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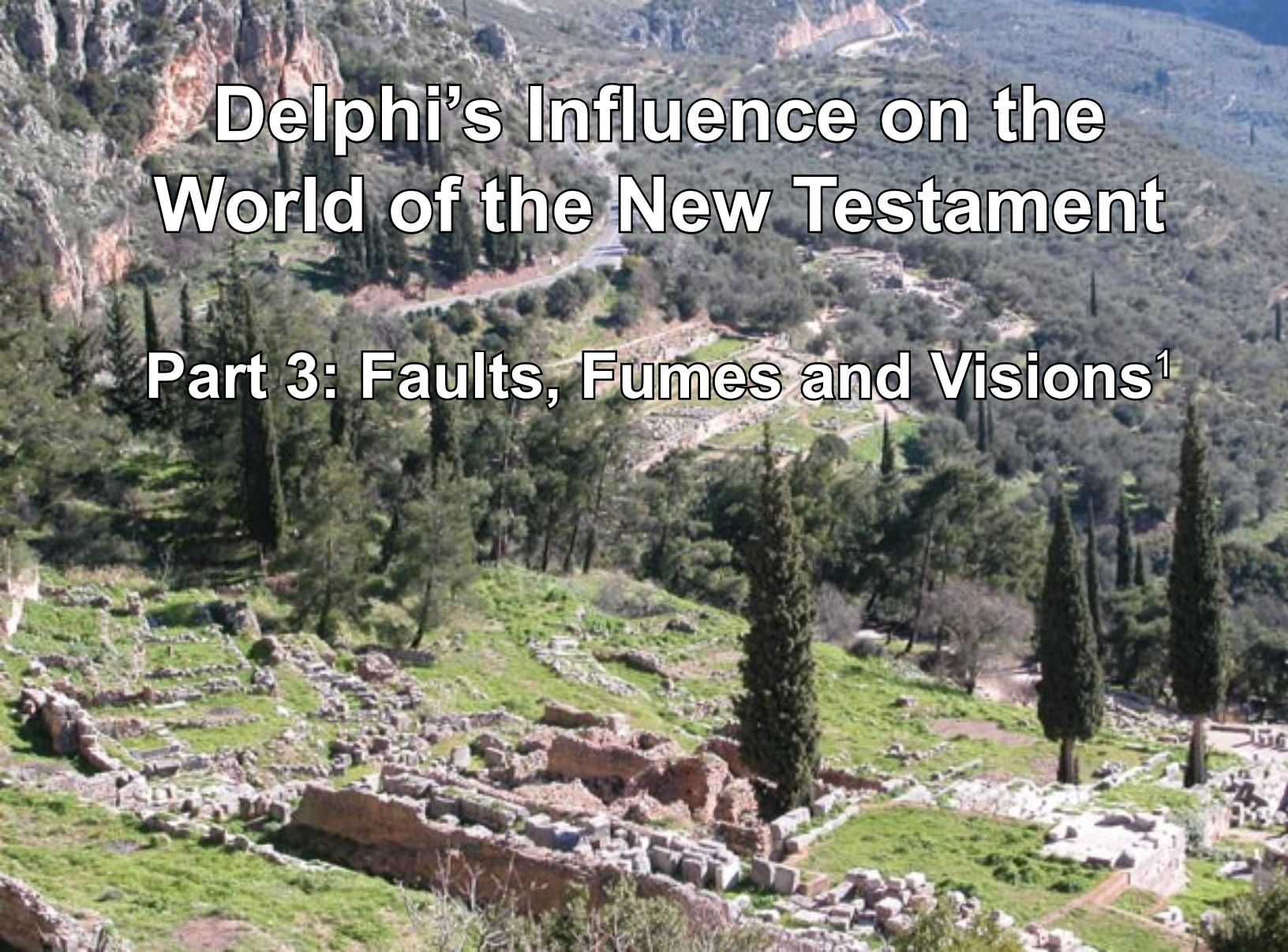
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Delphi's Influence on the World of the New Testament

Part 3: Faults, Fumes and Visions¹



□
View of the valley of the Pleistos River from atop Delphi.

By Ernest B. McGinnis

For thousands of years, the ancient Greek city of Delphi has provided mankind with as many tantalizing questions as it has answers. As far back as the Roman period, men of science have questioned the validity of the oracular spectacle provided by the Pythia, the priestesses of Delphi, as they prophesied in their maniacal ecstasy. By the 20th century, archaeologists and historians concluded that the stories of the Pythia were either wildly exaggerated, or the Pythia were in fact thespians of the grandest sort. It was not until a chance “meeting of the minds” in a small tavern outside of Delphi in 1995, that once and for all the truth behind the Pythian spectacle was solved. In this article, we shall explore the scientific and psychological backdrop to one of history’s greatest mysteries, and the questions it poses to the interpretation of Paul’s first letter to the Corinthian Christians in AD 52.

Fumes or Fairytales?

William J. Broad, a writer for the *New York Times*, wrote in

2002 of a “ground breaking” discovery at Delphi, which changed the way scholars viewed the oracular shrine of Apollo located there. Broad noted,

Modern scholarship long ago dismissed as false the explanation that the ancient Greeks gave for the oracle’s inspiration: vapors rising from the temple’s floor. They found no underlying fissure or possible source of intoxicants. Experts concluded that the vapors were mythical, like much else about the site (2002).

However, as Broad reported, a geologist, an archaeologist, a chemist and a toxicologist have combined their expertise and have shown the ancients to be correct.

The region’s underlying rocks turn out to be composed of oily limestone fractured by two hidden faults that cross exactly under the ruined temple, creating a path by which petrochemical fumes could rise to the surface to help induce visions (2002).



□

The temple of Apollo. Built upon crossing fault lines, it exposed the Pythian priestesses to vapors which put them into an ecstatic state.

What this team found was that the fumes rising forth from beneath the Tripod—a high chair with three long legs, set atop a natural crevice on the temple floor, upon which the Pythia sat—were ethylene, “a sweet smelling gas once used as an anesthetic. In light doses, it produces feelings of aloof euphoria” (Broad 2002). These scientists have thus confirmed the historical accounts of the ancient writers, who indeed claimed the Pythia’s ecstasy was a direct result of the same chasm in the earth where ancient legend claims the shepherd Coretas and his herd of goats was overcome by hallucinatory gases flowing forth from the mouth of Gaia.

The story of this profound discovery is as interesting as Delphi itself. Dr. Jelle Zeilinga de Boer, a geologist, was invited to Delphi in 1981 to assist the Greek government in assessing the region’s suitability for building nuclear reactors. Dr. de Boer’s job was to search out hidden earthquake faults that might disrupt a nuclear site (Broad 2002). While attending to his duties Dr. de Boer discovered a fault, which had been hidden by hills until their recent removal to carve a roadway. As he traced this

new fault he found that it linked to a known fault, which he discovered was partially hidden by rocky debris, yet appeared to run directly under the great temple of Apollo (Broad 2002). Dr. de Boer had assumed that this observation was made earlier and thus was of no great value.

However, in 1995 at a chance meeting with Dr. John R. Hale, an archaeologist, Dr. de Boer learned that his discovery was just that—a discovery. The following year, the two scientists returned to the site to survey the city and study regional maps of Greek geologists. Broad’s reports note the findings from this trip:

These revealed that underlying strata were bituminous limestone containing up to 20 percent blackish oils. “I remember him throwing the map at me,” Dr. Hale said of Dr. de Boer. “It’s petro-chemicals!” No volcanism was needed, contrary to the previous speculation. Simple geologic action could heat the bitumen, releasing chemicals into the temple ground waters (2002).

The investigations into this matter continued into 1998, when the two scientists discovered yet another fault, running north-south under the temple. Their final conclusions noted,

the dry springs were coated with travertine, a rocky clue suggesting that the waters had come from deep below. When hot water seeps through limestone, it leaches out calcium carbonate that stays in solution until it rises to the surface and cools quickly. The calcium carbonate can then precipitate to form rocky layers of travertine (Broad 2002).

Finally, Dr. Jeffrey Chanton, a geochemist from Florida State University, analyzed the travertine samples found from dry springs near the temple and the temple foundation, and found methane and ethane, each able to produce altered mental states (Broad 2002).

The findings of this team have in recent years changed the way scholars view the ancient records dealing with Delphic ecstatic speech. They have shown conclusively that, in fact, ecstatic and wild behavior did accompany the giving of oracles at Delphi. This information helps to solidify our regard for the ancient sources as well as “define” ecstatic speech, by allowing us to gain knowledge of the effects the ethylene vapors had upon the Pythia.

Prophecy, Tongues, and the Power of Suggestion

All this raises a related question concerning prophecy and speaking in tongues in the New Testament period. Can we connect their manifestation in any way to the Pythian oracles? They did not also involve hallucinatory gases, did they? What are we to say of the pagan girl mentioned in Acts 16:16 who had apparently mimicked the Pythia’s “future-telling” behavior, yet despite that also speaks God’s truth about Paul? What of the related issues in the Corinthian church that prompted Paul’s corrective instruction in 1 Corinthians chapters 12–14? Certainly Corinthian Christian home churches were not also built upon fault lines carrying ethylene, causing tongue speakers and prophets to fly into maniacal fits. It could be said that our answer lies not in geology, but rather in a combination of psychology (the power of suggestion) and God’s sovereign works of revelation.

The definition of “suggestion” can be described by terms varying in levels of intensity, such as “hypnosis,” “indoctrination,” “worldview,” and simply “cultural expectation.” The power of suggestion has been used in areas ranging from release from chemical addiction to cult loyalty, psychotherapy, religious beliefs, and even such simple things as political affiliations.



□ is Oracle cave built into the foundation of the temple at Delphi.

The power of suggestion need not be defined merely as psycho-supernatural, but is a general part of human existence in the context of community beliefs and norms.

There are several forces that induce suggestibility. The first of these is auto-hypnosis, which is a mechanism within the human brain by which one disassociates oneself from the reality of the world in which they find themselves. This type of suggestion is found within patients suffering from DID or Multiple Personality Disorder, and is used to develop alternate personalities as a method of escape from tremendous fear, pain or abuse. The second force that induces suggestibility comes from another individual, and is best seen in incidents of hypnosis. Within the context of this form of suggestion, an individual is placed into a highly relaxed and thus suggestible state of mind for the purpose of therapy. Finally, the third form of suggestibility comes within



□

Delphi's Castilian Falls. On this site, the Pythia would ritually bathe prior to taking their place in the temple of Apollo.

the context of culture. It is here where such influences as culture and worldview come into play, and it is also here where I find the root of the Corinthian problem.

In this form of suggestion, cultural norms and accepted worldviews influence the mind of someone living within a community, thus altering their patterns of behavior, belief and response, resulting in manners acceptable to the culture and community. This form of suggestion is the most indirect method of the three, and yet the most pervasive. It is through cultural suggestion that we learn acceptable manners by which we live within the context of our community, affecting such everyday behavior as appropriate responses, familial relationships, love relationships, community involvement, work ethics, acceptable religious beliefs and practices, personal hygiene, language, etc. This form of suggestion, though powerful, is learned over time and experience. Though indirect, its influence directly pervades all aspects of behavior and thought.²

It was this form of suggestion, which shaped the worldviews of first century people, that Paul found himself battling against in many of the churches he founded, including Corinth. I would

suggest that the Corinthians viewed inspired speech in terms of their own culture and thus, through the suggestion of their culture, practiced tongues in a manner that was appropriate to their community. This kind of suggestion is not limited to the first century Christian debate over the spiritual sign-gifts. In the recent book, *American Exorcist* by Michael Cuneo (2001), we find similar situations of divisiveness due to the power of suggestion as found in various churches and denominations. Cuneo provides countless incidents of “inspired speech,” “prophecy,” “deliverance or exorcism,” and other sign-gifts being practiced in diverse forms from other groups, and oftentimes in direct contradiction to one another.

From his travels around the country over a two-year span, Cuneo shares encounters with “demon possessed” people who always react to their predicament in a manner matching how the community expected someone with a demon should act. In some cases “demonized” people were quiet and calm, responding to their exorcist as though they were simply conversing over a cup of coffee at Starbucks, while others flopped about on the floor, screaming obscenities, and vomiting forth their demons.



□

Sunrise view of Delphi and the Corinthian Sea.

The unifying factor in all his encounters was that each person responded to their predicament in a fashion acceptable to their church or group. Through suggestion, each person learned how he or she should act, by simply watching and learning how others around them acted—a clear case of the power of suggestion.

This same kind of behavioral influence could have penetrated the Corinthian understanding of divine speech. As pagan Corinthians living only 30 miles away from Delphi, they had learned through suggestion exactly how one should act when delivering inspired speech from a deity. Though the hallucinatory gases did not reach all the way into Corinth, the power of suggestion certainly did, and the result was exhibiting divine speech in a fashion that was acceptable to their community. It can be suggested that, at least in some cases, through subconscious influence, these early Christians could have believed mania accompanied tongues or prophecy, witnessed others exhibiting their gift in such a manner, had the imbedded worldview of inspired speech planted within their own minds through experience and cultural learning, and thus exhibited it in a manner likened to that of the Pythia of Delphi.

Conclusion

In conclusion, while the geological and psychological findings answer the physical questions posed by the happenings in Delphi so many thousands of years ago, the larger and more important spiritual questions remain. In future articles we shall explore other connections between Delphi and Corinth, including temples, games, politics, commerce and religion, as

well as clues provided within the pages and language of the New Testament books of Acts and 1 Corinthians.



Notes

¹ This article is a continuation from Part 2 of this series, published in the Spring 2007 issue of *Bible and Spade*.

² Much of the information on suggestion is based off of an interview with Dr. John Kelley, Co-Professor of the course "Issues in Spiritual Warfare" and Director of the Biola Counseling Center, Biola University, La Mirada, CA. However, all conclusions are my own and are neither supported nor denied by Dr. Kelley.

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Ernest McGinnis holds two Master's degrees in Systematic Theology and New Testament Language and Literature from Talbot School of Theology, Biola University. He has served as a pastor and currently teaches high school history. He has studied Biblical archaeology in Greece, Rome and Malta. His academic focus is Greco-Roman backgrounds to the New Testament.

Mount Ararat

Archaeological Survey

By Professor Dr. Cevat Başaran, Assistant Professor Dr. Vedat Keleş, and Rex Geissler

Brian McMorrow

Great Ararat and Little Ararat aerial view with the Aras (Araxes) River Valley (international border) in the foreground looking southwest.

Introduction

One of the most important and mysterious subjects that has remained from antiquity to this day has been the Flood of Noah, along with the views of where the Ark and those in it came to rest. We find various views about the Flood of Noah not only in the holy books representing the three great religions (Lewis 1984: 224), but also in almost all the important cultures of antiquity, in ancient sources (Montgomery 1974) and modern research about the Flood (Brown 2008). Throughout various time periods, research has been done regarding the location of the boat and the search for its remains.

As expressed above, aside from the holy books, the event of the Flood is also referred to in Sumerian, Babylonian, Greek, Hindu, Gaul, Scandinavian and Chinese legends, with many interesting similarities, and with one of the distinctions being that the name of Noah is different (Bratton 1995: 35–36; Kramer 1999: 173–74). Many cultural histories around the world illustrate consistent Flood themes, including a global nature for the Flood, a favored family, survival due to a boat, that the Flood was caused by the wrongdoings of men, that there was a remnant who were forewarned, that animals were also saved by a boat, that survivors landed on a mountain, that survivors sent out birds, and that the survivors offered sacrifices after escaping the Flood (LaHaye and Morris 1976).

One of the most common views presented is that Mesopotamia could be the area where the Flood of Noah might have occurred. Archaeological research in the region has produced some data

regarding the possibility of the Flood having taken place in Mesopotamia (Willcocks and Rassam 1910: 459–60; Frazer 1916: 232; Bright 1942: 56). The discoveries from archaeological research done in Mesopotamia's important cities of Ur, Uruk, Kish and Shuruppak suggest that destructive local floods took place in that region of the Tigris and Euphrates River valleys (Woolley 1930 and 1938; Mallowan 1970: 238).

Others contend that Mount Judi, which overlooks the Mesopotamian plain and the Tigris River Valley may be a good location for the Ark's landing site. Mount Judi has support from local traditions (Rich 1836: 123–24; Bell 1910; Bailey 1989), a 1952 wood discovery and later radiocarbon dating (Bender 1956), and literature from antiquity (Crouse and Franz 2006).

There is also a view that, aside from Mesopotamia, the Flood could have occurred at the Black Sea (Godfrey 1927: 239–40; Ballard 2001: 98). In general, the opinions about the subject as to where the Ark might have landed after the Flood can be summarized as follows:

1. Mount Ararat¹
2. Mount Judi²
3. Mount Nemrut
4. Mesopotamia
5. Durupinar
6. The Black Sea
7. Unknown



Map Legend Color Code

- White—National boundaries and country names
- Yellow—Towns
- Red—Archaeological sites
- Dark blue—Geological sites
- Light blue—Water bodies

Atatürk University's Faculty of Science and Literature, with Rex Geissler and Dr. Vedat Keleş jointly in charge of the project. Since the 1980s, Mount Ararat archaeological research had been closed to foreigners. In 2001, the Republic of Turkey granted the first foreign permission since the 1980s to conduct archaeological research on and around Mount Ararat to ArcImaging in partnership with Atatürk University. The institutions planned to conduct the research in two stages—first the archaeological surveys in the area around Mount Ararat, and then the glaciological survey of Mount Ararat's 17 mi² (27 km²) ice cap that is at least 300 ft (92 m) deep in some locations. The snow line on Mount Ararat during the survey period, from October 20 through November 4, 2001, receded to about 10,171 ft (3,100 m), and since the research dates were not within the summer season, glaciological research using the Glacier Camp at the elevation of 15,419 ft (4,700 m) during that timeframe was too dangerous. So in 2001 only the first portion of the research, the identification and sampling of some of the archaeological sites in the surrounding areas, could be accomplished in the time allotted by collecting several hundred pottery, rock, soil and water samples.⁴

Dr. Ed Holroyd construction with sources from Rex Geissler

Overview map extending from the Black Sea and Caucasus Mountains in the north to Mesopotamia in the south, and from Carchemish on the Euphrates River in the west to Iran's Lake Urmia in the east. The map is based upon Blue Marble satellite imagery, using a resolution of 500 m per pixel.

A prevalent view is that the Mount Ararat region in Eastern Anatolia (Asia) has much support for the Ark's landing site, including regional Flood traditions, alleged eyewitness claims, potential geologic evidence (Polo 1968; Cummings 1973; Bright 1989; Corbin 1999; Lanser 2006), and the highest summit (Atalay 1982: 151) of the Eastern Anatolia highlands and Upper Mesopotamia, with an elevation of 16,945 ft (5,165 m). Great Ararat rises over 14,000 ft (4,267 m) into the air from the elevation of 2,800 ft (853 m) of the Aras River Valley at Iğdir, and has a circumference of 81 mi (130 km) around the mountain's base, making Mount Ararat one of the largest single-mass mountains on the surface of the Earth.³

First Foreign Archaeological Research Permission on Ararat Since the 1980s

The latest archaeological research regarding the possibility of Noah's Ark having landed on Mount Ararat or its vicinity is the Mount Ararat Archaeological Surface Survey of 2001, undertaken by ArcImaging and the Archaeology Branch of

Mount Ararat Archaeological Survey Areas

ArcImaging and Atatürk University planned the research surveys to focus on the regions of the Ahora Valley, the Korhan Pasture, Sağlıkşuyu/Arzap region, Eli, Durupınar/Uzengeli/Nasar, the Ice Cave, Doğubeyazıt, Tuzluca, Diyadin and Toklucak. Due to security concerns having to do with the international border regions, the Korhan Pasture and Ahora Valley in Iğdir Province⁵ could not be surveyed.

Summaries of Pre-Classical Surveys of Mount Ararat

Since the earlier pre-classical archaeological sites are of special interest in regard to the descendants of the Flood survivors, the following text will discuss some of the earliest archaeology known to the Mount Ararat region in order to help familiarize the reader with this area. Much of this article summarizes information that has not been easily available until this publication. One of the main challenges with researching the



□ David Graves

Great Ararat from the southwest Ararat Plain, looking up over 12,000 ft (3,665 m) vertically to the summit at 16,945 ft (5,165 m), with many grazing sheep and goats.

archaeological sites of this region are the numerous international boundaries that make cross-border surveys in the Ararat Plain nearly impossible.⁶ In regard to the early archaeology of the region and the Flood, one assumption about the survivors of the Flood would be that they probably would have wanted to stay fairly close to fertile river valleys for the availability of consistent water, food, grazing lands for domesticated flocks of animals, and home construction materials. Keep this supposition in mind as we discuss the archaeology of the region.

In regard to prehistoric anthropology, new research indicates that one of the early locations for *Homo erectus* includes Dmanisi in the Transcaucasian Republic of Georgia, having comparable dating with that of *Homo erectus* in Africa (Dennell and Roebroeks 2005). Dmanisi has become a primary location for anthropology and is thought to represent an important starting point for early man. Interestingly, Dmanisi happens to be only 112 mi (180 km) directly north of Mount Ararat, and its elevated terrain provides water runoff into the Kura River Valley. New anthropological perspectives suggest that humans may have originated from an undiscovered location in Asia and then migrated from Asia to Africa. Asia includes the vast majority of Anatolia (Turkey east of the Dardanelles, the Sea of Marmara, and the Bosphorus Strait that connects the Aegean Sea to the Black Sea) all the way to Mount Ararat and the border of Transcaucasia.

In regard to the Paleolithic era, there is a large Paleolithic site littered with obsidian blocks and a discovered Mousterian biface found 69 mi (110 km) from Mount Ararat at Meydan Mevkii

(Marro and Özfirat 2004). Unfortunately, there have been relatively few excavations or surveys in this region. However, French archaeologist Catherine Marro and Turkish archaeologist Aynur Özfirat should be held up with honor for their diligent work on many pre-classical site surveys in the region over the past decade. Going back to the earliest archaeological work, the Russian P.F. Petrov started some limited excavations at Melekli next to Iğdir and Kültepe in Nakhechivan (both in the Araxes River Valley near Mount Ararat) during 1914, with the resulting finds being kept in the Georgian State Museum in Tbilisi. The publication of Petrov's excavation from one of the Melekli mounds was translated from Russian by Barnett (1963), and is considered a classic text and very enlightening.

Kura-Araxes Early Transcaucasian Culture Connections with Mount Ararat

During the Late Chalcolithic Age and throughout the Early Bronze and Middle Bronze Ages, archaeological sites of the entire region around Mount Ararat attest to the Kura-Araxes Early Transcaucasian Culture, which is also typified by Karaz, Pular, and Khirbet Kerak pottery (Sagona 1984). This Early Transcaucasian Culture was named by Charles A. Burney (1971: 44), and tends to date around the middle fourth millennium BC (Late Chalcolithic Age) to middle second millennium BC (end of the Middle Bronze Age) and is typified by Red-Black Burnished Ware Ceramics, which were termed by R.J. Braidwood at Tell Judeideh in the Amuq (Braidwood 1937 and

Map Legend Color Code

White—National boundaries and country names
Tan—Province boundaries and province names
Yellow—Towns
Gold—Villages
Red—Archaeological sites
Dark blue—Geological sites
Light blue—Water bodies

Archaeological Site Mapping

- 1 Yalınçayır
- 2 Üçpınar
- 3 Ocaklı
- 4 Ani
- 5 Elar
- 6 Metsamor
- 7 Mokhra Blur
- 8 Shengavit
- 9 Erebuni
- 10 Garni Temple
- 11 Karakala
- 12 Yaycı
- 13 Karakoyunlu / Gökçeli
- 14 Melekli
- 15 Hanago Tepe
- 16 Korhan
- 17 Yenidoğan
- 18 Eli
- 19 Mollacem
- 20 Arzap 02+03 Area
- 21 Arzap 01
- 22 Sarigül
- 23 Eski Doğubeyazıt
- 24 Çetenli
- 25 Toklucak



Dr. Ed Holroyd map construction with source locations from Rex Geissler

Mount Ararat regional map showing archaeological and geological sites in the area, based upon Blue Marble satellite imagery using a resolution of 250 m per pixel.

1960). The Kura-Araxes Early Transcaucasian Culture is one of the oldest known cultures that is spread throughout a large area via distinct archaeological sites. The Kura-Araxes Culture can be discerned by rectangular and round-shaped houses, limited agricultural activities, expansive animal husbandry-pastoral groups, and cultural materials (pottery, clay objects and limited metal objects). The ceramics are typically jars and bowls that are mostly handmade with the dominant colors of black, red, brown and grey. The pots are typically decorated with incised, grooved, dropped and relief techniques (Kibaroglu, Satir and Işikli 2007). The origin of this culture appears to be in the Kura and Araxes (modern name Aras) River Valleys. Notably, the middle Araxes River Valley runs right alongside the northern and eastern extents of Mount Ararat through the Ararat Plain. After following a course of 665 mi (1,070 km), the Araxes River joins the Kura (Kür) River in Azerbaijan, 75 mi (121 km) from its mouth on the Caspian Sea. Since a flood in 1897, a separate portion of the Araxes (canalized since 1909) has emptied directly

into the Caspian Sea, which is the world's largest salt lake.

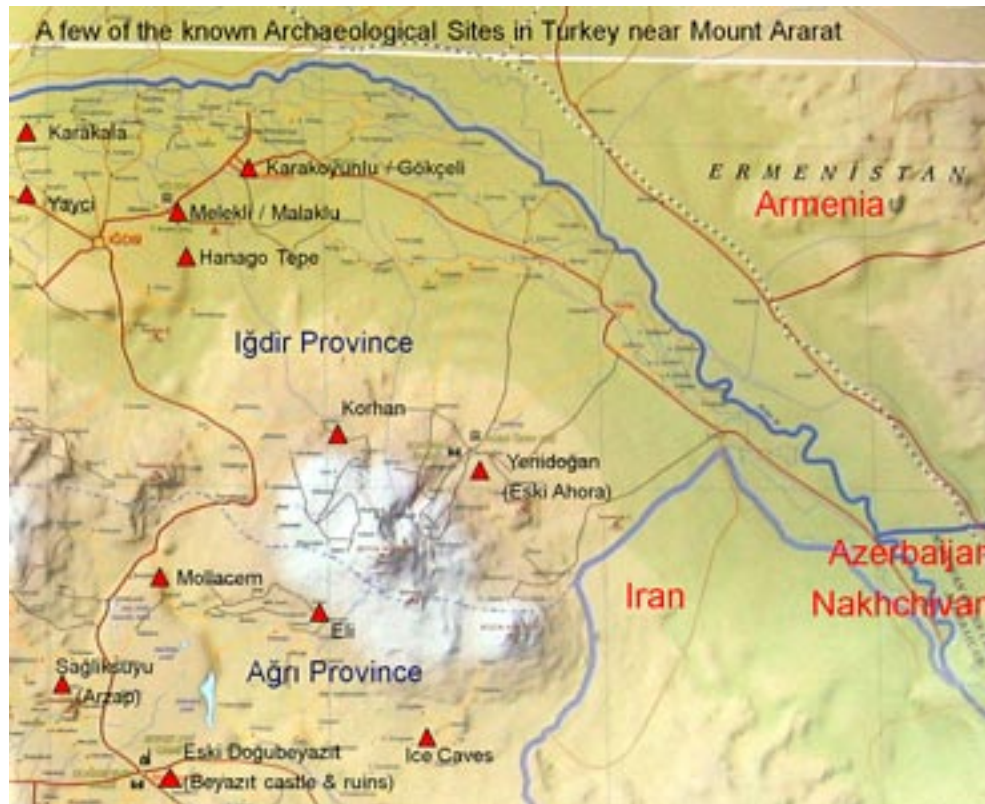
Studying the map of the Kura-Araxes Early Transcaucasian Culture sites, it is noteworthy that the early and well-regarded archaeologist of the region, Charles Burney, stated the following about the start of this culture:

[The map of Early Transcaucasian Culture] shows too that certain centres of settlement may be discerned, among them the Araxes valley. By its geographical situation alone, it could be argued, this could have been the original home from which this culture subsequently expanded in all directions (1971: 44–45).

While there have been questions about its origins (Frangipane and Marro 1998), Early Transcaucasian Culture pottery, which includes the Kura-Araxian culture of B. Kuftin (1941; Kelly-Bucatelli 1974: 44–54), appears with homogeneity from an ethnic movement in the Transcaucasian region (Amiran 1965:

165–67). Due to the obvious early dating for the culture, the assumption could be made that this consistent ethnic movement might reflect closer descendants of those saved through the Flood, exhibiting a parallel development of a common cultural background from the Hurrian highlands of eastern Anatolia (Burney 1971: 50–51).

The Mount Ararat region was also historically important due to its being the crossroads of Anatolia, the Caucasus, Central Asia and Upper Mesopotamia. Historically, migration routes would go west from Nakhechivan via Erzurum to Central Anatolia or south from Transcaucasia to Upper Mesopotamia across this region between Lake Van and the Araxes River (Marro 2004). Consider what Charles Burney stated about Mount Ararat, which is directly across the Araxes River Valley from Erevan:



Rex Geissler

Detail map showing some of the archaeological sites on and around Mount Ararat.

The arguments for the placing of the original nucleus of the Early Trans-Caucasian culture in the Araxes valley around Erevan are not based solely on the elimination of alternatives for varying reasons, nor only on the quality of the pottery nor again on the fertility of the region and its potentiality as the cradle of an expanding population finding itself in need of *Lebensraum*...in favour of the theory of an original centre of this culture in the middle Araxes valley, the plain around Erevan [Ararat Plain]; but they surely indicate it as the most probable centre (1971: 53–54).

tepe, Makhta Kültepe, Khalaj, Arabyengije, and Shortepe (Seyidev 2000). Across the Araxes River from Mount Ararat in the Ararat Plain of Armenia are a number of Early Bronze Age (if not older) sites, including Metsamor, Shengavit, Mokhra Blur, Shresh Blur, Keghzyak, Sev Blur, and Jerahovid. Shengavit is distinct among the cities in Armenia for its use of round-shaped dwellings made from river stones and mud brick. The artifacts found at Shengavit include black-varnished, red and grey pottery, in geometric patterns similar to those used in the Minoan culture. The culture had distinctive religious beliefs revolving around the sun and planets, reflected in burial artifacts found at the sites.

Only 35 mi (56 km) downstream on the Araxes River from Mount Ararat in Nakhechivan are deep layers of the Kuro-Araxian culture from the Late Chalcolithic Age to the Early Bronze Age, including sites at Kültepe I, Kültepe II, Ovchular

Marro and Özfirat conducted pre-classical surveys on many sites around the Mount Ararat and Van provinces in 2002–2004,

Site #	Site Name	Description	Primary Features	Occupation Periods	Sherd #	Lat North	Long East	Elevation
1	Arzap 01	Arzap Village Stones	Hole Stones, Walls, Standing Stones with Cross Reliefs, Arch	Bronze Age, Iron Age, Byzantine, Middle Age, Arab Period, Modern	68	39.6302	43.9696	1,700
2	Arzap 02	Arzap Ram's Head Cemetery	Ram Stone Reliefs, Hüyük Graves, Fortresses, Tombs, Mill Stone	Bronze Age, Iron Age, Byzantine, Middle Age, Arab Period	85	39.6302	43.9691	1,700
3	Arzap 03	Arzap Hill Fortress Area	Fortresses, Tombs, Hole Stone, Cross Reliefs	Bronze Age, Iron Age, Byzantine, Middle Age, Arab Period	41	39.6290	43.9678	1,700
4	Eli	Mt. Ararat Lava Village	Cyclopean Fortresses & Walls, Cross Reliefs, Cisterns, Millstone, Post Stone Hole	Byzantine, Middle Age, Modern	49	39.6285	44.2434	2,090
5	Ice Cave	Mt. Ararat Lava Cave that drips water creating ice sculptures yearly in May, June, and July	Excavation area where local villagers are digging up ceramic bowls and pots as well as alleged Cross Reliefs further into the lava flows up Mount Ararat	Byzantine, Middle Age, Modern	9	39.5983	44.1973	1,584
6	Beyazit Castle	Urartian or Achaeminid Reliefs & Rock Chamber Tomb	Urartian or Achaeminid Reliefs & Rock Chamber Tomb	Urartu Kingdom or Achaeminid Persian Period	0	39.5228	44.1385	2,022
7	Durupinar 01	Geologic flow boat shape low pt.	Geologic flows go from hilltop down	Geologic Site	0	39.4412	44.2352	1,874
8	Durupinar 02	Above Uzengli village at Nasar depressions	Geologic flows go from hilltop down	Modern	0	39.4316	44.2303	2,027
9	Durupinar 03	Pond area above Nasar north end	Geologic flows go from hilltop down	Geologic Site	0	39.4317	44.2296	2,026
Total Sherds					252			

Rex Geissler

Survey Site Summary showing some of the 2001 survey results in a summary overview.



Erzurum Museum, with Mount Ararat location by Rex Geissler
Kura-Araxes Early Transcaucasian Culture overview site map listing all archaeological sites and Mount Ararat's location on a map stretching from southern Israel through the Caucasus Mountains.



Erzurum Museum, with Mount Ararat location by Rex Geissler
Kura-Araxes Early Transcaucasian Culture Eastern Anatolia site map with Mount Ararat location on a map stretching from the Amuq River Valley to Transcaucasia.

including Hanago Tepe, which is located on top of a Mount Ararat lava mound and was initially occupied in the first half of the fourth millennium BC (Late Chalcolithic Age), as indicated by the Amuq E/F bowls with simple rims found there (Marro and Özfirat 2003). The finds included chaff-faced ware, mainly buff, brown or beige in color, resembling but appearing earlier than Amuq F (the earliest phase of which appears ca. 3700 BC), which was first found in the Hatay but is now supported throughout northern Syria and Upper Mesopotamia. Along with Hanago Tepe, Marro and Özfirat found more Mount Ararat Amuq F Late Chalcolithic Age pottery at Gıcık mevkii, Çetenli, Sarigül, and Mollacem next to a Middle Bronze Age cemetery (Marro and Özfirat 2005).

During the 1940s, archaeologist Ismail Kilic Kökten dated Gıkelı and Melekli sites near Iğdır to the Early Bronze Age. Another Early Bronze Age site, Sağlıksuyu/Arzap, is a medium-size *höyük* or mound. As Marro and Özfirat explain, there is also the possibility that some of Mount Ararat's Arzap/Sağlıksuyu ceramics represent a proto-Kuro-Araxes ceramic ware:

A number of sherds of Kuro-Araxes manufacture (black or grey polished, contrasting interior/exterior, grit-tempered) seem much earlier than the EBA II–III wares, but their shapes is [sic] reminiscent of Late Chalcolithic more than EB I types (pl. V: 1–3): these are low-collared jars with a simple, slightly everted rim. Another type also rather alien to the Kuro-Araxes repertoire is a large-necked jar with a slightly flaring collar and a horizontal lug (pl. VII: 3). All these pots share the technical specificities of the so-called Early Transcaucasian ware, but not its typological characteristics. It is possible that such pottery [found at Sağlıksuyu] represents some kind of proto-Kuro-Araxian ware; a hypothesis which, if confirmed, would be very interesting as regards to the puzzle of the origins and development of the Early Bronze Transcaucasian culture. Apart from hypothetically proto-Kuro-Araxian pottery, Sağlıksuyu also yielded a handful of Middle Bronze and Early Iron Age sherds, which suggests that the site was occupied throughout a rather long timespan (2003: 391).

Pots found at Sağlıksuyu had loop and ladder motifs incised on the upper part and grooved on the lower part of the black-polished pottery with a grey interior typical of Kuro-Araxes manufacture. The grey-black burnished ware of this region is known as the Lshashen-Metsamor culture:

The typical pottery of the Ağrı and Iğdır region [Late Bronze/Early Iron] consists of grey-black burnished ware, well-attested throughout Transcaucasia and known as the Lshashen-Metsamor culture. In a much smaller amount do we find red-brown wares with a self-slip, brown wares with a red slip; cream, brown or grey wares with a cream slip. Bowls come either as deep vessels with a round body (pl. X: 1–2, 7) or with a carinated body and straight or inverted rims (pl. X: 3–11). Grooved triangles and parallel lines constitute a very common type of decoration. Neckless or short-necked jars usually come with a round body (pl. X: 12–14) whereas necked jars have an oval-shaped or a round body (pl. XI: 1–3). Body sherds belonging to jars are usually decorated with grooved triangles, notches and wavy lines (pl. XI: 4–7). Knobs are typical of this period; the examples we have at hand are all located around the rim of bowls...

The Late Chalcolithic period, which is characterized by dense cultural interactions and exchange networks, is thus replaced by an Early Bronze age culture with clear Transcaucasian connections, which seemingly has been clamped over the area like a tight lid, limiting the impact of external influences, and this from the mid-4th. until the end of the 3rd. Millennium (Marro and Özfirat 2005: 328, 334).

In regard to Urartu's influence on the region in the Late Bronze Age and Iron Age, Urartean sites across the Araxes River in Armenia have been found at Karmir Blur, Erebuni (Yerevan), and Armavir. The original name the inhabitants of Urartu gave their country was Biaini and themselves Biainili, while the Assyrians called their country Urartu, which is from the same Hebrew root consonants "rrt" (Ge 8:4) from which



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□ **Arzap wall construction** containing ceramics and cemetery bones.

“Ararat” also originated. The Urartu capital city was located at Toprakkale and Tuşpa Fortress (Tushpa) in Van (Barnett 1963), 94 mi (150 km) southwest of Mount Ararat. Tushpa overlooks Lake Van, a large salt-water lake 5,640 ft (1,720 m) in elevation. Some believe that the Mount Ararat area may not have come under the kingdom of Urartu’s control until the ninth century BC under the leadership of Menua (810–786 BC) (Piotrovsky 1969: 65; Yamauchi 1982). The words “Biaini” and “Van” are not that far removed: several centuries of dialect pronunciations appear to have softened the “b” to a “v” and changed the diphthong “iai” to a short “a” sound. Marro and Özfirat found Urartean

rock tombs carved into a rocky hill overlooking the village of Büvetli, as well as elsewhere in the Mount Ararat region:

In spite of being part of the Urartu kingdom, this region yielded very little classical Urartean pottery or architecture. The most important Urartu site is the fortress of Karakoyunlu (Mağaralar Mevkii, I73/7), which we surveyed in 2002–2003 in the region of Iğdır. This site must be Minuahinili, the regional capital of a Urartean province that used to be called Luhiuni and was the capital city of Erikua, a small Early Iron age kingdom conquered by the Urartean King Minua.

Apart from this large center, the Urartean cemetery of Melekli in the Iğdır plain, and the sites of Ziyaret Tepe (L73/4) and Çetenli in the Doğubayazıt plain, we did not find any site showing Urartean architectural characteristics. The presence of large basalt blocks in the far southern end of the plain at Çetenli shows that this site was an important Urartu center...It is interesting to note that classical red-burnished Urartu ware has only been found in regional centers or places located along major roads, which also show traces of occupation dating to the Late Bronze and the Early Iron age. In the same way, we collected Urartu pottery in the low kurgans located next to the Late Bronze age/Early Iron age and Urartean fortresses of Karakoyunlu. To conclude, we may say that apart from the large regional capital of Karakoyunlu, which belongs to the kingdom of Urartu, and the sites of Çetenli and



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□ **Arzap ram's-head gravestone**, including the curled antlers of the ram's head and legs, along with a relief of a sword on the side.

Cat. No.	Sherd Type Description	Color	Outer Coating	Inner	Burnished	Firing	Additive	Decoration	Production	Figure	Diameter	Height	Base Diam
1	Body piece with engraved décor	Grey	Black	Dark crème	Yes	Medium	Sand, small stones	Engraved	Hand	1			
2	Simple bowl with rimmed mouth	Light brown	Black	Black	Yes	Medium	Sand, coarse stone		Hand	2			
3	Bottom piece	Brown	Light brown	Light brown	Yes	Well	Sand, small stones		Hand	3	12.5		20.0
4	Body piece	Brown	Light brown	Light brown	Yes	Well	Sand, small stone	Line	Wheel				
5	Outward bent earthenware	Brown	Dark brown	Dark brown	Yes	Well	Sand, small stone	Lines	Hand	4	22.5	6.3	
6	Simple bowl	Light brown	Dark crème	Dark crème	No	Well	Small stone, mica	Lines	Wheel	5	20.0	4.2	9.5
7	Outward bent rim area piece	Dark brown (burnt)	Dark crème	Light crème	Yes	Well	Small stone, mica		Hand				
8	Body piece	Brown	Coffee (burnt)	Brown	Yes	Well	Small stone, sand		Hand	6			
9	Straight cut mouth rim	Dark	Medium brown	Light brown	Inside	Medium	Small stone, sand		Hand	7	27.0	4.0	
10	Bowl with outward turned mouth piece	Medium brown	Light brown	Light brown	No	Medium	Small stone, sand		Hand	8	8.0	9.5	10.7

Lengths in cm

Dr. Vedat Keleş

Pottery catalog description summary listing archaeological diagnostics on ten selected sherds from Arzap.

Ziyarettepe, no Urartu architecture is attested around Iğdır and Doğubayazıt: in these regions, both the architecture and the pottery maintain their regional character (2005: 332).

Arzap/Sağlıksuyu Archaeological Site Survey

The 2001 research began first in the area that is called by the old name Arzap, a few km west of the Doğubeyazıt-Iğdır highway, 12 mi from the Mount Ararat summit. The modern name for the Arzap region is Sağlıksuyu because of the mineral-water sources that are located west along the stream that flows north of the village. Arzap is mistakenly called Kazan by some, which is really a village on the south side of the prominent limestone butte south of Arzap. The Arzap area was separated into three segments: the village's inner portion (Arzap 01), the area called the *höyük* (Arzap 02), and the higher elevated hilly area (Arzap 03).

In the inner village, identified as Arzap 01, the remains of a wall approximately 66 feet (20 m) long and made of 4 layers of mixed stone and mud was discovered. When the wall was inspected, ceramic and bone fragments were noticeable within the wall. Also, the remains of an apse, part of a structure which the villagers consider to be a church, were noted. Unfortunately, since the time of the survey the wall has now been decimated by the villagers.

Through the research done in the *höyük* area (Arzap 02) a few km west of the center of the village, two ram-shaped gravestones were identified. One of the gravestones was 4.6 ft (1.4 m) in length with a sword relief on one side. These gravestones are said to be customary for Central Asia (Borisenko and Khudyakov 1998: 51–53). The ram's head stones typically belong to the Akkoyunlu State, centered in Diyarbikir during 1350–1502 AD, and the Karakoyunlu State (Karamağralı 1993: 18), located between Irbil and Nakhechivan⁷ and centered in Tabriz during 1380–1469 AD, which fought with Tamerlane. These types of gravestones are frequently found in the areas of Kars, Iğdır, Bitlis and Tunceli (Çay 1983: 34). These ram stones occasionally have an inscription along the bottom but none was immediately visible, although more research should be done on them. A number of the graves have been pillaged by the locals through illicit digging.

Arzap Sample Pottery Sherds

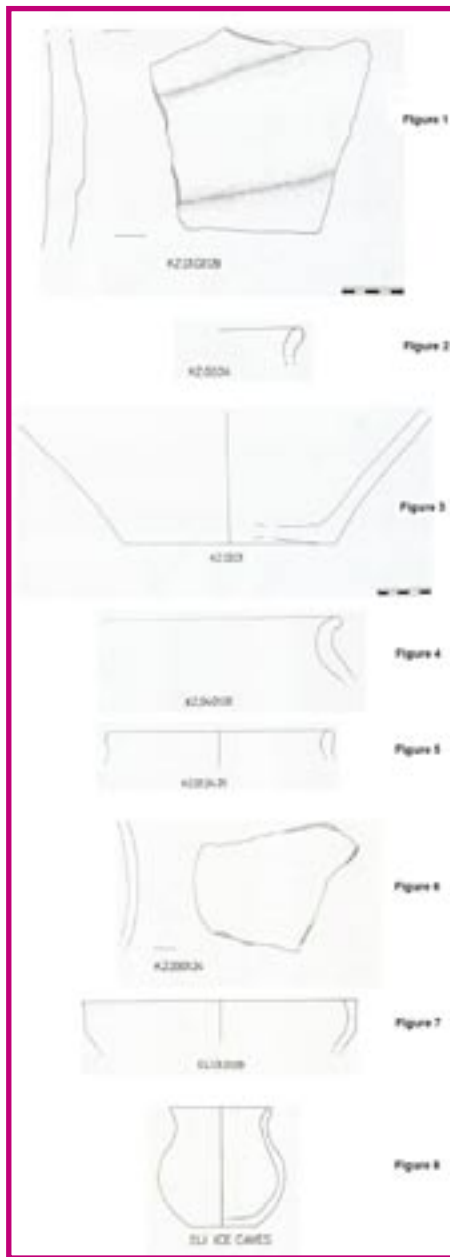
Beside the gravestones with the ram heads, a large number of

potsherds were found in the area. Some of the sherds found by the 2001 Mount Ararat Archaeological Survey in the area of Arzap/Sağlıksuyu were placed in the pottery catalog and numbered Catalog No. 1–8 (Kat. No. 1–8 in Turkish). The first of these belongs to the body of a vessel, Cat. No. 1. Because of the clay, color, firing, and burnishing characteristics of Cat. No. 1, they show characteristics of the Early Bronze Age, Middle Bronze Age and Iron Age, similar to the pottery from the EB1 (first Bronze Age) found at the Çiğdemli Mound in Erzurum (Başçımıkj 2000: 49; Karaosmanoğlu, Işıklı, and Can 2002: 347).

Another important Early Bronze Age piece found in the area of Arzap 02 is the shiny red sample from Cat. No. 2. This rim belongs to a thick-walled, medium-sized pot. On this rim piece, the edge is made of a softly rounded passage, which has been cut straight across. The rim, which has been extended to the outside, transitions to the neck by means of a rounded piece. The characteristics of Cat. No. 2 are found in samples in Erzurum, Toprakkale (Başgelen and Özfirat 1996: 143–44), Stratum II of the Bulamaç Mound (Güneri, Erkmén, Gönültaş and Korucu 2002: 27–31), Stratum II of Sos Höyük (Sagona, Erkmén and Sagona 1998: 139 figs. 2–5/16), in samples from the surface survey and excavations at Elazığ (Russell 1980: 286 fig. 24; Sevin 1987: 5–6), in the museums of Kars (Kökten 1943), Erzurum, Van and Elazığ, in the Museum of Anatolian Civilizations in Ankara, and in the Haluk Perk Collection in Istanbul (Derin 1994: 49–62; Belli 2003).

For Cat. No. 3 of the 2001 Mount Ararat Survey, in a sample found in the same Sağlıksuyu area, and belonging to the base of a vessel, it can be observed that the clay was not processed well and is not very refined. This characteristic is typically encountered in the Late Iron Age (Korucu 2005: 40). Close similarities of Cat. No. 3 are seen in pottery found in Erzurum Toprakkale (Başgelen and Özfirat 1996: 146), the Sos Höyük Mound IIC (Sagona, Erkmén and Sagona 1999: 134), and the Iron Age Stratum B of the Bulamaç Mound (Güneri, Erkmén, Gönültaş, and Korucu 2003: 208). Another sample from Arzap 02 is the piece in Cat. No. 4, which belongs to the body of a large-size vessel. In this sample that has a protruding ribbon-shaped decoration, the changes of the outer layer of colors are darkish and blackish. A piece of pottery found in the Çakmak Village can be cited as an example of the Late Iron Age characteristics that are representative of this piece (Korucu 2005: 42).

Another handmade piece found in the area of Arzap 02 is a dark brown lip piece that has an engraved stripe design on the



Dr. Vedat Keleş

Pottery catalog drawings showing archaeological drawings (figures) on eight selected sherds from Arzap.

transition from neck to body (Cat. No. 5). This sample with its particular characteristics marks the earliest style of ceramics of the Middle Ages (Arab Period). Pottery found in the Üçpınar Village closely resembles Cat. No. 5. The edge of a rim piece found in this area, with its straight cut edge and its decoration, shows a close similarity to Cat. No. 5 (Korucu 2005: 48). Aside from this example in the Üçpınar Village, other Middle Age pottery with the characteristics of Cat. No. 5 was found in the surface surveys around Erzurum (Karaosmanoğlu, Işıklı and Can 2002: 345–56) and Kars (Ceylan 2000: 71–83), in the ruins of the Middle Age city of Ani in Kars (Sinclair 1987: Vol. I, 445; Karamağralı 1998: 37–42), in the Iron Age strata of the Sos Höyük (Hopkins 2003: 84 fig. 40), and in the Iron Age strata of the Bulamaç Mound (Güneri 2002: 251). Another sample found in the area of Arzap 02 belongs to a thin-walled, mid-sized pot, Cat. No. 6. This example bears close similarity with the



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Pottery catalog photo showing ten selected sherds from Arzap, Eli, and the Ice Cave.

among these remains. Pottery sherds collected systematically from this area were cleaned and then documented via computer for the pottery catalog. Large millstones from a flour mill were found along the stream bank.

Hole Stones of Arzap

Another interesting archaeological feature of the Mount Ararat region are the hole stones in the vicinity of Arzap. Some have contended that the hole stones were originally drogue stones—flat Mediterranean anchors, typically 3 ft (1 m) or less in length—from Noah’s Ark itself (Fasold 1988: 319–25), but that claim should be completely rejected for the following and numerous other reasons^{8, 9} (Snelling 1992). Across the stream to the north of the flour mill stone are stones that bore cross reliefs (khachkars, as they are frequently called, where “khach”

engraved stripe decorations of Cat. No. 6 found in the Middle Age city of Ani in Kars (Korucu 2005: 47 fig. 25/b). The last example found in Arzap 02 is a rim piece of a thin-walled vessel (Cat. No. 7). Similar pieces were frequently found in the surface surveys done in the Tepecik Village (Korucu 2005: 38 fig. 14/a), and around Erzurum and Kars (Karaosmanoğlu, Işıklı and Can 2002: 345–56 figs. 1–3).

A good number of ceramics were also found during the research in the hilly area called Arzap 03, located on the south side of the butte as one travels toward Kazan, that could be a fortress area or some cist tombs, as some large slabs of stone are also present. Fortresses are typical found around the cemeteries of Mount Ararat. One of the many samples which most closely resemble Middle Age characteristics belongs to a thin-walled, mid-sized vessel that is bowl-shaped. It belongs to Cat. No. 8 with its darkish blackish outer coating. A piece similar to this sample has been found in the village of Çakmak and belongs to the body of a thin-walled, bowl-shaped vessel (Korucu 2005: 42 fig. 16/b). It was observed that the outer coating of this vessel was made in the same way. Beside the example from the village of Çakmak, samples showing close similarities to the pieces in Cat. No. 8 have been found during the surface surveys of Kars and Erzurum (Ceylan 2001: 165–79 fig. 1).

The road that extends from Arzap 01 to Arzap 02 widens on the flank of this hill, and a few km from here turns south, where ruins can be observed on both sides of the road. There are probably both house foundations and graves



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Arzap fortress or possible tombs with slabs and rocks surrounding them, overlooking the Mount Ararat plain.

means cross and “kar” means stone). One of the cross stones had a pierced hole at the top edge of the stone. While there are more stones without holes, at least eight stones have been identified in the local vicinity with similar holes in the top of them. There is a well known standing hole stone next to the Saġlıksuyu (Arzap) village, situated looking east toward the horizon of Mount Ararat, while at least two other standing stones show signs of holes that have been broken off near the top of the stone. There are a number of other hole stones laying on the ground or being reused in various fashions. The stones are up to 10 ft (3 m) high and weigh 1,000 kg (about one ton each) to several thousand kg (several tons) (Snelling 1992). The holes on these pierced stones are typically 1.6–3.2 in (4–8 cm) in diameter and located 6–8 in (15–20 cm) below the top edge of the vertically standing stones. Many stones have a pointed or rounded shape near the top of the stone where the hole is located, while the bases of the stones tend to be flattened somewhat to help them stand erect. The surfaces of the inside of the holes are fairly clean and smooth as if they had been polished. Many of the stones have been knocked over and now lay horizontally or have been reused for other purposes, such as for building a wall, khachkars (cross stones), gravestones, building a church (according to the locals), tablets for relief drawings, etc. The surveyors found a similar hole stone at Toklucak southeast of Mount Ararat, and at least five other similar hole stones have been found at the Ahora Cemetery (near modern Yenidoġan) on the northeast slopes of Mount Ararat.

The Arzap hole stones are likewise similar to the megalithic structure of Zorats Karer known as Carahunge, 93 mi (150

km) east of Mount Ararat near the city of Sisian in the Syunik Province of Armenia (Khnikikian 1984; Herouni 2004). An ancient astronomical observatory (archaeoastronomy) consisting of 223 stones was built at Carahunge in honor of the sun god “Ar” (Herouni 2004). The Carahunge Monument surrounds a Bronze Age cemetery (Lisitsian 1938). Other old astronomical observatories in the region include Metsamor, just north of Mount Ararat and Iġdir, across the border in Armenia (Avetisyan 2000); Khndzoresk, 19 mi (30 km) from Goris; and locations in the Vardeniss volcanic ridge, Lake Sevan, Agarak (at the foot of Mount Aragats), and Syunik (Toumanian and Petrosian 1970). Pictograms at Metsamor and the Geghama Lehr record more and more sophisticated celestial iconography, including the signs of the zodiac. Using astronomy, these ancient peoples developed a calendar based upon 365 days, one of the first compasses, and envisioned the shape of the world as round. The appearance of the signs of the zodiac occurred in this region before the Hittite and Babylonian kingdoms, which were previously credited with developing astronomy. Metsamor also contains a series of stone platforms which were reported in 1967 to be part of an astronomical instrument dating to 2800 BC. The observatory at Metsamor is oriented towards the star Sirius, the brightest star in the northern sky. Numerous carvings show the locations of stars in the night sky, and one is a compass pointed due east. Other inscriptions include the signs for Aries, Leo, Capricorn and Taurus.

Other megalithic astronomical monuments outside of the Mount Ararat region are found throughout Great Britain and Europe, such as at Holey Stone Road in Northern Ireland.¹⁰ Typical



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Arzap standing hole stone #1, front side, with Mount Ararat directly in the background horizon. (L-R) Peter Aletter, Dr. Vedat Keleş, Dr. David Livingston, Bob Stuplich, Mihmandar (Guide) Orhan Özçalik, Julie Geissler and a Sağlıkısuyu villager.

stone alignments for these monuments directly point at sites such as a mountain peak (consider the proximity and direct line of sight of Mount Ararat from Arzap) or a notch in a skyline, where the sun or moon or a first magnitude star would rise or crest at certain times during its nighttime path.

Hole Stones of Carahunge

As mentioned above, the closest and most striking resemblance to the Arzap hole stones is found at Carahunge (www.carahunge.com), which is made up of 223 similar vertically-standing basalt stones, of which 84 stones have holes at the top edge measuring 1.6–2.0 in (4–5 cm) in diameter. They point in different directions with such precision that they could be used for observing celestial events even today. The position of the rocks and the holes on each stone lead scholars to believe that Carahunge served as an astronomical observatory, where solar and lunar eclipses were predicted and a calendar was created. Professor G.S. Hawkins, a top specialist in megalithic monuments including Stonehenge (Hawkins and White 1965; Hawkins 1974), agrees that Carahunge is an ancient astronomical observatory (Hawkins and Herouni 1999).¹¹ The primary researcher of Carahunge, Dr. Paris Herouni,¹² explains the details of the stones with holes at the megalithic monument in the following summary:

Six expeditions took place on the equinox and solstice days in 1994, 1995, 1996, 1997, 1999, and 2001. The detailed topographic map of the monument as well as the latitude, longitude, magnetic deviation of place, angular heights of ridges on the horizon, azimuth and elevation angles of the holes in stones and other features were measured. The Catalogue of 223 stones with their sizes along with many observations and video films of the moments of Sun and Moon rising and setting were completed. The heights of the stones range from 0.5 m to 3 m [1.6 to 10 ft] (above ground) and weigh up to 8.5 tons. The basalt (andesite) stones are covered with masses of many colors of moss and lichen eroded by time. Many single stones with holes or groups of 2–3 stones are astronomical instruments for observations of the Sun, Moon and stars. The holes made in these massive stones result in highly stable and accurate pointing devices. The weight and hardness of the stone make it a very reliable instrument for observing celestial objects over many centuries. The long time stability of these stone astronomical instruments is rather remarkable. Most of the holes are directed at different points on the real horizon but some holes point above the horizon and look up to the sky. Holes had been made by instruments having obsidian centers put in fired clay. The direction of the hole in Stone No. 62 to the top of Stone No. 63 makes the angle of about 39.5° apropos of vertical, i.e. equal to the latitude of Carahunge itself! Thus,

using this Instrument, the Carahunge astronomers measured the geographical latitude of this location (within 30" or 2 sec accuracy for the Sun and Moon and 51" or 3.4 sec accuracy for stars and planet observations). Inside the Great Pyramid, a shaft going from the queen's chamber is directed to the Sirius culmination point (at that time c. 2500 BC) and its inclination angle is 39.5°, which again is the latitude of Carahunge. This can be so only at latitude 30° where the Great Pyramid was built. Similarly, in Stonehenge the inclination angle of the Sun at equinox days' noon is also equal to about 39.5°, which corresponds to the latitude of Carahunge. This can only be so at latitude 51° where Stonehenge was built.

I presumed that this accuracy could be increased more than 50 times if it were observed through a pipe (made, for example, from bamboo or rush having an inside diameter of about 10 mm [0.4 in]) interposed and fixed in the hole by means of clay. If for a particular moment, such as Sunrise, it is necessary to be corrected, this can be done at that moment while the clay is still wet. The next day when the clay hardens it can be removed from the hole for use again for the same

event in future years.

Ancient astronomers, knowing the azimuth of the sunrise point in the solstice days and latitude, would have discovered the declination of Sun in culmination days, i.e. the Ecliptic inclination (the angle of Earth axis incline).¹³ I took this into account and included only stones with the hole azimuth shifts (ΔAz) of which are less than 15°. At Carahunge, then we have 17 stones for Sun including Sunrise Stones for Summer solstice, Sunrise Stones for Winter solstice, Sunrise and Sunset Stones for Spring and Autumn equinox days, 14 stones for Moonrises, 31 Star Stones for tracking risings and settings of main stars, 3 stones to show the latitude of the location, 39.5°, and 2 stones for a teacher and student. More research needs to be done in regard to the planets as we only had time to focus on the Sun, Moon, and Stars. Five planets were known in the old times (Mercury, Venus, Mars, Jupiter, and Saturn). The Carahunge Monument had primary functions as a Temple of AR (Sun in Armenian and main god of old Armenia), as a large observatory, and as a university for teaching calendar and astronomical events. The old Armenian



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Arzap hole stone photo collage, showing smoothed holes toward the top edge for easier viewing and observations, just like at the Carahunge Astronomical Observatory. Bottom left hole stone is at Toklucak, but it was photographed from the wrong viewing side. If the photo were taken from the opposite side of the hole stone, the view would look upward to the heavens or the Toklucak horizon.



Rex Geissler

□
Ornate Eli cross stones of Armenian construction, probably from the Byzantine period through Bagratide Kingdom times.

song of astronomers comes to mind, “The Sun, the Sun come, come to my stone top come. Clouds, clouds go away to make for Sun clear way.” In Carahunge, indeed, there is also a three-stone astronomical instrument where the Sun comes every equinox midday to the top of the main stone (Herouni 2004).

The hole stones next to Mount Ararat in the area of Sağlıksuyu/Arzap are similar to those of Carahunge in regard to composition, height, weight, size of the holes, pointed or rounded shape of the tops for many of the stones, location of the holes toward the top edge, visible mountain peaks or horizon, etc. The placing of the

holes toward the top edges indicates the hole creator’s desire for the hole to be easily accessible for a standing person, which again points to an observational purpose for “epiphany” events such as the sun rising, moon rising, star rising or cresting, etc. As well, it should be highly noted that the start of the location name Arzap (“Ar”) indicates that the location’s standing hole stones had a direct link to its function as a dedication or worship center for the regional sun god “AR.” This again points to the original function of an astronomical megalithic monument, similar in origin to the worship of the sun god “AR” at the ancient Garni Temple, only 36 mi (58 km) northeast of Mount Ararat, as well

as Carahunge (Herouni 2004). One may also note the numerous other names in the region that begin with “Ar,” such as Ararat, Araxes/Aras River, Arsianias (the old name of the Murat River that begins near Mount Ararat), Armenia, etc. Thus, it is possible to surmise that the hole stones were originally part of an astronomical calendar monument similar to other megaliths, especially Carahunge, with the khachkar cross reliefs probably being added at a much later time during the Byzantine /Armenian Christian period.

Along with the added cross reliefs, some of the hole stones have had their tops, including the holes, broken off, similar to the way that many statues in the Near East have had their heads lopped off. This probably purposeful destruction may mean that some of the later inhabitants objected to the use of the holes for astronomical purposes, of which the Old Testament scriptures Is 47:13 and 2 Ki 23:5 provide examples. In Is 47:13, the prophet Isaiah talks specifically about people similar to those who created the astronomical calendar observatories like Carahunge, Arzap, and other monuments, “Let your astrologers come forward, those stargazers who make predictions month by month, let them save you from what is coming upon you.”

In a similar fashion, but with more emphasis on the destruction of those who focused on the celestial heavens, 2 Kings 23:4–5 discusses the removal and destruction of “all the articles made for Baal and Asherah and all the starry hosts” and “those who

burned incense to Baal, to the sun and moon, to the constellations and to all the starry hosts.”

The king ordered Hilkiah the high priest, the priests next in rank and the doorkeepers to remove from the temple of the LORD all the articles made for Baal and Asherah and all the starry hosts. He burned them outside Jerusalem in the fields of the Kidron Valley and took the ashes to Bethel. He did away with the pagan priests appointed by the kings of Judah to burn incense on the high places of the towns of Judah and on those around Jerusalem—those who burned incense to Baal, to the sun and moon, to the constellations and to all the starry hosts.

When some of the locals became Christians during the Byzantine period, many of these pagan steles would have been “Christianized” with inscriptions and cross symbols, and others destroyed based upon the Scriptures above. This is why we surmise that many of them were simply reused at a later time period as gravestones found in and around cemeteries. The standing hole stones were special stones, first for the original peoples and then for the later peoples as well, just for completely different purposes. One group marked calendar events by the hole stones, and the other group marked graves for loved ones by the hole stones. Unfortunately, unlike at the remote site of Carahunge,



□

Julie Geissler

Photo of Eli cyclopean wall in the old village fortress area with Rex Geissler, who is 6 ft 4 in (2 m) tall.



□

Old village area of Eli, with Mount Ararat in the background.

most of the Arzap hole stones have been moved, knocked down, broken, or reused, preventing the immediate ability to determine their exact original locations or the precise hole views of the horizons and heavens at that time. For this reason, it is difficult to date the Arzap monumental stones, although the Carahunge stones also surround a Bronze Age cemetery and, based upon the principal star movements and positions of the hole stones, Herouni believes that the Carahunge Observatory was started 5,500 years ago during the Late Chalcolithic or possibly earlier. More study and documentation should be completed on the Arzap, Ahora, and Toklucak hole stones, as well as any others that are documented in the future.

Eli Archaeological Survey

Another area where surveys were taken during the 2001 Mount Ararat Surface Survey was the village of Eli, at an elevation of 7,250 ft (2,200 m) on Mount Ararat. In the Eli area, there are many volcanic rock cyclopean boundary walls or fortresses. It is difficult to tell the dates of the cyclopean walls for certain without diagnostic pottery or other dating methods. A rock with a manmade depression in the fortress area could have been used for a gatepost or a grinding stone. Discoveries were made of a large number of dwellings made of coarse stone walls and their respective cisterns. There were also a number of large stones (probably grave markers, as pillaged holes were nearby)

with ornate crosses etched on them. Pottery pieces were also found in the Eli area. One of the samples that displays the same characteristics as the light brown pottery of Cat. No. 9 is a piece found in the well-preserved Middle Age (possibly the Bagratide Kingdom in the tenth century) antique city of Ani, east of the Ocaklı Village. The piece belongs to the rim portion of a thin-walled bowl-shaped type vessel (Korucu 2005: 47 fig. 25/c).



Rex Geissler

Nearly complete pottery specimen from the Middle Ages found in the Ice Cave.

Ice Cave Archaeological Survey

Another surface survey area of 2001 was the Ice Cave in the lava flow areas south of the Eli Village. The snows that melt in May, June and July drip into this cave and, when the temperature solidifies the waters, they form ice crystals in interesting shapes and colors. In the research done at the Ice Cave, a small piece of pottery was found that has a broken rim but is fully preserved otherwise (Cat. No. 10). This handmade piece, 3.1 in (8 cm) in diameter and 3.7 in (9.5 cm) in height, reflects the characteristics of Middle Age ceramics in color, production technique and clay characteristics. Similar pieces to the sample in Cat. No. 10 can be seen in the Middle Age pottery found in the villages of Üçpınar (Korucu 2005: 48–50) and Yalınçayır (Korucu 2005: 48).

The natives stated that there were more ruins and reliefs among the lava flows further up Mount Ararat, but after hiking into the lava for an hour and not knowing where exactly the villagers were leading them, the researchers felt that it was better to return.

Urartian Tomb Archaeological Survey

After visiting İshak Paşa Sarayı (Palace), the surveys located a rock chamber tomb close by, next to Beyazıt Castle in the rocky hill area, which contains arches and various passages. The rock chamber tomb was probably from one of the following empires: Urartu (858–585 BC and overthrown by the Medes); Media (728–559 BC); or Achaemenid Persian (550–330 BC under Cyrus the Great, Darius and Xerxes).

The location of the reliefs, some 18–27 ft (6–9 m) up on a cliff, shows the importance of the one entombed there and the difficulty that the sculptor must have had in creating it. Reliefs are located to the left, right and above the entrance to the rock chamber tomb. The relief to the right is the dominant figure, the first in the procession, and is probably the one whose body was inside the tomb. He appears to be a local or provincial king. The king is wearing a striated or braided helmet/headdress, a garment like a robe or dress, a ribbon across the top of his shoes near the ankle, and carries a staff extending down to his feet. With his striated helmet, the king happens to resemble some of the Hittite reliefs from Alacahöyük that are located in the Anatolian



□ Bob Stuplich
Surveying the lava flows near the Ice Cave for other ruins and reliefs. (L-R) Local villager, Mihmandar (Guide)
Orhan Özçalık and Survey Director Rex Geissler.



Rex Geissler

Beyazıt Castle ruins with Urartian-type rock chamber tomb that can be seen as the square opening above and slightly left of the mosque minaret. Photo taken from the İshak Paşa Sarayı.

Museum of Ankara, or Median reliefs at the Achaemenid capital of Persepolis. Urartian relief headdresses traditionally have a more rectangular or boxy look, such as those at Van Museum. This king relief may have been simply an outlying regional variant from the Urartean reliefs that are known.

The figure to the left, possibly a priest or the king's mate, is holding up a goat or mythological animal in the center relief to the god as a sacrifice for the king. The reliefs may be Urartean

because there are other Urartean remains found in the region including cemeteries and ceramics, even close by at the bottom of the hill in the area named Sarigül.

Durupınar and Nasar Archaeological Survey

Later, the Durupınar formation (named after Captain İlhan Durupınar, who found it in 1959 on some NATO aerial survey



Rex Geissler

Urartian-type rock chamber tomb and reliefs on a Beyazıt cliff.



John Morris

Urartian-type rock chamber tomb with all three reliefs discernable.



Rex Geissler

Urartian-type rock chamber tomb with King relief close-up.



□

Great Ararat and Little Ararat with marshy swamp ground looking northeast from Durupınar. Photo taken in May 2006.

photos) above Telçeker and near Uzengeli village was surveyed. Surveys were taken on and around the formation, as well as past Nasar village up the hills toward the Iranian border. Other than a few depressions that the local populace termed graves, neither archaeological traces of early settlements nor ceramics were encountered in the area around Durupınar and Nasar. In 1985, Atatürk University Archaeologist Professor Dr. Mehmet Karaosmanoğlu also surveyed the same area and found no ceramics. Due to the lack of archaeological materials, questions have arisen as to the actual nature of the Durupınar site next to Uzengeli. Many view it simply as a geologic formation rather than an archaeological formation (Snelling 1992; Collins and Fasold 1996; Avcı 2005). In recent years the shape of the formation has also been changing due to natural erosion down the hill.

From Durupınar, the expedition headed south to visit the Meteor Crater on the Iranian border. This meteorite crater, an interesting astronomical/geological phenomenon, was created in 1910 about 1.2 mi (2 km) north of the Doğubeyazıt-Iran highway. The crater, with its diameter of 115 ft (35 m), is one of the larger extant meteorite craters on Earth.¹⁴

Geological Surveys

One of the most interesting finds during the 2001 Mount Ararat Surface Survey were the numerous sea fossils found on the

hillside extending in a southeastern direction directly behind the Simer Hotel along the Doğubeyazıt-Gürbulak highway, across the valley from Great Ararat and Little Ararat. The discovery of sea fossils in the limestone and sandstone sediments of this region is of importance, in that it shows that an area of some elevation—5,192 ft (1,583 m)—was under water at one time, indicating Flood activity where the limestone sediments were deposited. The limestones and sandstones throughout the Mount Ararat region have numerous fossil deposits (Abich 1851).

The survey team went on to visit the Tuzluca salt mines. Clifford Burdick, a geologist who studied the region from 1966 to 1974, suggested of the Tuzluca area that Flood evidence may be shown by the 400 ft (122 m) intermixed layer of salt crystals at the mines of Tuzluca where the expedition retrieved salt samples:

The salt was laid down in layers exactly as the limestone and sandstone and shale were, interbedded with thin layers of silt and dust. After the salt was precipitated, the wind evidently blew dust over the salt layer, and then a stronger gale may have caused a tidal wave to bring in a fresh flooding of the basin. Then, as the winds died down, evaporating water again precipitated a new layer of salt. I counted as many as fifteen to twenty such layers in one place (1967).



Rex Geissler

□
The Durupinar site is changing shape year after year with more rain and snow meltwater coming down the hill, which causes natural erosion to the site and vicinity around it.

Diyadin Geysers Geological Survey

The Diyadin geysers and hot springs were studied on the return route from Mount Ararat to Atatürk University in Erzurum, 34 mi (54 km) away from the provincial capital of Ağrı. The expedition viewed the limestone cliffs of the Murat River, which was named the Arsianias River in antiquity. The Murat River begins directly west of Mount Ararat and Tendürek Dağı, and is a principal source of the Euphrates River. The expedition stopped at the Diyadin limestone geysers and hot springs that may be evidence of recent Flood and lava activity where the ground water in the limestone sediments contacts the molten lava below it, causing it to heat up and spill out in geysers and hot springs (Burdick 1967).

Toklucak Archaeological Survey

The last area researched during the 2001 Mount Ararat Archaeological Survey was the Toklucak rock cliff dwellings. The group explored the area where the labyrinths of the rock caverns near the village of Toklucak were found. The hill rising inside the village is called “Fortress Hill” and is 492 ft (150 m) in height (Koçhan and Başaran 1986: 245). The upper part of the hill consists of a set of straight vertical rocks (Koçhan and Başaran 1986: 245). On the southern slope of the rocks, the villagers have discovered a graveyard as a result of their illegal digging. Among the graves, sepulchers from the Christian

Byzantine period can be found. The crosses engraved in the rocks on the east and west slopes of the hill can be seen as indicating a Christian settlement here. In this area deep narrow channels and corridors have been hewn into the rocks.

There are rock labyrinths similar to those at Toklucak, even if only remotely so, in Urartian settlements (Koçhan and Başaran 1986: 245). The stairs on the southern slope of the Van Fortress, which are referred to as “One Thousand Stairs” (Burney 1957: 41) by the locals, are similar in their construction to the rock corridors of Toklucak. In Toprakkale there is a winding path with stairs hewn into the rock. In the way this path winds downwards, it very much resembles the Toklucak corridors. It has been indicated that the corridors of Toprakkale and Van were used to descend to the springs (Erzen 1976: 167, 1980: 47). Looking at the corridors of Toklucak in this way, we can propose that they were used to descend to the water supply. The modern-day villagers also stated that the corridors were used to descend to the springs.

Local Traditions Around Mount Ararat

While it is difficult to trace the dates in antiquity of Flood traditions around Mount Ararat, there are a number of such traditions to be considered (Parrot 1845; Bryce 1877). Along with the alleged eyewitness testimonies (Corbin 1999), the Echmiadzin monastery claims a relic that is said to be a piece of Noah’s Ark, which is reddish-brown petrified wood measuring



Rex Geissler

The Meteor Crater on the Iranian border with Great Ararat and Little Ararat in the background, as well as parasite volcanic cones visible between the two large volcanoes.

about 12 in by 9 in (30.5 by 23 cm) and about 1 in (2.5 cm) thick. The relic does appear to be an organic material with noticeable striations in it. The missing portion of the petrified wood on the lower left was broken off and given as a gift in the 18th century to the Russian Orthodox Queen Catherine the Great (sovereign of Russia from 1763 until her death in 1796). The name Echmiadzin itself means “those who descended.” Noah’s wife’s tomb is said to be at Marand, the Marunda of Ptolemy (meaning “the mother is there”). The eastern district of Ararat, named Arnoiodn, means “at Noah’s foot.” The town name Kargakonmaz means “the raven won’t land.” The town named Temanin means “the eight.” The name Ahora (Arghuri) means “he planted the willow (or vine),” which is where Noah allegedly planted a vineyard and where a glacier-fed stream continues down the mountain to the fertile Aras River Valley. One of the meanings of the town name Nakhechivan is “the place of descent” (Corbin 1999).

2001 Mount Ararat Survey Summary and Future Plans

Finally, the pottery discoveries, tombs and graves, rock dwellings and corridors found by the 2001 Mount Ararat Archaeological Surface Survey and other pre-classical surveys in the same region clearly manifest that Mount Ararat and its surrounding area have seen uninterrupted settlement by various cultures from at least the Late Chalcolithic to modern times. Estimates of the time periods of these Chalcolithic sites

include the Amuq E/Early Amuq F of the early to middle fourth millennium BC (Marro and Özfirat 2003), which is obviously close to the timeframe of the Flood. Archaeological evidence has been found around Mount Ararat for the Late Chalcolithic, Early/Middle/Late Bronze Ages, Iron Age, Urartian Kingdom, Byzantine/Armenian Christian Period, Bagratide Kingdom, Arab Period, Akkoyunlu State/Karakoyunlu State, and the Ottoman Period. At this date, ancient textual evidence is lacking from the region around Mount Ararat. Particularly for the time periods until Urartu and its cuneiform writing, there is no known textual evidence. This emphasizes the need for more archaeological research in the numerous cemeteries on the slopes of Mount Ararat that are typically flanked by fortresses, as well as along the Aras River Valley.

Atatürk University in Erzurum and ArcImaging have already signed and notarized contracts to continue with more surveys of the region. In future archaeological surveys, plans are being made to focus on the Mount Ararat Chalcolithic sites and Early Bronze Age sites (dated around 3400–2200 BC), including Iğdir and Ağrı Province *höyüks* (Kuftin 1944; Barnett 1963). In addition, plans are being made to study the ruins and caves at Korhan Pasture, Korhan Castle, Ahora Cemetery and Ahora Valley, as well as performing a Ground Penetrating Radar (GPR) survey of the Mount Ararat ice cap.





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An inside view of the Meteor Crater on the Iranian border, with the sun providing the lighting. Great Ararat and little Ararat in the background.



Rex Geissler

Fossil sand dollars and marine animals or plants in limestone or sandstone sediments of the Ararat Valley plain.



Rex Geissler

Detailed view of the salt in the Tuzluca salt layer.



Bill Crouse

Petrified wood relic that Armenian bishops at Echmiadzin claim was a portion of Noah's Ark.



□
Tuzluca salt layer along the Aras (Araxes) River Valley.

Rex Geissler



□
Looking up the valley to the Toklucak rock cliff dwellings.

Rex Geissler



□
Diyadin Geyser shooting hot limestone-based water into the air, with the background showing the highlands' mountains and the Murat River, which is a principle source of the Euphrates River.



□
Diyadin Geyser spitting hot limestone-based water into the air, with a hot spring in the background.

Rex Geissler



Rex Geissler

Mount Ararat survey team checking in the pottery and finds to Atatürk University Archaeology Department in Erzurum for storage by the Turkish Ministry of Culture at Erzurum Museum. (L-R) Dr. Vedat Keleş, Professor Dr. Cevat Başaran, Rex Geissler and Peter Aletter.

Notes

¹ In Turkish, Mount Ararat is named Ağrı Dağı meaning “Painful Mountain,” which those who attempt to climb it understand very well.

² Due to the nature of the Turkish language and character set, Mount Judi is spelled Mount Cudi although the pronunciation is the same with a “j” sound as in “June.”

³ While Great Ararat (Büyük Ağrı Dağı) and Little Ararat (Küçük Ağrı Dağı) are surrounded by lower elevations, making them “stick out” from the surrounding terrain, and their weight may have contributed to the plain’s sinking, the two mountains are actually part of a volcanic chain that extends from the northwest to the southeast and is named in the Turkish plural version, “Ağrı Dağları.” There is also a chain of volcanos that extend southwest to northeast in a line along the north part of Lake Van and further, including Nemrut Dağı, Süphan Dağı, Girekol, Tendürek Dağı, and Ağrı Dağı (Mount Ararat). These volcanoes are described as basaltic and/or andesitic, with obsidian in some locations like Meydan Mevkii. The volcano chain cuts across a structural pattern in which Permian overlies Paleozoic metamorphics south of Lake Van, but Cretaceous and later rocks overlie metamorphics of unknown age and on Ararat, Devonian and Permian sediments with the Upper Cretaceous includes ophiolites (Altinli 1964). The Ararat region is considered to include overthrusting and crustal thickening marked by shallow earthquakes without subduction (McKenzie 1972) with lavas predominantly being hypersthene andesite (Blumenthal 1958:182–86).

⁴ The archaeological surface survey methodology was developed with the assistance of Dr. David Livingston of the Associates for Biblical Research (ABR), Professor Dr. David Merling of Andrews University, and Dr. Bryant Wood of ABR.

⁵ Greater Mount Ararat is bisected by the border of two Turkish Provinces, Ağrı Province whose southern border is shared with the international border of Iran and Iğdır Province whose northern border is shared with the international border of Armenia. Turkish federal permission for archaeological research was granted in 2001 for the Ağrı Province, including the ice cap region, but not for the Iğdır Province, which includes the Korhan Pasture and the Ahora Valley.

⁶ A cursory look at the geographical boundaries of the nations surrounding Mt. Ararat clearly shows the challenges confronting the archaeological researcher. First, the archaeological sites are spread throughout the provinces of four separate nations, Turkey, Azerbaijan/Nakhechivan, Iran, and Armenia, preventing a homogenous study of the sites in territories, as it would be nearly impossible to coordinate permission in multiple nations at the same time. Second, as with other areas of Near East archaeological literature, the languages that detail the known archaeological sites in the region surrounding Mt. Ararat are difficult to correlate homogeneously, as they are in eight different languages, including Turkish, Azerbaijani (also called Azeri), Persian (also called Farsi), Russian, Armenian, French, German and English. Third, the borders for some of the nations are not open, preventing even the possibility of crossing directly into the other nation to communicate with authorities and archaeologists, let alone working through the archaeological procedures at the federal, provincial, and local levels in order to conduct legal research.

⁷ There have been numerous spellings for the province and town of Azerbaijani Nakhechivan that may cause the reader some angst. They include Nakhechivan, Nakhchivan, Naxçivan, etc. but they all refer to the same town and region southeast of Mount Ararat along the Aras (Araxes) River.

⁸ Why are there hole stone anchors not only at Arzap but also at Toklucak, Ahora, Carahunge, etc.? Did Noah take hundreds of anchors along with him to drop in various locations during the Flood? Why would the Ark need anchors to begin with during the Flood? The Bible never mentions the Ark needing anchor stones, or Noah being told to procure stones for anchors. Without any navigational abilities, when the Ark floated over Arzap, why would Noah drop the anchors when he could not steer the Ark and it would not land for another 13 mi (20 km)? How would a single rope hold such an anchor stone of several tons in weight for months in a salty sea, without the rope wearing and breaking along the edges of the stone’s hole due to the wave action of the water and the weathering of the rope in the elements, resulting in the rope dropping the stone anchor to the depths of the Flood before ever arriving anywhere near Arzap, let alone multiple ropes tied to multiple anchor stones? How would such an unbelievably strong rope be constructed or woven at the time of the Flood? How would the eight

people on board (Ge 6-8) cut all the anchor stone ropes at the same time, to drop them on the same location at Arzap, when the Ark was floating around without navigational abilities? Lastly, there is no evidence connecting the hole stones with the Ark whatsoever, or even that a rope was ever even put through the holes.

⁹ Dr. David Merling of Andrews University suggested in his paper on Durupınar and the Hole Stones of Arzap that there is another scientific way to determine whether these standing hole stones were originally anchors or local megalithic observation monuments, or at least to determine where the stones originated:

Chemical and isotopic analyses and mineralogical tests could determine the origin of the stone from which they were carved, or they could say whether or not they are unique to the area they are found today. If these stones were crafted by Noah instead of people indigenous to this region, one would expect that the stone anchors would be composed of rock similar to where the Ark started from, not where it stopped. All of the hole stones appear to be made of basalt (Crouse 1988), a stone common to volcanic regions. Not only do all of the hole stones appear to be made of basalt, but the other stones at the site without holes appear to be made of the same composition. Since the entire region of the Tendurek mountains and Mount Ararat is volcanic, basalt is common to this area.

Since the hole stones are made of a rock commonly found around Mount Ararat, the most likely conclusion is that these stones originated in this region, and the holes were created by the local people rather than by the family who built and rode on the Ark during the Flood.

¹⁰ Here is a list of other places with astronomical megalith monuments: England (Avebury, Stonehenge, Wayland's Smithy, Kents Cavern), Wales, Scotland (Clava Cairns), Ireland (Newgrange, Knowth, Tara), Germany (Externsteine, Nebra, Gollenstein, Felsenmeer), Benelux (Weris), France (Carnac, Lascaux, Chauvet-Pont-d'Arc), Italy (La Spezia), Malta temples (Tarxien, Hypogeum),

and Scandinavia (Tanum) (Thom 1971; Kaulins 2003). From an orientation analysis of all the surveyed megalithic sites that Alexander Thom found, as did G.S. Hawkins at Stonehenge, stones were accurately aligned in too many incidences to be accidental. Whenever Thom discovered megalithic stones aligned, he found they had been set up with precision accuracy (the stones at Callanish were within one tenth of one degree, and on Avebury the accuracy approached 1 in 1000).

¹¹ Professor G. S. Hawkins wrote in May 18 and Jun 28, 1999 letters to Dr. Herouni,

I am most impressed with the careful work you have done...The menhir-lined Avenue leading from the stone circle (of Carahunge, P.H.) is similar to the Avenue at Stonehenge, and the Avenue at Callanish. The former points to the midsummer sunrise, and the latter to the extreme point of the setting of the moon. Both date to the third millennium B.C. At Carahunge, the arrangement is similar. The Avenue from the stone circle points to the extreme northerly rising of the moon in the third millennium B.C. As with Stonehenge and Callanish, the Avenue is the most distinctive architectural feature of the monument.

¹² Dr. Paris Herouni has 21 patents, 346 published scientific works, is the President and Founder of Radiophysics Research Institute in Yerevan and the Head of "Antenna Systems" chair in the State Engineering University, Yerevan. Dr. Herouni has also won the following awards: Lomonosov's Gold Medal of IAEPS; Bronze Medal of France Foreign Ministry; Antenna Prize of IEE-URSI (GB) for the work "The First Radio-Optical Telescope"; and State Prize of USSR in the field of Science.

¹³ This angle (which is now equal to 23.44°) 7000 years ago was equal to about 30° (so at that time it was colder in winter and hotter in summer than now).

¹⁴ Interestingly, there is another large meteorite crater near the Korhan Pasture that is on the northwest side of Mount Ararat.

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About the Authors

Professor Dr. Cevat Başaran has been the Head of the Archaeology Department at Atatürk University in Erzurum, Turkey from 1995–2008. Dr. Başaran received his Bachelor's Degree in Archaeology from Atatürk University in 1980, his Doctorate (PhD) in Archaeology specializing in Classical Archaeology in 1987, became an Assistant Professor in 1991, Associate Professor in 1994, and Full Professor (Professor Dr.) in 1999. Professor Dr. Başaran is also the Head of the Parion, Çanakkale Hellenistic Archaeology Excavations next to the Dardanelles from 2005–2008, which is a Royal Necropolis. At Parion, Dr. Başaran has excavated the aqueduct, necropolis with many different types of burials from simple pithoi and urns to sandstone sarcophagi, terracotta figurines of deities, unguentaria, terracotta lamps, glass and terracotta cups, bronzes, coins, charred fruits preserved in a female grave, gold coins in the mouths of parents and a daughter, a bronze mirror, gold earrings with Nike and Eros, a gold chain with animal protomes of goat and lion, a gold diadem with olive wreath, perfume jars, a bronze amphora, and three gold olive crowns.



Assistant Professor Dr. Vedat Keleş received his Bachelor's Degree in Archaeology and Art History from Atatürk University in Erzurum, Turkey in 1995, became a Research Assistant in the Atatürk University Archaeology and Art



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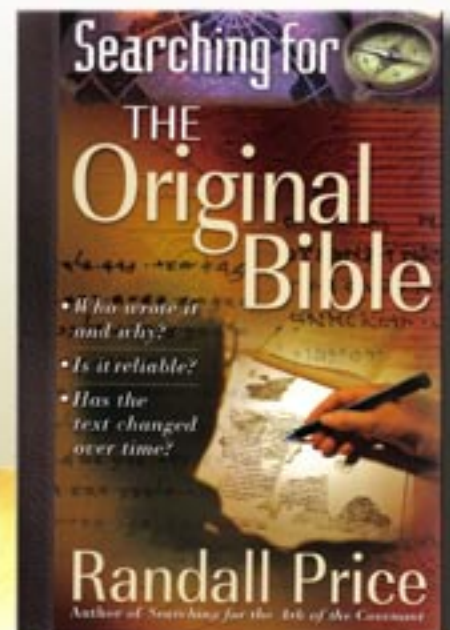
Rex Geissler is the President of Archaeological Imaging Research Consortium (ArcImaging), which is focused on archaeological research around Mount Ararat in partnership with Atatürk University in Erzurum, Turkey. Rex graduated Summa Cum Laude in 1987 from Illinois State University with a 3.91 GPA in Computer Science and has worked for IBM, Walt Disney Studios, Edison Energy, Bankers Trust, and currently Sybase where he helps companies with Enterprise Architecture Modeling Software. Rex has published ten books, several on scientific evidences supporting the Bible. Rex co-authored and published the classic 482-page book on the subject, *The Explorers of Ararat: And the Search for Noah's Ark*, which includes 265 photographs. Rex shares photos of historical sites and museum archaeological artifacts around the Near East including Cappadocia, Egypt and Sinai, Greece and the Apostle Paul's Missionary Journeys, Hittite Capital Cities Alacahöyük and Hattusas/Bogazkale and Yazilikaya Rock Sanctuary, Israel and Jerusalem, Italy and Rome, Turkey and the Seven Churches of Revelation, and Urartu on his websites—www.greatcommission.com, www.noahsarksearch.com, and www.arcimaging.org.



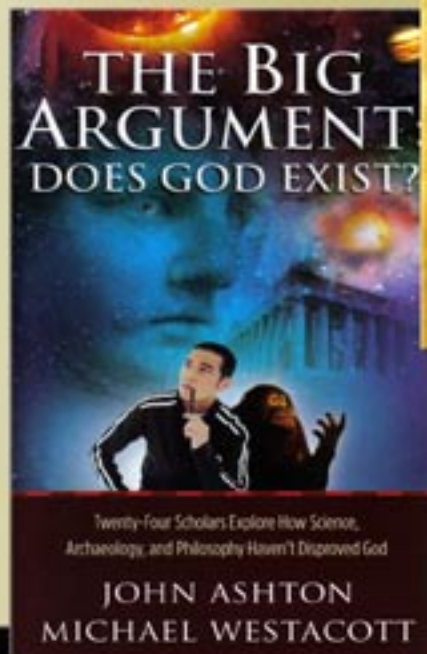
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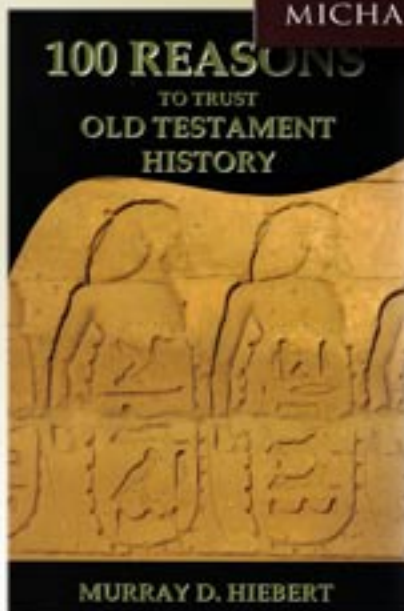
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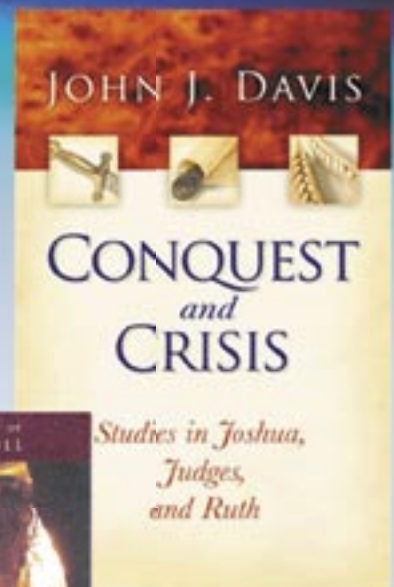


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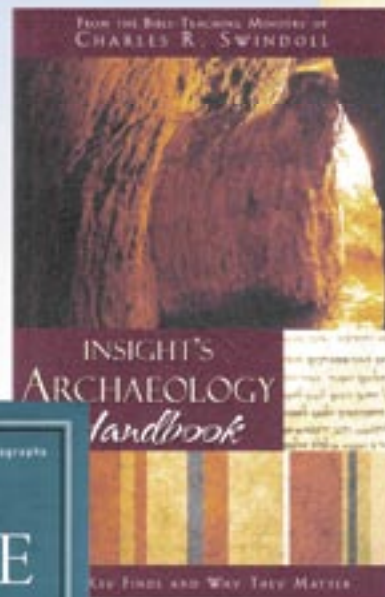
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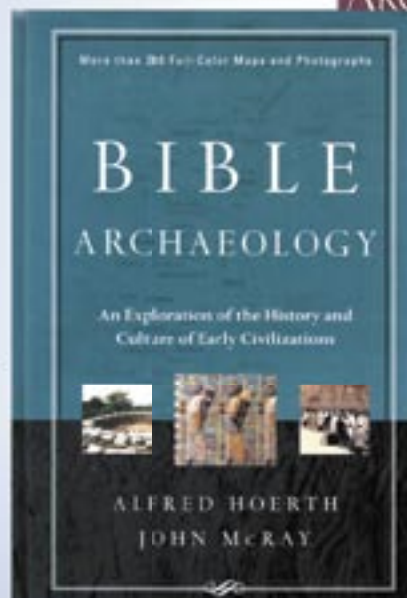
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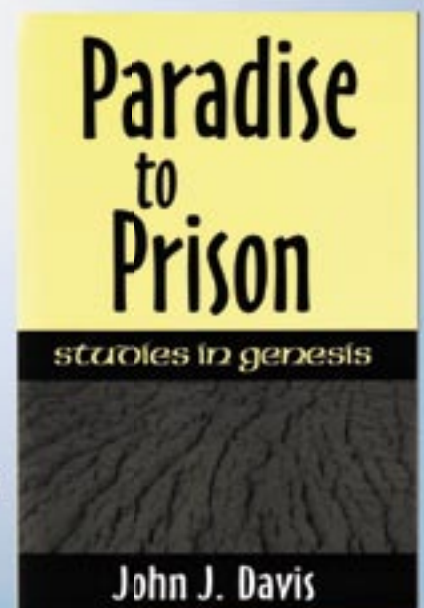
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