

Areni's Treasures for Humanity

Archaeology is the combination of history, geology, biology, chemistry, physics, linguistics and anthropology mixed in with adventure, travel, danger and excitement. It is the fusion of the characters Sherlock Holmes, Jack Sparrow and Indiana Jones. Archaeologists are detectives of hidden treasure – not always the kind that glitters. In this case, the treasures were the oldest shoe and oldest wine installation ever found.

Text **Ani Garibyan**

During the Cold War, in the late 1970s, the Soviet Ministry of Defense commissioned a broad investigation of caves across its vast territory in order to find caves that could be used in case of a nuclear war – ones that would withstand a nuclear attack. In Armenia, the work was assigned to the National Academy of Sciences of Armenia, under the supervision of then First Vice-President of the Academy Professor Sergey Hambardzumyan. The team of researchers was organized by the Armenian Geographic Society and consisted mainly of geologists, including the late Professor Soghomon Balyan and Hovannes Azizbekyan. Also with the team was Dr. Gregory Areshian who is currently the Assistant Director of the Cotsen Institute of Archaeology at the University of California at Los Angeles (UCLA). The team surveyed and mapped many caves in the Arpa River Valley, including the Bird's Cave, presently known as the cave complex Areni-1. In their research, Azizbekyan discovered an ancient wooden bow in the cave Magil, dating back to the 8th century A.D., which is now displayed in the National Museum of Ethnography at Sardarapat, Armenia. Upon this discovery, the group knew that both Magil and Areni-1 kept many secrets of human past. “There are many interesting caves in that region which are probably even more promising than Areni-1” says Areshian.

“Though all of us knew that there were ancient remains in Areni-1, the main credit for what the future of Areni-1 was to present goes to Dr. Boris Gasparyan,” says Areshian. Gasparyan is a researcher at the Institute of Archaeology and Ethnography of the National Academy of Sciences of Armenia and was first to collect stone artifacts in the late 1990s Areni-1 cave in 2003.

The Beginning

In the late 20th century, groups of international archaeologists began an intensive search for the earliest ancestors of humankind in the Southern Caucasus. The area became popular among archaeologists because the oldest remains of human ancestors outside Africa were found in Southern Georgia dating back 1.7 million years. In Armenia, a team comprising Dr. Ron Pinhasi of the University College Cork, Ireland; Dr. Keith Wilkinson of the University of Winchester, United Kingdom; and Dr. Boris Gasparyan began exploring Areni-1 in 2007.

The beginning of fieldwork became possible thanks to a generous donation from the Gfoeller Foundation, USA. In the first days of excavations, Areshian's former student, Firdus Muradyan opened a hard crust formed by sheep dung under which gray and painted pottery, together with incredibly well-preserved organic remains, was discovered. The team understood that what they found was very unique. But because it was not part of their initial Old Stone Age project, Dr. Pavel Avetisyan, Director of the Institute of Archaeology and Ethnography of the National Academy of Sciences of Armenia, together with Gasparyan, invited a team from the Cotsen Institute of Archaeology at UCLA guided by Areshian, who is an expert in late prehistory, to join the excavations of the Areni-1 cave complex. ▶



Life: Branyan

↑ Director of the Cotsen Institute Charles Stanish (left) and Dr. Gregory Areshian.

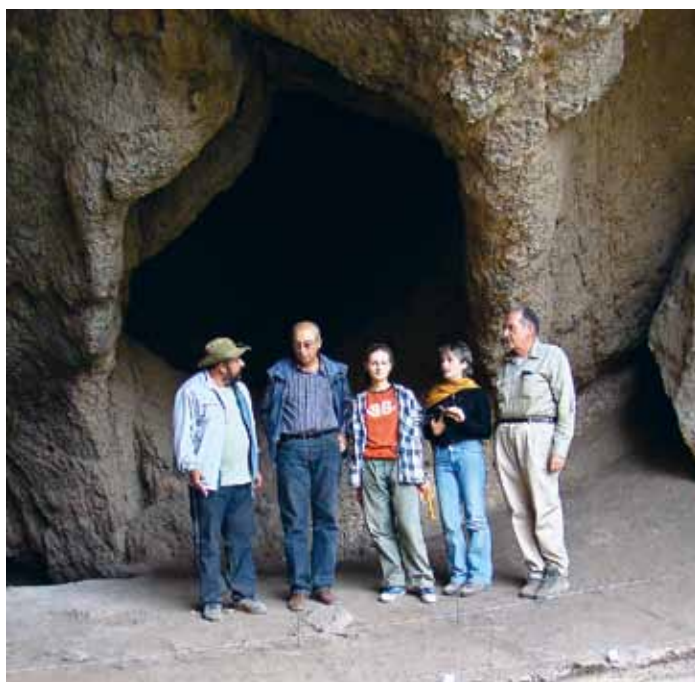
Dr. Gregory Areshian

Areshian began his excavations at a very young age. When Areshian was 10 years old, archaeologist and Armenologist, Professor Boris Piotrovsky – a friend of his parents and later his mentor – took him on the excavations of the Urartian city at Karmir-Blur near Yerevan.

He graduated from University of Yerevan and received his Ph.D. from the Saint-Petersburg (formerly Leningrad) Institute of Archaeology of the Academy of Sciences of the USSR.

Some of his U.S. colleagues see Areshian as an anthropological historian who spends a lot of his time doing archaeological excavations and other research that connects archaeology with linguistics and natural sciences.

↓ 2007 – the first year of excavations at the Areni-1 cave complex.



→
The 6,000 year-old winery was found in Areni.



The Shoe

Grasping that the cave contains great scientific and cultural reaches, the internationally formed team (which is co-directed by Dr. Areshian, Dr. Gasparyan and Dr. Pinhasi) began to deepen and expand the excavations uncovering wonderfully preserved remains dating back to the second half of the Copper Age (4200 – 3500 B.C.E.) – a little known time in human prehistory. The team also includes internationally renowned academics and professors: botanists from the United States, Armenia and Georgia; pottery experts from Russia and Israel; specialists in ancient metallurgy and animal remains Germany and Israel and biochemists from the United States. Human remains are studied in Ireland; radiocarbon dating is done at Oxford University and at the University of California, Irvine; and DNA analysis of the grapes is conducted in Holland. A large number of graduate and undergraduate students from Armenia, the United States, Ireland, and other countries participate in the project. The Areni-1 cave complex consists of various naturally formed galleries, passages, halls, and niches, “though we do have evidence that some passages were broadened or reshaped by men,” says Areshian. “Deep in the Central Gallery we first found a desiccated grape vine and grape seeds dating back 6,000 years, along with other unique artifacts,” continued Areshian. As they dug deeper near the entrance of the cave, Diana Zardaryan, a graduate student at the Institute of Archaeology and Ethnography of the National Academy of Sciences of Armenia made a discovery of a lifetime. As she held it in her hands, it slowly began to sink in, that she was holding the oldest shoe ever found in the world – a leather, closed-toe shoe. “I just remember how my teammates noticed my puzzled expression and asked what was going on, and I simply answered: ‘Guys, my dream has come true.’ They understood what had happened and gathered around me trying to believe their eyes. The first person, besides the people who worked with me in the cave, to know about that discovery was my mom. I called her immediately to share my feelings,” says Zardaryan, “It could have been anyone of my colleagues who could have found the shoe that day.”

“Boris and I had a feeling of disbelief and amazement when we saw the shoe,” says Areshian. It is important to understand that in the past 100 years, archaeologists have excavated dozens of Copper Age sites from China to Central Europe. But none have contained such well-preserved finds as Areni-1. Artifacts made of perishable materials are poorly preserved in layers of clay and trash that form those settlements. “What is most important about Areni-1 is that organics, such as fruits, grass, wood, leather, skins, and basketry are exceptionally preserved, because of dry conditions, absence of fungi, stable temperatures, and absence of looting,” explains Areshian. Compared to the sudden finding of the shoe, excitement around other discoveries build up only gradually.

The Winery

Once the team learned that the grape seeds and desiccated vines they found dated back 6,000 years, they hoped to find more. Soon after that a grape-crushing press was excavated and, finally, in the lowest part of the press a jar used as a vat was discovered.

“What was intellectually exciting about these findings was that different sciences independently came to the same conclusion,” says Areshian. Three series of studies based on different methods were conducted by botanists, archaeologists, and biochemists, independently one from another. The last strokes of brush to the image of this discovery were added far away from Areni – in the Passarow Mass Spectrometry Laboratory at UCLA by Dr. Hans Barnard, Professor Kym Faull, and Alek Dooley. Analyzing residues on samples of pottery found at the pressing installation in the cave, they discovered traces of malvidin, the pigment that gives red wine its color. The results from all three sciences came to confirm that this is the oldest site of a developed wine production. Hans Barnard said: “That such a fully developed winery existed in this early period indicates that there must have been much older, less-developed installations that simply have not yet been discovered.” Along with the winery, jars and drinking cups were found. By the end of the excavations in 2010, the researchers came to the conclusion that the cave was not a place of habitation 6,000 years ago. Instead, it was a cemetery where they identified within the excavated space at least 25 structures related to human burials. The cave probably contains hundreds of such structures and wine production was ritually connected to those burials. Future research may confirm that wine was produced here for burial rituals. The latest remains of the Copper Age found in the cave date approximately to 3,500 B.C.E. The cave was abandoned around that time, probably due to a major earthquake.



Armenian National Academy of Sciences

The collaboration between the Institute of Archaeology of the Armenian National Academy of Sciences and the Cotsen Institute of Archaeology established two field schools in Areni and Dvin. Undergraduate students come from universities and colleges in the United States, Armenia, and other countries. More than 20 students

participated in 2009 and 2010. These students not only help with excavations but also learn about Armenia's history, culture and language. They also tour Armenia and receive UCLA credits toward graduation. In ten years, as these students take on high level tasks in their careers, they will always remember their time in Armenia.



Areni

To get to Areni, your drive is quite short from Yerevan. The trip will take a little bit more than two hours, as it's less than 70 miles, but the drive is well worth it. The road to Areni will take you to Noravank Monastery and to Jermuk's springs. Taking that road you witness changing landscape including an amazing view of Mt. Ararat, sights of gushing rivers, unique rocky mountains, splendid orchards, vineyards, and green hills.

↑ Stanish taking photos in the gigantic mouth of the Areni-1 cave complex.

↓ Graduate student Diana Zardaryan with a 6,000-year-old drinking bowl.

What's Next

Since the team established the fact that Copper Age people did not live in the caves, but used them for ritual purposes, the question must be asked and answered: where are the remains of their villages or towns. The area or Areni along with its caves and adjacent parts of Arpa River Valley will be surveyed in order to understand how this highly complex and advanced society lived. The region is one of the least archaeologically studied in Armenia. Continuation of research on burial rituals may bring us to the understanding of what kind of religion the inhabitants practiced. For now, however, the team needs to focus on publishing their findings.

"The single biggest deficiency that we archaeologists are guilty of is not publishing our findings in a timely manner" says Areshian. "These amazing discoveries would never have been possible without the generous support of the National Geographic Society and the Steinmetz, Chitjian, and Boochever foundations located in California." concludes Areshian.

An abandoned cave deep in the mountains of one of the world's smallest countries – Armenia – has brought forth two finds that astonished the world. Over 500 media outlets covered these findings in just few days, more than anything else that had happened in Armenia.

These discoveries have put Armenia on the world map and have confirmed its importance to the understanding of the history of its people and mankind. It's only a matter of time to see what will be discovered next. ■

