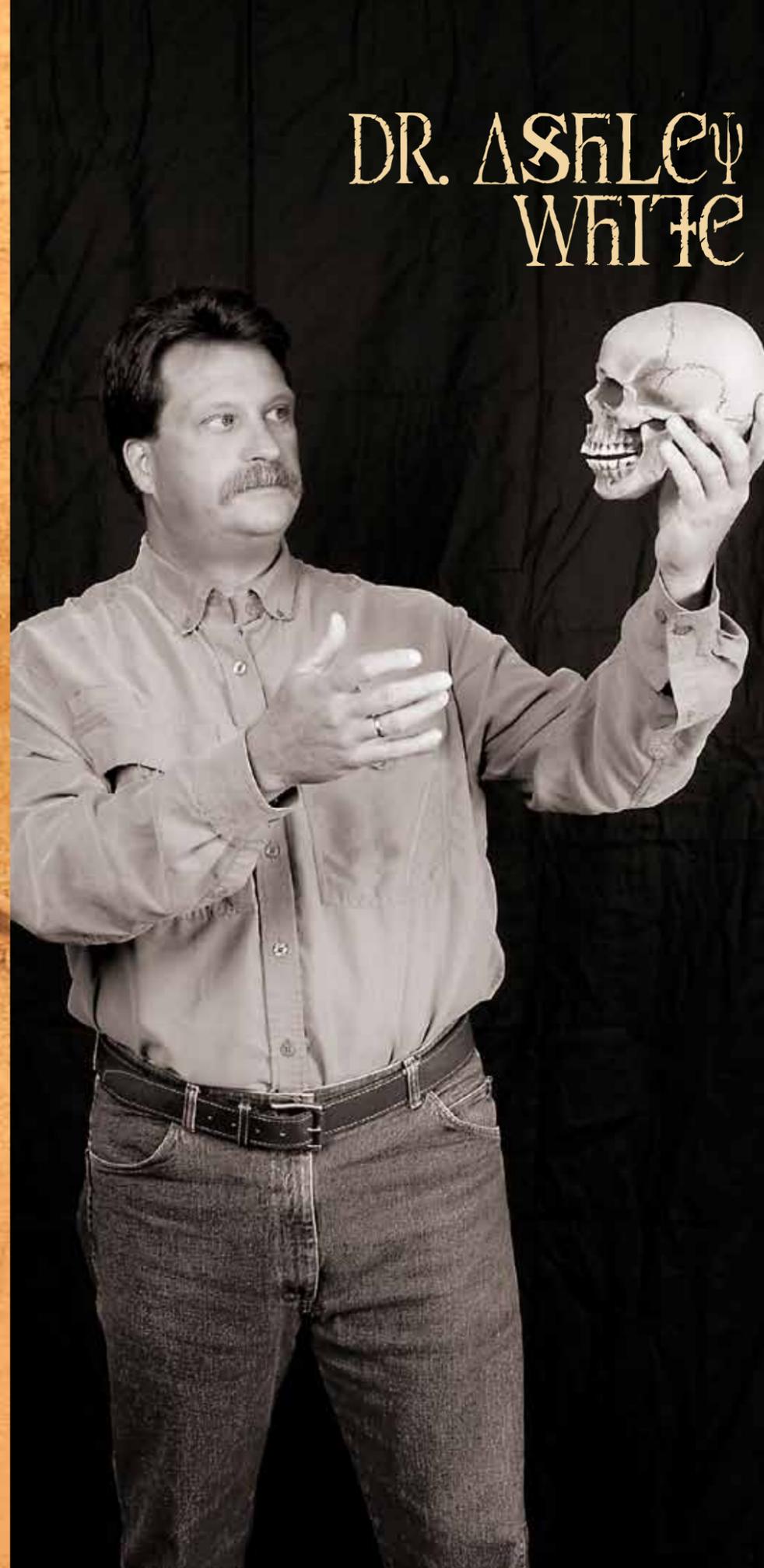


THE BONE COLLECTORS

FOR PALEONTOLOGISTS AND ARCHAEOLOGISTS, THERE IS MUCH MORE THAN ACADEMIC SIGNIFICANCE TO EACH DISCOVERY. WHETHER IT IS THE VERTEBRAE OF A LARGER-THAN-LIFE ANCIENT SNAKE, SIX MILLION SETS OF HUMAN REMAINS IN THE CATACOMBS OF PARIS, OR THE REMAINS OF A FETUS IN AN ANCIENT EGYPTIAN VESSEL, THESE TREASURES OF THE PAST SERVE AS A SIGNIFICANT REMINDER THAT HISTORY DOES IN FACT REPEAT ITSELF. LET THE ADVENTURE BEGIN.

STORY BY:
SASHA FIELDS

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DR. ASHLEY WHITE

WITH AN OMINOUS “GOD WILLING” murmured by the Egyptian guards and a drawn map handed off as they unlocked the gate, Dr. Ashley White entered the ancient Egyptian necropolis with his wife, Michele, and son, Ethan, who was just 10 at the time. Even while crawling flat on his stomach, White could feel the burial walls abrading his back. Through the maze of tunnels he saw no opening ahead and instead found himself face-to-face with a rat, which meant that cobras slithered nearby.

This is a typical summer for Ocala-based archaeologist, surgeon and author Dr. Ashley White.

For the past 20 years, White has utilized his skills that he honed as a pathologist to travel to 22 countries, studying and chronicling plague cemeteries, mummies and ancient documents.

After graduating from East Carolina University with a degree in biochemistry and a deep fascination in the history of plagues, he attended the University of North Carolina at Chapel Hill for the dental surgery and pathology graduate program. He explained that at the time, there was a tremendous shortage of medical examiners in North Carolina. The dual program allowed him to complete the surgery program, learn how to identify human remains and excavate crime scenes. After graduating, he began spending his summers in various countries, following his passion for plagues.

White’s travels put the adventures of any fictional protagonist to shame. He can’t begin to count the number of plague cemeteries that he’s been in. Yet his view of the world is remarkably simple — divided into “the old world” and “the new world.”

In 2006 in the Catacombs of Paris, which house more than six millions sets of remains, White ventured into areas with deep, moving water, evading any animals for the good of his craft.

After 20 years of adventure, his work has been compiled into a groundbreaking book, “Physical Signs in Medicine and Surgery: an atlas of rare, lost and forgotten physical signs.”

White said that the book explains signs and symptoms of plagues and other diseases based on the study of ethnohistoric documents along with human remains.

He described a particular document from a mission priest in Florida in 1590, which chronicled a person who got pustules and then died just nine days later. Small pox and measles have similar presentations, he said, and it would be wonderful to know more.

“If you want to prevent these future things,” he said. “There needs to be more data on the past.”

Though the scholarly benefits, including skeletal indicators of diseases that can help archaeologists better understand a culture, are undeniable, it's this deep understanding of diagnosis that can save lives in situations where computers and other medical equipment are unavailable.

"That's kind of been my goal ... [to] try to clear up the epidemiology of these things," he said.

But despite White's scientific background, he sees much more than lab results and data. His fatherly heart overshadowed his medical mind as he described walking through the desert in Peru in 2008 with brisk winds washing away the sand to reveal mummified children — hundreds of them.

He said that although it is unimaginable to him as a parent, child sacrifices were common during the 15th century, and the purest, most gifted children were often taken from their families to parade around neighboring villages and then killed, often with a pet, such as a baby llama. It was an honor to be chosen.

While there are some burial rituals that can be explained, others remain a mystery. White described small mummy bundles dating between 1450 and 1480 also found in Peru, just south of the Ecuadorian border. The bundles, which were no more than two to three feet in diameter, contained bodies that were folded up to resemble a ball. Then, mysteriously, another smaller ball, void of human remains, was attached to it. The exact reason for this is unknown, although pigment has been discovered on a few of the mummies, suggesting that a face may have been painted on.

Throughout all of White's travels, it wasn't moving water, cemeteries, catacombs, mummies or rattlesnakes that were the most foreboding. In June 2007, White and his family were staying in a tent camp at the border of Kenya and Somalia when they felt the Earth move. He described the eerie sight of the dust rising three feet off the ground.

White, along with the other travelers, questioned if it was a stampede. They soon discovered that the U.S. military had launched Tomahawk cruise missiles from a submarine, which struck an al-Qaeda-inhabited neighboring village. All that remained of the village was a hollow crater.

In the past three years, he has traveled to more than 17 countries, but one of his most remarkable discoveries was waiting for him in his own backyard.

White, along with his wife and his son, discovered the exact location of 16th-century Spanish explorer Hernando De Soto's encampment in Marion County, right along Orange Lake on one of their ranch properties. While De Soto's travels throughout Florida and even Marion County were previously known, the exact location of his 1539 camp was not.

In 2005, a series of hurricanes and tropical storms helped uncover a 17th-century structure, which was from the mission of San Buenaventura de Potano. Although White had found a coin 500 yards from the structure, on the edge of Orange Lake, the structure had White focused on the mission site from 2005-2009.

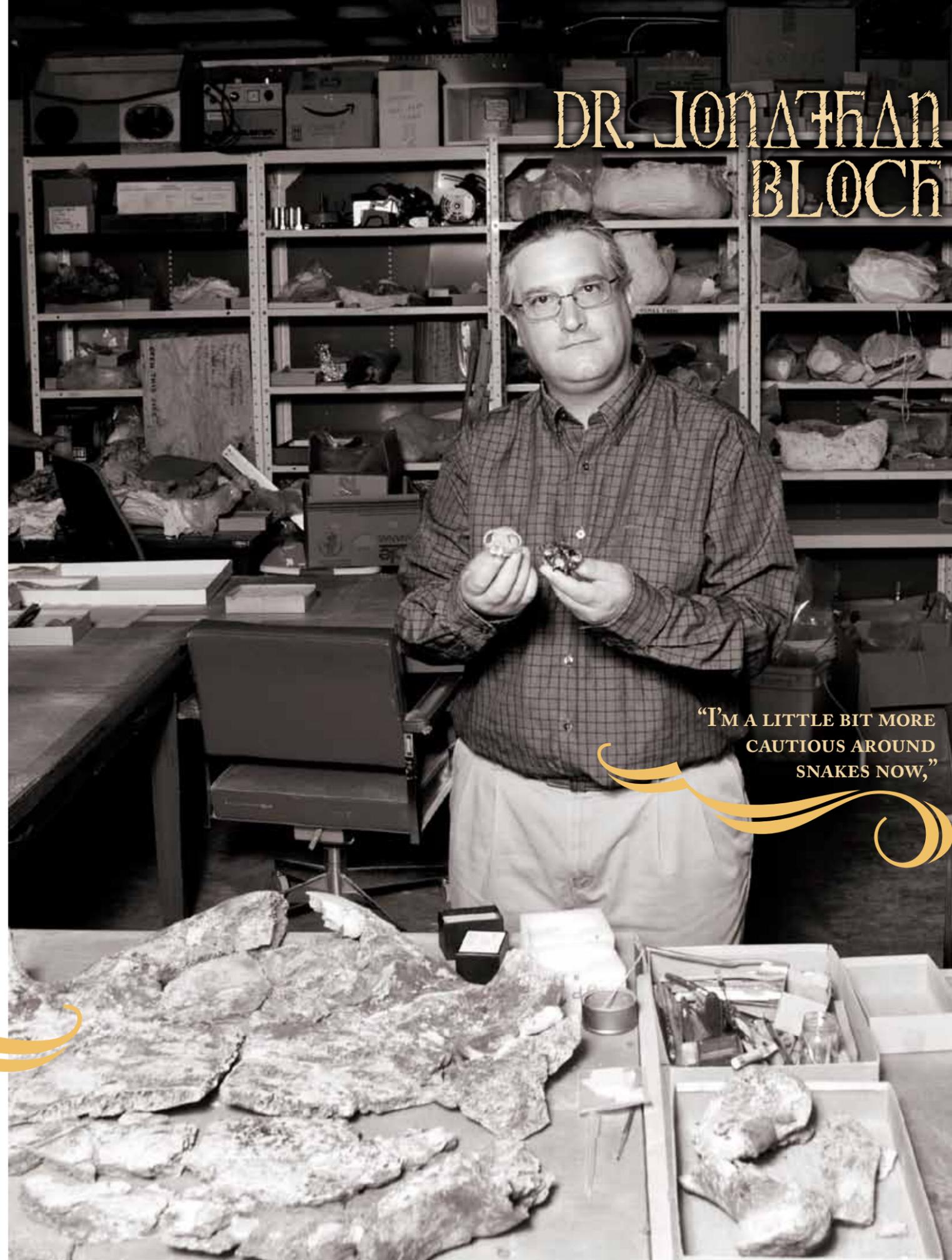
In 2009, White decided to excavate the site where he had previously discovered the coin. It was there that they also discovered Murano glass beads, Ferdinand and Isabella coins, chain mail armor and a pig's jaw.

It is this collection of artifacts that helped solve part of the De Soto puzzle.

"See, we know for a fact no Spanish brought pigs to the new world other than Hernando De Soto," he said. "Just him."

White hopes that the artifacts will be put on display for the public during 2013, which celebrates Florida's 500th anniversary. Despite more than two decades of travel, White is still very much like DeSoto, an avid explorer ready to change the world.

"It's just fascinating ... just to see the world," he said. "The world doesn't become smaller to me. It becomes bigger."



DR. JONATHAN BLOCH

"I'M A LITTLE BIT MORE CAUTIOUS AROUND SNAKES NOW,"

IN DR. JONATHAN BLOCH'S OFFICE, the fossilized jaw of an ancient "bear dog," a 20-million-year-old extinct carnivore from the Panama Canal area, rests beside his computer. On the wall is an illustrated image of *Carpolestes*, one of the earliest primates with a nail instead of a claw, which Bloch helped to discover and identify. While seated at his desk, he pointed to his calf to reveal a rather ordinary scar. But like so many bones and biological specimens that are housed in Dickenson Hall, which is part of the Florida Museum of Natural History on the University of Florida campus, behind a rather ordinary exterior is an extraordinary story.

The scar, Bloch said, is from a visit to study anacondas in their natural habitat in Venezuela. It was there that a 10-foot anaconda rose out of the water and bit him in the leg, leaving a tooth lodged in his calf and a number of infections to overcome.

Bloch, an associate curator of vertebrate paleontology at the Florida Museum of Natural History, gave the tooth to his son, who just turned 9.

"I'm a little bit more cautious around snakes now," he said.

Although Bloch, who received his doctorate in vertebrate paleontology from the University of Michigan in 2001, has spent the majority of his career studying the evolution of mammals, it was his discovery of a rather large snake that caused an unexpected media frenzy.

The snake, *Titanoboa cerrejonensis*, lived approximately 60 million years ago and was the largest predator on Earth for more than 20 million years. It was approximately 48-foot long, which is a conservative estimate, and would have been far larger than the snake that chased after Jennifer Lopez in the film "Anaconda."

Bloch held up a vertebra from *Titanoboa*, which was roughly the size of a small dinner plate and then compared it to a silver dollar-sized vertebra of a modern, 17-foot anaconda.

When the bones of *Titanoboa* were first discovered in 2004 in a Colombian open-pit coal mine, Bloch and his fellow scientists thought they were collecting parts of an ancient crocodile.

This wasn't disputed until Alex Hastings, who was one of Bloch's graduate students at the time, studied the bones and he, along with other UF students, determined that these bones belonged to a snake.

"It was a very exciting moment for them and for me because it became insanely obvious right away that this was bigger than any snake that had ever been found before," he said. "My imagination went crazy because

...WALKING THROUGH THE DESERT IN PERU IN 2008 WITH BRISK WINDS WASHING AWAY THE SAND TO REVEAL MUMMIFIED CHILDREN — HUNDREDS OF THEM.

the biggest snake that we had in our reptile collections was a 17-foot-long anaconda.”

Bloch initially estimated that the snake could have measured upward of 100 feet in length and was admittedly disappointed when that number was chopped in half.

But his disappointment subsided when a colleague explained that Titanoboa would have struggled to fit through the doorway of his office.

As fascinating as this discovery was, Bloch said that these attention-grabbing finds provide a gateway for scientists to teach a new audience about the bigger picture.

Bloch is very interested in the Paleocene-Eocene Thermal Maximum, which occurred 55.8 million years ago and was one of the most dynamic periods of mammalian evolution. Within a 10,000-year period, there was the first occurrence of many modern-day mammals, including primates and ungulates.

During the Paleocene-Eocene Thermal Maximum, the Earth experienced a global warming similar in some ways to modern climate change. Bloch explained that based on the current projections, the Earth could look very different in 300 years and return to “greenhouse” instead of “icehouse” conditions, meaning that there might not be

any ice on the poles. Based on what he and his colleagues have learned from the fossil record, this would likely lead to changing geographic ranges of plants and animals, but what does it mean for humans?

“It might not seem so bad if you’re just talking about armadillos or something like that,” Bloch said. “But now think about infectious diseases ... many tropical diseases are pretty horrifying.”

But Bloch explained that in the 1990s, many scientists began studying climate change because that was where the funding was. As a vertebrate paleontologist, he was encouraged to connect his research with this hot topic of global warming.

But what began as a need for funding has developed into a lifelong passion. Scientists have used fossils to help predict how plants and animals might respond to future climate change, resulting in data that can be used to inform predictive climate models. Many cold-blooded species, such as the Titanoboa, became large and mammals, such as horses, became very small — the size of a dog and even smaller.

“Since then I’ve become very passionate about using fossils to understand these kinds of questions that are important to society,” he said. “I believe that the fossil record liter-

ally represents natural experiments that were run for free in the past with regards to how climate affects life on the planet. It’s our job as paleontologists to go and collect the results of those experiments out of the rock using hammers and picks”

Although Bloch spends his summers abroad in places such as Colombia, the Panama Canal and the Bighorn Basin of Wyoming, he’s equally excited to take students to search for fossils right here in Gainesville. He knows that not everyone has the same innate fascination with fossils and the planet, but that the discovery of Titanoboa and other larger-than-life animals will encourage others to learn more about the Earth’s past, present and future.

“It does give you a little bit of a hook,” he said. “As an educator, as someone associated with natural history museums, my job is to try to use things like that to teach.”

An exhibit featuring a full-scale model of Titanoboa, the fossils, and clips from a Smithsonian Channel documentary, “Titanoboa: Monster Snake,” will travel to the Florida Museum of Natural History and will be open to the public from Jan. 26, 2013 through Aug. 11, 2013.

DR. LESLIE HAMMOND

FOR DR. LESLIE HAMMOND, FOUNDER and president of Artistic Eye Fine Art Services of Ocala, the past and the present constantly overlap.

Like when she visited Egypt as a graduate student and walked the same streets as her grandparents, who were world-traveling missionaries.

Or when she watches the news and knows that the same global conflicts that make headlines each night have spanned more than a millennium.

But it is when she is working as an archaeologist in the field that the past truly comes alive.

In Egypt in 1995, Hammond worked as an illustrator at Abydos, a cemetery site located about two and a half hours north of Luxor. At Abydos, she drew artifacts and helped an osteologist excavate one very unique vessel, which housed the remains of a fetus.

It is discoveries like these that reinforce Hammond’s passion for her work. One single item can give the world a detailed look at the cultures of the past. She explained that

the most significant aspect of the ancient Egyptian culture was the preservation of bodies for the afterlife — in a vessel, pyramid, tomb or pit in the ground.

“Every artifact or remain tells us something about a human life or a human culture or how they existed or survived,” she said. “And that to me is the basic thing that I’m most fascinated with is how the material culture can tell us about those people and how they lived.”

Hammond, who received her doctorate in art history and archaeology from the University of Missouri in 1998, is currently spending her summers in Greece at the sanctuary of Zeus on Mt. Lykaion, which

is located on the modern-day mountain of Agios Elias. According to Greek mythology, it is the birthplace of Zeus, god of the sky and ruler of all gods.

At the Mt. Lykaion site, she is responsible for cataloging and analyzing the artifacts that are collected each day. It is a role that she described as the “nuts and bolts” of the operation.

She explained that when the project began in 2004, the team of experts anticipated finding a typical site for the Classical period, which encompassed the fifth and fourth centuries B.C. They expected to find a sanctuary, an athletic complex and civic buildings, but they found that and much more.

The team found artifacts that dated back

“IT’S AN ADVENTURE, BUT ACTUALLY IT’S VERY LABORIOUS, IT’S VERY TEDIOUS, IT’S A VERY SLOW PROCESS. IT TAKES A LOT OF PATIENCE AND AT SOME TIMES IT CAN BE VERY LONELY.”

THE TEAM FOUND ARTIFACTS THAT DATED BACK TO PREHISTORIC TIMES — 3000 B.C. THE ASH ALTAR OF ZEUS...

to prehistoric times — 3000 B.C. The ash altar of Zeus, which consisted of artifacts and animal but not human remains, provided an even deeper understanding of the culture’s values, beliefs and day-to-day life.

But Hammond explained that this is very much a living site, and ancient texts suggest that they could very well find human remains.

“That’s what makes this site so different and so exciting and so unique for me even after all these years of working in the field,” she said. “This kind of unexpected find that we’re uncovering here has never happened in my experience before.”

In addition to her work in the field, Hammond also spends her time as a museum professional, with more than two decades of experience in private and public museums. She is also an Accredited Senior Appraiser of fine art and an instructor, sharing her love for art and archaeology with younger and older generations.

Hammond said that identifying herself as an archaeologist often evokes a sentiment of mystery and adventure — where Indiana Jones always escapes from the pit of snakes unscathed. Although she has been on planes that have caught fire and others that were evacuated due to bomb threats, she said that it can actually be a very solitary lifestyle.

“Everybody thinks it’s exciting,” she said. “It’s an adventure, but actually it’s very laborious, it’s very tedious, it’s a very slow process. It takes a lot of patience and at some times it can be very lonely.”

Throughout her travels, she has also gained a very open-minded view of the world. During her first trip abroad to Turkey in the late 1980s, she got off the plane to find rows of men with large guns strapped to their chests. It was very shocking, she said, but it was and still is the norm for many foreign countries.

“For us in the United States, we’re not surrounded by that kind of unrest,” she said. “We’re very blessed to not typically have that on a day-to-day basis. But once you realize that that’s just the status quo and how things work there, then it’s not that big of a deal.”