

Karahundj

Armenia's Stonehenge

Armenia, located in the Caucasian Mountains on the Black Sea between Russia and Turkey, contains some of the most significant cultural examples of sacred geometry, as well as other remarkable prehistoric structures, such as the "stonehenge" at Karahundj. Rick Ney explores their cultural significance.



They sit like soldiers on a hill, huddled in formation. The 204 stones near Sissian have been ascribed with mystical, fertility and cosmic powers, but rarely have ancient monuments caused such a sensation in astronomical circles.

These simple stones stretched out along the crest of a hill overlooking the Sissian River challenge the very dating of early astronomy and the answer to the question, "Who were the first astronomers?" If proven true, a current controversial dating of the stones at Karahundj predate England's Stonehenge, they predate the Babylonian's claim to being the first astronomers, and they confirm what some people already suspect: that Armenia is the birthplace of the [zodiac](#), and perhaps the beginning of navigation and the concept of time.

Ancient Astronomy at Metsamor

Pretty amazing claim for a group of rough-cut stones that have been almost ignored for centuries. Not so to Elma Parsamian and Paris Herouni, both who have taken a [keen](#) interest in the complex about 5 kilometers from Sissian. Parsamian, an astral-physicist at the Byurakan Observatory and Internationally renowned lecturer on Astronomical History, and Herouni, the director of the first optical-radio telescope, have both crusaded to bring the stones at Karahundj to the attention of the astronomical world, and they are about to succeed. Astronomers from Europe and the US are showing increasing interest in the complex, and several expeditions have already taken place, confirming much of what these two conjecture.

It should be no surprise to anyone who knows something of Armenia's history that astronomy is such an important part of the national character. Sun symbols, signs of the zodiac, and ancient calendars predominated in the region while the rest of the world was just coming alive, culturally speaking. Egypt and China were still untamed wilderness areas when the first cosmic symbols began appearing on the side of the Geghama Mountain Range around 7000 BC. At Metsamor (ca 5000 BC), one of the oldest observatories in the world can be found. It sits on the southern edge of the excavated city, a promontory of red volcanic rocks that juts out like the mast of a great ship into the heavens. Between 2800 and 2500 BCE at least three observatory platforms were carved from the rocks. The Metsamor observatory is an open book of ancient astronomy and sacred geometry. For the average visitor the carvings are indecipherable messages. With Elma Parsamian, the first to unlock the secrets of the Metsamor observatory as a guide, the world of the first astronomers comes alive.

"The Metsamorians were a trade culture," Parsamian explains. "For trade, you have to have astronomy, to know how to navigate." The numerous inscriptions found at Metsamor puzzled excavators, as indecipherable as they were elaborate. Hundreds of small circular bowls were carved on the rock surfaces, connected by thin troughs or indented lines. But one stood out. It is an odd shaped design that was a mystery to the excavators of the site, until Professor Parsamian discovered it was a key component to the large observatory complex. By taking a modern compass and placing it on the carving, Parsamian found that it pointed due North, South and East. It was one of the first compasses used in Ancient times.

Another carving on the platforms shows four stars inside a trapezium. The imaginary end point of a line dissecting the trapezium matches the location of star which gave rise to Egyptian, Babylonian and ancient Armenian religious worship.

Sketch the locations of the Jupiter moons over several nights and you're repeating an experiment Galileo did in 1610. Chart a star over several years and you repeat an experiment the Metsamorians did almost 5000 years ago. By using the trapezium carving and a 5000 year stellar calendar, Parsamian discovered that the primary star which matched the coordinates of its end point was the star Sirius, the brightest star in our galaxy.



Worship of Sirius

"Sirius is most probably the star worshipped by the ancient inhabitants of Metsamor," Parsamian explains. "Between 2800-2600 BCE Sirius could have been observed from Metsamor in the rising rays of the sun. It is possible that, like the ancient Egyptians, the inhabitants of Metsamor related the first appearance of Sirius with the opening of the year."

Those wanting to plot the same event from Metsamor will have to wait a while. Sirius now appears in the winter sky, while the inhabitants of Metsamor observed it in the summer. (Because of the earth's rotation within the rotation of the Milky Way galaxy, stars change their positions over time. In another 4000 years or so Sirius will again appear as it is plotted on the Metsamor stellar map).

The Metsamorians also left behind a calendar divided into twelve months, and made allowances for the leap year. Like the Egyptian calendar which had 365 days, every four years the Metsamorians had to shift Sirius' rising from one day of the month to the next.



"There is so much I found in 1966," Parsamian adds, "and so much we do not know. We believe they worshipped the star Sirius, but how? I like to imagine there was a procession of people holding lights. These carved holes throughout the complex may have been filled with oil and lit. Just imagine what it must have looked like with all those little fires going all over the steps of the observatory. Like a little constellation down on earth."

Parsamian has a special regard for Metsamor, since it was she who uncovered many of the mysteries of the inscriptions on the observatory, answers which explained other finds uncovered at the excavation site. "When you walk over this ancient place, you can use your imagination to complete the picture. I love to visit Metsamor since I feel I am returning to the ancients."

Sissian was not alone in holding prehistoric and ancient stones endowed with supernatural powers. Three caves in Vayots Dzor region were renowned for the fertility properties of certain stalactites. Even today pagan rituals are preserved, including "Matagh" (sacrifice) and tying bits of clothing to trees near churches in a sort of "wish tree" or "burning bush" ritual. Supplicants, especially from villages, still follow pre-Christian rites of walking seven times clockwise (i.e. the path of the sun encircling around the earth) around a church while praying and holding a sacrificial animal. Steeped in tradition, the Armenian church—just as the Church in Rome—usurped pagan traditions and converted them to a Christian purpose, but they exist underneath all the same. Almost all 4th–7th century churches were built over pagan temples, carefully preserving pagan traditions of orienting the altar to the East, the entrance to the West and following a strict sacred [numerology](#) of constructing churches on a ratio of 1 to 2 and 1 to 3.

The superstitions surrounding sites like that at Sissian made the archeological discoveries in the 1980's all the more profound. But it also opened a controversy around the reason for the stones, and just how old they are. Archeologists excavating site said the age of the site—including the stones—to be mid 3rd millennium BC, but the reason for the stones was never fully explained.

Parsamian and her assistant Alexander Barsegian conducted the first astronomical study into its mysteries in 1983. Archaeologists thought the stones were simply placed around the circa 3000–2000 BCE graves located nearby as monuments. They were immediately struck by the overall design and the number of stones at the sight. To Parsamian—who had just received recognition for her ground-breaking explanation of the purpose and date for the observatory at Metsamor—the purpose of the stones at Sissian were never adequately explained by excavators, and dating is still to be determined.



An Ancient Observatory

"I was told the stones were perhaps ornamental, and the holes were drilled simply so they could be lifted by cranes and put in place," Parsamian said with a smile. "Which is funny, when you consider these stones weigh up to 10 tons, and the holes are placed near their thinnest parts. They would break in a few seconds."



What Parsamian was able to conclude was that the stones were a particular kind of telescopic instrument. She noted that stones on the Western side of the complex held "antsk" (eye-holes), and that they all pointed to the horizon. While archeologists were unable to conclude their purpose as they focused on artifacts found under the ground, Parsamian's experience as an astronomer made her look instinctively to the stars above. "Those eye-holes were pointing exactly at the horizon," Parsamian says, "they looked at specific points in the night sky in different directions." While excavators spent their days at the site, Parsamian and her assistants worked in the night and at dawn. What they found was astonishing. "From these holes you can watch lunar phases and the sunrise at the solstice."

Coming on the heels of her remarkable discovery at Metsamor, the stones at Sissian confirmed her original hypothesis—ancestral Armenians were indeed navigators, they had an intimate understanding of the stars, how to plot latitude and longitude, even how to divide time.

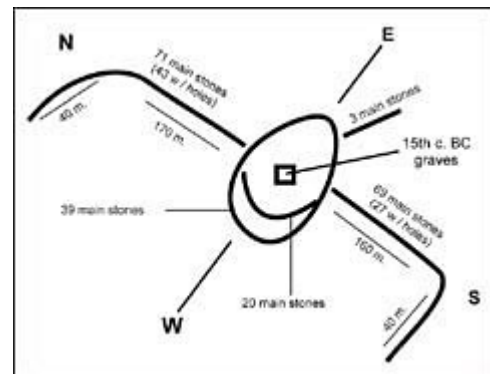
Parsamian was able to confirm the purpose of the stones, but she was unable to complete her investigations because of funding limitations. Nevertheless, her work was enough to fuel a deep interest in the complex.

From her findings it was clear that the site was used to watch the night sky and solar positions, and it seemed the stones were from a different era than that of the burial ground. Other archeologists agreed, but lacking carbon dating or other methods of determining the age of the stones, they were unable to agree on a specific date, and so the site was ascribed as 3rd millennium BC.

Parsamian published her findings beginning in 1984, and shared her discovery with others, one of whom was Paris Herouni, the director of the Radio Physics Measurement Institute and the designer of the first optical radio telescope in the world, located just above Byurakan on Aragats mountain. Herouni, an avid fan of Parsamian's pioneering work, was fascinated with her findings. Believing that her pioneering work at Metsamor and Sissian not only shattered previous conceptions about when ancestral Armenians developed their culture, but that it also pointed to a source of civilization itself on the Armenian Plateau, Herouni began to study her work carefully, as well as that by Gerald Hawkins regarding Europe's henges.

Using Parsamian's original findings, Herouni organized four expeditions to the site between 1994 and 1996, each during an equinox or solstice. He and his assistants brought chronometers, telescopes and other astronomical equipment to test the accuracy of the stones.

"We even took a helicopter and flew over the sight to accurately plot the area," Herouni says with a laugh. "I had cartographers and photographers all over the site, we marked and catalogued the stones, took measurements--it was like a small army had invaded the area." Herouni and his team soon verified Parsamian's findings: the stones were indeed an astronomical instrument, and it is still very accurate. Holding a topographical map of the site, Herouni points out the site's features, "Inside the complex there are 204 main stones. All of them are made of basalt. They rise between a half a meter to 3 meters tall, their bases are up to one and a half meters wide, and they weigh up to ten tons each. Of these main stones, 76 have apertures, 63 are stable, 16 declining, and 90 lying on their sides. 45 are damaged, especially the apertures." Herouni thinks the damage was caused by invading armies and early Christians trying to destroy the pagan worship site.



A bird's-eye view of the site is impressive. The complex is centered around 39 stones in the configuration of an egg, with its main axis lying East to West. "From East to West, this 'egg' stretches 43 meters," Herouni adds, "37 meters from North to South." Dissecting this central form is an arc of twenty stones that bends to the West, "forming an inner elliptical shape, a 'Khorda'." The excavated graves lie inside the khorda, which led archeologists to originally think the stones were placed there about the same time.

The North and South arms bend at the end to the West. "The North alley is 172 meters long, turning West for another 40 meters. It holds 71 main stones, 43 with apertures. The South alley stretches 160 meters, turning west for 40 meters. It holds 69 main stones, 27 with apertures. The one going southeast stretches 20 meters, with three main stones inside the alley."

Though the exteriors of the stones are rough and lichen covered, the holes are still polished and finely cut, measuring between 5-7 cm in diameter. And these apertures are the key to the entire site. They are actually very accurate telescopes that point to sunrises and sunsets at specific times of the year. Lying only in stones on the arms of the complex, each points to a different point on the horizon.

Herouni's team measured each one and looked for clues of how they might have been used. "The eye-holes measure 7 to ten centimeters diameter at the surface, then funnel down to 5 centimeters in diameter before opening up again on the other side. The stones themselves resemble animal shapes, but they are rough cut, nothing looks refined or interesting. But every one of the apertures are polished on the inside. When we took our instruments and looked at the azimuths through them, we found they were very accurate."

How Accurate is Karahundj?

How accurate? Herouni sketches out a schematic of England's Stonehenge, pointing to two inner circles inside the mammoth stones most people think as the monument itself. "Those huge 'doors' that everyone thinks is Stonehenge are nothing without these smaller stones in the middle," Herouni says as he points to a circle of lower stones on his drawing. "These are the sight stones for the complex. You stood behind them, then you placed a pole in one of these holes in the ground between them and the door ways. That's the only way you could spot something in the sky. There are many of these stones and holes, so Hawkins thinks the astronomers rotated around the circle to keep up with the moving sun and moon."

The stones at Sissian are completely different. "Of all the henges discovered, none have apertures. None. And

the apertures are so cleanly cut, they pinpoint very small spots in the sky. At Stonehenge your field of vision is much larger, the door ways are about 70 centimeters wide. But at Sissian, they are only 5 centimeters diameter. You can pinpoint a spot within a spot. It is extremely accurate. Even more so when you think they might have made cornices from clay or wood and placed them inside the apertures. It would have made the telescopes amazingly accurate for that time. Even for today."

Optical Inserts?

Wafer thin obsidian glass uncovered at the site led some to suggest that an optical insert may have been placed inside the holes for magnification. "Perhaps," says Herouni, "but no one has uncovered anything like an insert, so it remains to be seen. I did find a piece of obsidian that had been ground to a sharp point at one end. It looks to me it was used to etch with. What, we never found out."

Herouni is sure the site is, as Parsamian said, an astronomical instrument. And he is also sure the site was used to plot sunrises, moon phases, and he adds, "the beginning of a calendar".

"To plot the sky, you have to have an idea of time. These stones—many of which look to the azimuths, were used at specific times of the year to chart solar and lunar phases. Those with eye-holes point exactly to the point where they occur at exact times of the year. What astonished all of us during our expedition was just how correct they still are."

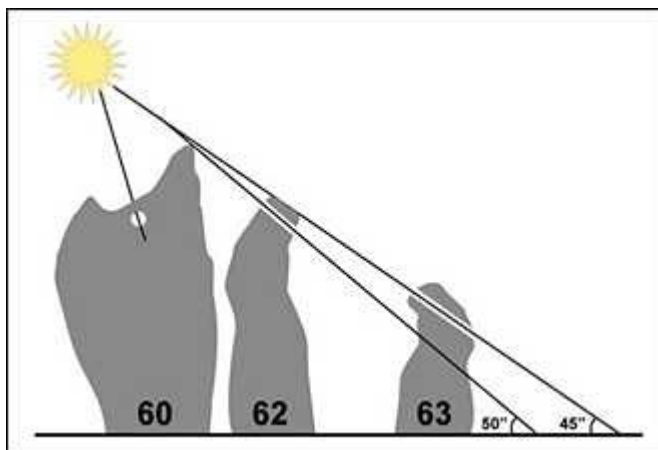
Unlike star positions, the sun and moon continue to cross azimuths in the same position in the night sky. So key stones emerged as reliable predictors of their phases.

"This would be crucial to the ancient cultures," Parsamian said about the observatory at Metsamor. "The ancients had to know when the new year began, the exact moment. At Metsamor they could observe Sirius appearing in the rays of the dawning sun. That was the cosmic event they looked for, the one they staked their reputations as priests by predicting. This was complicated stuff."

A Complex And Elegant Instrument

And those that didn't have holes, what were they for? "They were all part of the same instrument," Herouni says. "Eye holes were not enough without other points to fix the angle of the sight. So we have stones to look through, and others close by that were used to line up the stone, to establish the angle of sight."

"There is one stone, which can be called the keystone to the whole complex, it has a bowl carved on one side. At first I looked at that bowl and thought, 'What on earth could this be?' Then it rained one evening, and the next day the bowl was filled with water, and I thought, 'Of course! This is a levelling stone!'"



By pouring water into the bowl, Herouni believes the ancients could set the angle of the keystone, thereby setting the other stones into position. An ingenious method at the time. "You can't tell me these people were simple," Herouni challenges. "They understood geometry and the

laws of physics long before anyone in Europe began to look into the matter. This was an incredible culture."

Herouni points out three stones (#60, 62, 63 in diagram) which form part of a single instrument, "a beautiful and important instrument," he adds. "So many of these stones look like animals or people. # 60 we called the cock, or rooster, because of its shape. One tip is higher than the other, and was a sighting point for #62, which has an eye-hole that looks right over its tip. Then there is #63, which has an eye-hole that also looks at the tip of the rooster, but at a different angle. It was the levelling stone for the first two."

"The latitude at Sissian is 40°", Herouni says. "From there the position of the sun at midday on the summer solstice is 50°. The eye-hole in stone #62 is angled at 50°, just over the tip of the rooster stone (#60). But the angle of the eye-hole in stone #63 (the levelling stone) is 40°, that is, the same angle as the latitude at Sissian. These were the stones we used to watch the summer solstice. We had our telescopes, our instruments hooked up at the same angle, but the stones were still so accurate we wondered why we needed all these expensive tools. The stones were so elegantly correct."

Other stones mark the sun at its zenith at the equinox. "March 21 is the beginning of Spring. We all know that. March 21 was also the beginning of the New Year in the Old Armenian Calendar. These stones were crucial to marking the start of the year." Herouni adds that holes also point to constellations in the night sky, and that the site was also a university.

"Stones #160 and #161 (shown in the image) are what I call the university. # 160 looks West to a low hill, and is positioned for an adult to look through it. Right next to it lies stone # 161, which looks at the same point, but is much lower. It is ideal for a child to use. I believe it was used to teach the next generation how to use the complex."

The Zodiac

The one thing Parsamian needed to better date the site was a key inscription or design like the compass and trapezium she found at Metsamor. If she had found that, she could have begun her calculations based on a stellar calendar. But she could not find the key to unlock this final mystery, and so returned to her work at Metsamor and as an astrophysicist at Byurakan.

Herouni believes he has found the key, and using the same method Parsamian used to date the observatory at Metsamor, is conjecturing that the stones are so much older than the excavated graves, it will "shake everyone's theories about when astronomy began."

To put Herouni's theory into perspective, it is important to understand what the classical history of the beginning of astronomy was. That history officially begins around 3500 BC, when Mesopotamians were thought to have built ziggurats (stepped towers resembling a pyramid) in Sumeria, in order to study the night sky. It continues to ca. 2800 BC, when historians thought the division of the firmament into constellations was completed, creating the Zodiac.

It concludes with the first Babylonian Empire (ca. 2400-1800 BC), where historians say the first astronomy really began, as well as the first calendar, a counting system based on 60 (the beginning of time division), and the first navigation. In some histories the whole thing occurred during the Babylonian empire period.

By the time Parsamian had first published her findings in Metsamor, this history had already been challenged with excavations showing zodiac signs much older than anyone had seen before, in Anatolia and the Armenian Plateau..

Astronomy without Telescopes?

A startling report done in 1988, which challenged previous thoughts about where the Indo-European language came from, fed the fire, and as more and more excavations and studies came forward, it has now become more widely accepted that both the Indo-Europeans and the Zodiac were not the domain of the Babylonians and the end of the 3rd millennium, they were the domain of the peoples living in Anatolia and on the Armenian Plateau.

Parsamian points to several studies suggesting the source of the Zodiac came from the Armenian plateau. And she points to no less a person than the most famous investigator of stone observatories in the world, Gerald Hawkins, who wrote to Victor Hambartsumian saying he believed that stone henges in the West are not unique, and that the same monuments can be found in Armenia.

"Maunder and Olcott were the first to put the zodiac in our part of the world," Parsamian adds. "Both of them—and this is in the early part of our century—wrote that the zodiac constellations were created in Eastern Anatolia and Armenia.

E. Maunder and W. Olcott, respected astronomers and archeologists, based their theory around the designs of the constellations—just what animals were chosen to represent the constellations, and where did they come from—to lead to where they originated.

"There are millions of stars," Parsamian says, "you could have made any design you wanted. Maunder and Olcott asked, 'why these animals?', knowing they would lead them to the place the zodiac creators lived."

Astronomical facts correspond with historical and archeological investigations and prove that people who have invented the ancient figures of the constellations probably lived in the valley of the Euphrates, as well as in the region near the mountain Ararat.

While Maunder, in his *Astronomy Without Telescopes* (London 1906), wrote:

People, who divided the sky into constellations, most probably lived between 36 and 42 degrees of the northern latitude, so neither Egypt nor Babylon could be the motherland of creation of constellations. Calculating in what place the center of this empty region coincides with the North Pole, we got the figure 2800 BC, which is probably the date during which the naming of the constellations were completed. It was observed that such animals such as the elephant, camel, hippopotamus, crocodile and tiger were not amongst the figures representing the constellations, therefore we can assert that India, Arabia and Egypt could not have been the place where the idea of the firmament originated.

We can exclude Greece, Italy and Spain on the basis of the fact that the figure of the tiger is presented in the figures of the constellations. Thus, purely by logical thinking we can assert that the motherland of the celestial figures must be in Asia Minor and Armenia, that is to say a region limited by the Black, the Mediterranean, the Caspian and the Aegean Seas.

Parsamian's discovery at Metsamor, and the stones at Sissian give concrete credence to Maunder's and Olcott's theories, especially when coupled with ca. 4000–3000 BC stone carvings of zodiac figures on rocks on the Geghama Mountain Range in Armenia.

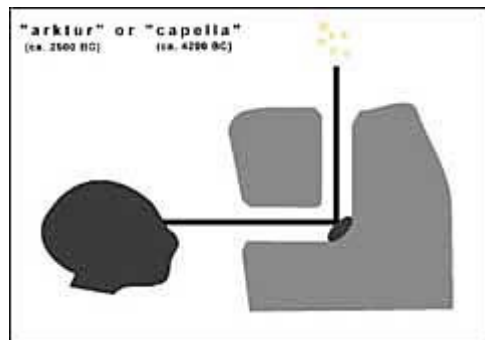
Now Herouni steps into the fray, armed with calculations and methodology borrowed directly from Parsamian's study at Metsamor.

As Herouni and his team catalogued the stones, they found one that was different from the rest. Herouni believes it is the key stone Parsamian was looking for. "All the stones with apertures point to the horizon or lunar positions in the night sky", he says. "All, that is, but one".

"While other sight holes pointed to the horizon, this one had an aperture that bent in the center and pointed directly up. You couldn't see anything looking through that aperture, but if you put something shiny at the bend, something like a polished metal or obsidian, you could look through the hole to a zenith point straight above you. It was a periscope."

Herouni excitedly began to make calculations from this unique stone. Figuring the ancients looked at specific star or constellation through the periscope, he knew he had the key Parsamian was looking for to be able to date the site.

"The chances of something like that occurring are very small," Herouni said.



"Mathematically I was certain it would lead to one star or group of stars in the sky, and then we would have our date."



Herouni was able to discount the sun or moon, since they do not cross the zenith point above the stone at that latitude. At the same time, because of the tilting axis of the earth as it rotates around the sun, [the stars](#) change their apparent position in the night sky, something Herouni calls a "delivered rotation to the elliptical plane by 23 degrees, with a conical precision of 26,000

years," he knew that what appeared at the zenith could only be a star or stars. Figuring that even with a polished object as a reflective mirror, the ancients would not have been able to observe any distant stars, Herouni chose to study the brightest stars in the North sky for his calculations.

Using the same method Parsamian had published in her study on Metsamor, Herouni took the latitude of the site, five of the brightest stars in the North sky, and compared them with a stellar calendar showing the stars ascendant in Sissian region during different epochs of time.

"The probability of one of these stars crossing the zenith at that point was very low. I expected to find at most one star, or one group of stars."

What shocked Herouni when he completed his calculations was that he found not one star at the zenith above the stone, he found two. "The star calendar showed there was a 100% probability of the stone pointing to two stars," Herouni said, "each at different times. The chances of it actually pointing to two stars is infinitesimal."

The two stars are Arktur and Capella.

"The interesting thing is that Arktur was ascendant at the time the old or "main" style Armenian calendar began (2492 BCE). Now this would make the site a few hundred years younger than that at Metsamor, but I believed it had to be older, for several reasons, not the least of which is that by the time of Metsamor, the astronomers were already drawing star positions and geometric figures on stone. It looks like they were mapping the night sky on their observatory site. But we have found no inscriptions at the Sissian site. There had to be advancements in the culture to reach Metsamor's sophisticated level."

Haik and the Stones at Sissian

Another reason is that Herouni made a further calculation: The calendar Herouni refers to is not a first calendar, it is a calendar change.

"I refer to King Haik, who many think was a legend. By my studies, and through archeological finds, his name appears in historical chronicles of that time, looking very much to me like he was an actual person."

Haik is connected to the Babylonian King Nemruth (Nemrod), who is connected in the bible with the tower of Babel. Armenian legend calls Nemruth "Bel", but retains the story of Babel. In that legend, Haik is supposed to have participated in the construction of the tower, but when it fell he left Babylon, taking his people to the North. Herouni points to a Babylonian clay tablet where Nemruth wrote to Haik, asking him to return.

In the legend Haik refuses, and Nemruth sent an army to punish him. Haik's army, skilled archers, are said to have slain the army, Haik's arrow piercing Nemruth's armour. Haik took Nemruth's body to his capital near Lake Van, where he hung him from his tower, a warning to anyone who doubted his own strength.

Nemruth's death is mentioned on actual Babylonian border stones at the site where the battle is said to have taken place. Those stones and the clay tablet letter to Haik convinces Herouni that the legendary Haik was in fact an historical person.

"And this part is not legend. Haik changed the old Armenian calendar to celebrate his victory, by changing the names of the months to the names of his sons and daughters. He had ten children, so two of the months kept their original names."

Solar Calendar

Unlike other calendars, the Armenian calendar is a solar calendar. While the Egyptian calendar is also based on 12 months and 30 days, the Armenian calendar includes 7 days in a week, and each day of the month has its name.

"Egypt and Babylon used a moon calendar first," Herouni says, referring to studies on historical calendars by Benik Toumanian and Haik Badalian. "Or some combination. The Jewish calendar is a combination of sun and moon calendar, it is very complicated. Armenia never had a moon calendar, they knew about solar positions, eclipses. They came up with a 365 day calendar, that had to be corrected every four years."

And so to Herouni, the changing of the old to the "main style" calendar, which occurred in 2492 BC, is a second key to the dating of the site at Sissian. "They had a calendar already, because Haik changed it. And he changed it at the time Arktur was ascendant above Armenia."

How Long Does It Take?

"And so I asked myself, 'how long does it take to create a calendar? How long does it take to understand the concept of time, to divide it into units? And then how long does it take to go further, to understand latitude and longitude, to develop navigation?' The entire ancient world was navigating by the time Arktur was ascendant—they already had calendars, they understood longitude and latitude."

Herouni calculates it would have taken many years—perhaps thousands—to create the system necessary to begin a calendar and develop the kind of astronomy the people at Sissian used to build the telescopes. "And so, I chose the earlier star, Capella, which was ascendant around 4200 BCE."

If true, it indeed shatters most histories on the beginning of astronomy. It also coincides with the earliest zodiac designs in Armenia, which appeared at the beginning of the 4th millennium BC.

Professor Parsamian thinks Herouni is moving too fast in his enthusiasm. She does not see any conclusive data to confirm or deny Herouni's hypothesis.

"While it might be true," Parsamian says of Herouni's dating, "and I would be very happy if it were proven true, investigations like this must be made over time, and carefully. When I first saw that the observatory at Metsamor was as old as it is, I presented my findings before an audience of archeologists and astronomers. I can tell you there were many of them who were skeptical. There was a great deal of 'Who is this astronomer telling us how to date things.' I held my breath."



Parsamian's calculations were nothing less than a revolution in scientific circles. More than a few archeologists

refused to admit the credibility of her study. "Archeologists have to touch things," Herouni said when asked about dating processes. "They look at artifacts and then compare them to other artifacts. They can't always believe that such a thing as star calendars exist, that you can in fact more accurately determine dates through astronomy than by comparing jars and pots with surrounding rocks."

Parsamian cautions Herouni in his conjecture. "I will never say 'something is so'. It is never 'so'. It has to be studied and proven or denied by more than one man's ideas."

To Herouni, it is a credit to Parsamian's pioneering work that he was able to make calculations he did to arrive at a date. And he welcomes further investigation, "to deny or confirm the date of origin," he adds with a smile.

Whether 5th millennium or 3rd millennium BC, the age of the site is impressive, since it predates the henges in the west. If Herouni is right, then the stones at Sissian are about 2000 years older than Stonehenge. Shattering history, indeed.

What's in a Name?

And then there is the name. For as long as anyone could remember, the site was called "Ghoshun Dash", a Turkish name meaning "Army Stone", probably because the complex looks like an army of soldiers when seen from a distance. Parsamian translated the name into Armenian, "Zorats Kar", but she couldn't help but notice that a nearby village and locality was called "Karahundj".

Parsamian first noted the 'coincidence' of the Karahundj with its translation into English, an Indo-European language like Armenian.

"The word 'Karahundj' is a complex word, made up of 'Kara' (from stone) and 'hundj'. 'hundj' is very close to 'henge.' So Kara-hundj translates into Stone-henge."

The tricky part is 'henge' and 'hundj'. There are no modern equivalents for these sounds in English or Armenian, both are ancient roots that have evolved into other words over time.

Parsamian adds, "The philologist Babkin Chukasian told me that in old Armenian the word 'hundj' may have been 'pundj' which means bouquet. Over time, we think they changed it to 'hundj' which is very close to the English 'henge'. Gerald Hawkins supposed that 'hundj' might be an old version of the word 'hung' or 'hang', which would make Stonehenge 'hanging stones'."

Herouni thinks that "hundj" is a variant of the Armenian word for voice ('hunchuin'), and the name Karahundj means "Voice Stones" or "singing stones". He notes that at the March equinox, hundreds of people visit Stonehenge in England to listen to the stones, as the winds whistle through them. "Most people know England's Stonehenge, but there are others in England, Scotland, Ireland, even in Iceland and Brittany. One in the Hebrides is called 'Kalinish'. The first part 'Kali' is close to the Armenian 'Kara'. And 'nish' is a precursor of the Armenian 'n'shen' which translates into 'sign'. A town near another henge in England is named 'Karnak', but in old English it was 'Karnish', which is close to the Armenian for Stone Sign."

What is fascinating to word buffs, whatever the real meaning of the words, is that the first part is identical between Armenian and English.

"Here you have two identical words in different languages," Herouni says. "Stone and Kar. And the village has had that name since anyone can remember. I don't think its a coincidence. Logic tells me there has to be a single source. This is Armenia's Stonehenge."

Parsamian bristles at the idea.

"There is only one Stonehenge," she says. "It is in England. Yes, there are hundreds of 'megalithic' monuments or henges in the world, which we find only in Europe—we don't find them in India, or in Egypt, even the Mesopotamian Ziggurats were not built in this way. But there is only one Stonehenge."

So just how old are the stones at Karahundj, or Zorats Kar? And were the ancestors of the Armenians the first to create the zodiac, the first to develop astronomy?

Further testing and analysis is required—carbon dating would help, as would additional research by astronomers. At least the site is 3rd millennium BC, and possibly it is 5th millennium BC. No matter how old the site is, it is older than the henges in Europe, as is the observatory at Metsamor. They are unique—unlike any other henge found.

Remarkably there are two ancient astronomical monuments in Armenia. And there are zodiac signs inscribed on the face of mountains in Armenia as old as any found in the Near East, perhaps older.

"We like to think we are an old country because we were the first Christian state," Herouni concludes. "But here are monuments thousands of years older than Christianity—these are the first signs of religion itself. And yet who looks at them?"

The monuments at Metsamor and Sissian remind us of the first steps to civilization, and they remind us of something else. "After all, if you believe in the Bible, God made the heavens, and then he made the earth."