. The goal was to explore and document as many new cenotes as possible during a ten-day excursion.

The Yucatan peninsula is a unique place. Sixty-five million years ago, the real estate of our planet was dramatically rearranged in a cataclysmic event that changed the course of evolution forever. When the Chicxulub meteor struck Earth it burrowed a 30-mile deep gaping wound in the Gulf of Mexico, vaporizing debris through a hole in the atmosphere and out into orbit.

The event was so grand that it caused the immediate demise of the great dinosaurs, as much of the planet was shrouded in fires and dust, choking out life. But, when one door closes another seems to open. And at that remarkable point in life history, tiny mammals tipped the balance and began to seize a foothold on the planet — ensuring the eventual rise of mankind.

Now, in the shadows of Chicxulub rests a circle of openings leading to a labyrinth of underground rivers and caves harboring untold secrets about the history of the Earth. Deep beneath the limestone bedrock, the blemish caused by Chicxulub reaches its tendrils to the surface leaving a pockmarked ridge that we now call the Ring Cenotes. Of the two to three thousand holes that we can view from space, only a handful has been explored, thus leaving a lifetime of work for cave explorers to uncover and document. It may well be the most promising undiscovered subterranean territory left on earth.

Early one morning, a Mayan guide took Bowen's team to an

abandoned hacienda not far from base camp. Built in the early 1800's, these haciendas were enormous plantations overflowing with thousands of employees growing and producing the world's supply of sisal.

The production of this natural rope required vast quantities of freshwater, thus many of the haciendas were built directly above cenote
openings — a prime target for new exploration.

In the center courtyard of the hacienda was a raised platform surrounding the main well shaft. Closer examination proved that deep below the opening was a large subterranean cavern filled with cobalt blue water. Team member Scott Carnahan was lowered into the well for a quick reconnaissance. Within minutes he returned with promising news of a large dry cavern zone, deep water, potential underwater cave passage and lots of animal bones and pottery.

Team members Merika Jasper and Curt Bowen grabbed survey reels and slates and rappelled into the cenote. Tying off to the large pile of rocks located 70 feet below the well opening, they swam towards the perimeter in hopes of finding unexplored passage. While scanning the cave floor for pits, the team discovered an unusual pile of bones. Closer inspection revealed a practically complete human skeleton and a few pottery shards. Excited about this unusual find, the team examined the surrounding area closer, charting eleven additional skeletons and an assortment of broken and intact pottery. Several skeletons appeared to have sloped foreheads, betraying their origin as Mayan. In an ancient custom of beautification, Mayan children's heads were bound tightly between boards and cloth at birth in order to flatten and elongate their heads.

Once the team returned to the United States, Curt Bowen contacted film producer/explorer Wes Skiles about the discovery in hopes of inspiring a film documentary and supporting suitable archeological excavation. In addition to being a talented photographer and high definition film producer, Wes had the contacts to connect the right archeologists and organizations with the project.

After scouting the site with Bowen in June 2001, Skiles and filmmaking partner Jill Heinerth set out to secure the proper permits with INAH (Mexico's National Institute of Anthropology and History) representatives in Mexico. Their interest was to fund a multi-disciplinary scientific team from Mexico that would study the submerged artifacts of the sites that Bowen and his colleagues had discovered. With support from *National Geographic Magazine,* Skiles

and Heinerth set out on a seven-month odyssey of phone calls and trips to secure the trust and participation of the INAH crew. In the eleventh hour, it took a personal visit with INAH Director, Pilar Luna to secure the final permission, thus allowing the expedition to take place.

Even as twenty scientists with truckloads of equipment began arriving in the state of Yucatan, there were doubts about the level of interest in Bowen's well site. But as the cave diving team began to reveal the site to the scientists from INAH, their interest peaked.

The mysterious well could in fact change the way anthropologists look at the Mayan civilization. Far from the great temples and ancient cities, the Maya are hardly a lost race. They live on in rural places like this practicing religion and ritual in their own way. Archaeologists had spent plenty of time excavating temples and palaces, but never revealed the life and death rituals of the rural Mayan farmer.

As local residents relentlessly pumped water from the well, the high tech team of paleontologists, underwater archaeologists and anthropologists descended to the shadowy depths unraveling a great mystery of how these people lived and how they died. Debate continues, but it is clear so far that the science team has uncovered evidence of accidental death, ritual burial, and even human sacrifice. In one remote niche, the exploration divers led scientists to a chamber containing more than one body placed carefully in a funerary position with simple offerings that were meant to accompany the lost soul through the difficulties of the underworld.

But this well of time is revealing much more than the most exciting new discoveries about the Mayan people in recent times. Beyond colonial ceramics and bones of Mayan farmers, lie undisturbed mud deposits containing evidence of flora and fauna that predate human occupation of the region. Extinct horses, camel bones, and llamas were excavated for further examination by paleontologists. Beyond those depths, a biological team led by Dr. Tom Iliffe began a systematic hunt for the oldest living fossils on the planet. His goal, to collect and catalog creatures that survived unchanged for more than 65 million years.

Principal investigator Arturo Gonzales brought a unique new approach to work on site. A preservation lab was hastily constructed at the hacienda well, allowing select artifacts to be surfaced, catalogued and then replaced in the cenote for ultimate preservation. Since artifact conservation is beyond the budgets of most expeditions, Gonzales brought the scientists to the field where they could study and document finds in a fast-track examination that made the most of the precious

time on site. Twenty days on location can fuel a lifetime of work for an anthropologist and INAH's five-year plan is to create an Atlas of cenotes in the Yucatan that will yield scientific articles, books, films, and eventual exhibits of recovered materials. But those goals will only be realized with the help and cooperation of future explorers.

The facts are clear. Technical divers should be recognized for their pioneering efforts in exploration and scientists have a right to study their national heritage and culture without fear of losing the integrity and context of artifacts. Debate continues to rage in the community, but the writing on the wall is obvious. Although some cavers fear closure of sites after reporting the presence of artifacts or significant ecology, it is critical that we improve cross-communication and convey our eagerness to guide and support science where scientists cannot reach. Synergy between scientists and explorers will open access to purposeful cave diving rather than limit it. Without that cooperation, our community will be branded as unwilling to support the better understanding of the environment and its wonders. The cave diving community must step up to improve the perception of our value to the scientific community and governmental agencies.

The successful exploration of Bowen's cenote has now been documented in the annals of *National Geographic Magazine* (October 2003) as a prime example of how exploration guides science. The remarkable Well of Time has done more than just reveal secrets about ancient Mayan burial practices. It will serve as a model of how two communities can work together in a synergy that allows the best technology and imaginations to meet the best scientific minds.

Project Payoffs

Archaeology:

- First cenote ever found with articulated bodies
- Definitive evidence of human sacrifice (the finest and most complete skull recovered from a cenote and perhaps the finest example recovered dry or wet that shows clear evidence of decapitation and removal of the flesh from the skull)
- Evidence that some people may have been sacrificed by throwing them in alive and letting them drown.
- Discovery of a burial chamber containing an elderly man and a young person with a pot with a dog and bird skull inside that gives clear evidence that it was placed in the cenote intentionally as a ritual burial. (This skeleton was the most complete articulated Mayan skeleton ever recovered underwater.)
- Discovery of Pleistocene animal bones, some which are now extinct

(camel, extinct horse, jaguar, and llama)
- First study of the largest underwater deposit of Mayan bones ever found (Cenote Las Calaveras at Punta Laguna)
- Discovery that periods of drought drastically affected the landscape and lives of the Mayans
- Discovery of definitive evidence that Mayans used cenotes as Houses of the Dead or mortuary deposits

Biology:
- Discovery of live relic organisms within the Ring Cenotes region that predate the extinction of the dinosaurs
- Collection of new species

Exploration diver's accomplishments:
- Assembly of the most diverse and talented multi-disciplinary team of scientists and explorers ever brought together
- Discovery of unexplored caves within the Chicxulub crater rim, teeming with life and information about the hydrogeology of the region
- Discovery of significant cenotes filled with human bones and artifacts
- Exploration of the first mangrove and sea caves on the North Coast of the Yucatan peninsula