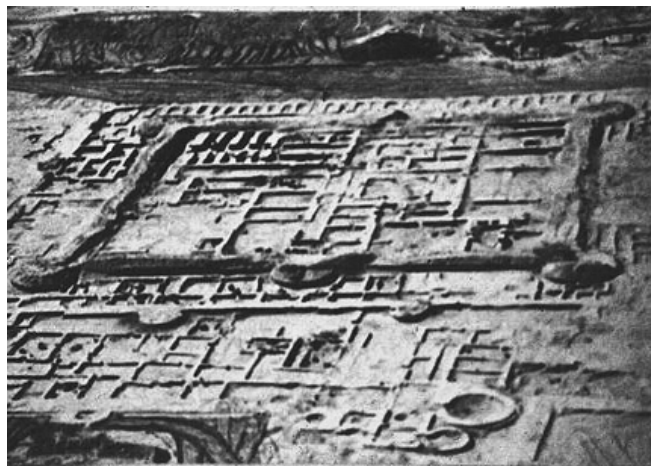




## Archaeologists Find Central Asia Civilization As Old As Sumeria

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Large 150 meters by 150 meters fortified building complex dating to at least 1800 B. C. in the Kara Kum desert of Central Asia at Margiana, Turkmenistan (Russia) near Afghanistan border.

Photograph courtesy Prof. Fredrik T. Hiebert, University of Pennsylvania.

Earthfiles, news category.

**May 5, 2001 Philadelphia, Pennsylvania** - A large, sophisticated civilization equal to Sumeria and Mesopotamia and thriving at the same time at least 5,000 years ago was lost in the harsh desert sands of the Soviet Union near the Iran and Afghanistan borders. But now details are beginning to emerge. This week I visited archaeologist Fredrik Hiebert at the University of Pennsylvania Museum of Anthropology and Archaeology. There he has some exquisite pottery shards the Russian government gave him permission to bring back to the United States from his recent excavations in the Kara Kum desert of Turkmenistan and Uzbekistan on the Iran and Afghanistan borders.



Map drawn by Ardeth Abrams.

No American archaeologist had been there since 1904 when New Hampshire archaeologist and geologist, Raphael Pumpelly, discovered ancient ruins at Anau in southern Turkmenistan near Iran. But the Soviets did not develop the Anau site. In the 1970s, Soviet archaeologists working west of Afghanistan reported vast ruins, all built with the same distinct pattern of a central building surrounded by a series of walls. Several hundred were found in Bactria and Margiana on the border that separates Afghanistan from Russia's Turkmenistan

and Uzbekistan. But nothing was reported beyond a few Soviet journals that were never translated.

Then in 1988 after the collapse of the Soviet Union, Dr. Hiebert first received permission to travel to Anau. He has discovered it is about 2,000 years older than the Bactria and Margiana sites further to the east, going back nearly seven thousand years to at least 4,500 B. C., or the Bronze Age. Not only are the oldest shards from there of high craftsmanship, this past summer Dr. Hiebert also found a black rock carved with red-colored symbols that, to date, are unidentified but considered to be evidence of a literacy independent of Mesopotamia. The discovery is revolutionary to earlier academic thought that Sumeria was the first civilization with language. Dr. Hiebert will present his findings at an international meeting on language and archaeology at Harvard on May 12.

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## Interview:

**Fredrik Talmage Hiebert, Ph.D., Prof. of Anthropology, Univ. of Pennsylvania Museum of Archaeology and Anthropology and Assistant Curator of Near Eastern Archaeology, Philadelphia, Pennsylvania:** "Our work joins Mesopotamia and Sumeria in being one of the world's civilizations in an area we hadn't previously expected to find civilization. This is far to the north of the cities of ancient Mesopotamia, Iran and even north of the ancient cities of the Indus civilization. This is in an area that was formerly part of the Soviet Union, so most western scholars did not have access to this area.

Then this last year during my excavations of June and July 2000, we came across a wonderful discovery: an inscribed stamp seal dated to about 2,300 B. C. that clearly had symbols on it. These symbols looked to us like writing. We looked around at all the different systems in the area. Was it ancient Mesopotamian? Was it ancient Iranian or ancient Indus? We even asked our Chinese scholars if it were ancient Chinese? And it was none of these.



This small 1.3 by 1.4 centimeters shiny black jet stone carved with an inscription emphasized with a reddish pigment was found at the Anau site in June 2000 by Dr. Fredrik Hiebert.

Carved stone was found in a layer of charcoal which radiocarbon dated at 2,300 B.C.  
Photograph courtesy Prof. Fredrik T. Hiebert, University of Pennsylvania.

So, we are proposing that this one single stamp seal is the first ever evidence we have of writing among the cities of central Asia that were found by our Soviet, now Russian, colleagues, and now where we are working as well. In other words, it's not just a linking area of the centers of civilization. But it now

contains characteristics of ancient civilizations itself - cities, monumental architecture, a very elite society such as kings and courts, and now some form of literacy or writing system. This is very important because what it means is that we can re-write the history books about the ancient world. We are not really looking at separate, individually developing civilizations that weren't in contact with each other or didn't know about each other. It seems quite clear that this new piece of the puzzle suggests there was a broad mosaic of cultures that knew about each other and seemed to be growing in relationship with each other. This is the importance of our work.

### **HOW DID YOU SPECIFICALLY DATE THAT SEAL THAT HAS THE SYMBOLS?**

The way archaeologists would date such a single find like that would be to identify what level exactly it came from in the excavation. And in this case, we were very lucky. It was lying on the floor of a building and it was actually stratified between different floors. And on the floor of that particular building, we found some charcoal. And charcoal allows us to radiocarbon date that level. We had four radiocarbon dates that allowed us to clearly say it was 2,300 B. C. (4300 years ago) that the charcoal was deposited (where rock seal found).

### **ALL OF THIS SEEMS TO BE PUSHING BACK OUR BENCH MARK FOR THE BEGINNING OF CIVILIZATION BECAUSE YOU HAVE TO HAVE AN EVOLUTIONARY ARC TO GET UP TO 5,000 TO 7,000 YEARS AGO OF A FULL BLOWN CIVILIZATION.**

Yes, and one of the methods we use in excavating is what we call stratigraphic excavations where we do very small sized excavations which are very deep. And these small sized excavations allow us to compare the development in an open site through time. And at our site in Central Asia called Anau - just across the Iranian border in the modern state of Turkmenistan - we've documented almost continuous growth of the culture in this area for at least 6,500 years. And that goes all the way back to the earliest farmers we have in the area. And what's unique and special is it's clear to see that they used the same forms of farming and herding in central Asia as did the ancient Mesopotamian people. So, we've got clear evidence for the interaction and the co-development of farming levels in central Asia, just as in Mesopotamia.

So, we are looking at a part of the world, even though it had been forgotten by western scholars, which really takes its place as a partner in the development from the first farmers about 10,000 years ago up to early villagers when we see the beginning of our settlement in Anau at Turkmenistan 4,500 B. C., all the way through the development of these large cities that we are finding out in the deserts. And I am quite convinced that 5,000 years ago an ancient Sumerian would have some understanding of what a central Asian was, or what central Asian artifacts were and vice versa.

### **HOW BIG IS THE SITE NOW SO FAR THAT YOU HAVE EXCAVATED?**

We've been looking at some of these large desert oasis sites in part of the Kara Kum Desert of Turkmenistan which cover an area of 100 miles long by some 50 miles wide. This is an area that is simply dotted with archaeological sites. We call this an 'ancient oasis.' It would have been an area watered in the past with irrigation canals and would have been a lush agricultural oasis where farming would have produced an abundance of wheat and barley.

Today it's sandy. The sites are almost gone. It takes excavation to reveal the plans of these buildings. Once the buildings are excavated, we see they are unlike any other area that we have previously worked in Mesopotamia or Iran. These buildings tend to be in the 300 to 500 foot length on each side, often having many series of walls that enclose them surrounded by the fields, the agricultural fields. It's almost like a building complex with dozens and dozens of rooms inside them. Quite unusual and apparently quite an organized society.

**THAT SOUNDS LIKE IT WOULD SUPPORT A LARGE POPULATION. DO YOU HAVE ANY SENSE OF THE NUMBER OF PEOPLE AND WHAT WAS THE WATER SOURCE? WERE THERE ANY WELLS UNDERGROUND OR ANY KIND OF NEARBY RIVER SOURCE?**

It's really hard to predict how many people would live in a particular building or how long a building was occupied, whether people living in one part and then another part. It seems that these large building complexes would support hundreds of people. Probably not thousands. They are not as big as a traditional ancient city, but their organization and density of rooms in them suggest it would be a fairly large population for that area.

About the water source. Clearly, water was the key to life out in the middle of the desert. And the only way that people could have lived out there is if they took a local river - and there were rivers that ran out into the desert - and modify the delta of the river. In other words, where the river snakes out into the desert, rather than letting it form a giant jungle morass of thickets, the people must have cut down the thicket and cleared irrigation canals. Once they did that, they took that desert oasis and made it bloom. Can you imagine that, 4,000 years ago, making a desert bloom?

**IT HAPPENED IN EGYPT ALONG THE NILE?**

It certainly did. And in many ways, these central Asian desert oases are like the Nile in which you could have one foot in a lush oasis and one foot in the sand right at the edge.

**AS IF THIS WERE HAPPENING IN MESOPOTAMIA, EGYPT, CENTRAL ASIA, ALL AT THE SAME TIME, ALL BACK MUCH FURTHER THAN ANYONE EVER REALIZED.**

Yes, this is one of the things that intrigues us all is to imagine a system that we had previously thought may have existed only 2000 years ago when the Romans were in power in the Mediterranean and the Han Dynasty was the great Imperial power in China. Now we are pushing that thousands of years back earlier than that into the Bronze Age. One of our questions is about how much trade was going on among them? Was there actually a Bronze Age Silk Road, a 4000 year old Silk Road? I don't think we're yet able to answer that, but we can talk about the importance of these desert oases as a pre-Silk Road civilization.



Prof. Fredrik Hiebert holding oldest ceramic pottery shard dated around 3,500 B.C. from the Anau, Turkmenistan (Russia) archaeological site. Another Turkmenistan shard near his hand is a 15th century A.D. blue and white copy of a traditional Chinese pattern. Center is a jagged cylindrical vase around 2,500 B.C. Next to it is another 2,500 B.C. well-preserved delicate vase.

On the silk square is the carved "bone tube," circa 2,000 B.C. Photograph by Linda Moulton Howe.

**ON THE TABLE WITH US, IT ALMOST LOOK AS IF I AM LOOKING AT DELFT CHINA. HOW DID THIS BLUE AND WHITE, DELICATE PATTERN COME TO BE IN CENTRAL ASIA ALONG WITH THESE OTHER PIECES? WHAT ARE WE LOOKING AT? HOW OLD IS IT AND WHERE DID YOU FIND IT?**

On the table in front of us are a series of pottery shards. A pottery shard is a part of a pot that was broken. These pottery shards are the best thing we have in archaeology because when they are broken, people throw them away. These are



the remains we find most commonly on the dig. So, I have a selection of ceramic shards which represent the time scale we have from Central Asia.

The first piece we have is the blue and white ceramic that has a bird or dragon on it and these curly designs that do remind us of Delft ceramics. This is a 15th Century A. D. Silk Road pot. It would have been locally made, but it would have been made in imitation of Chinese blue and white. And what's interesting about this is that in central Asia, they are making imitations of Chinese blue and white. And in Europe they were also making imitations of Chinese blue and white. It was sort of the Coca-Cola signature of the past.

Moving on chronologically, we turn to another well-made pot. It's so thin (knocks on it), you can hear how finely made it is.



One-eighth inch thin walls of finely made vase from Turkmenistan, circa 2,500 B. C. Photograph by Linda Moulton Howe.

#### **ONLY 1/8TH INCH THICK.**

Yes, this is a piece that is about 4,500 years old (2,500 B. C.), about 2,000 years earlier than the blue and white ceramic. Incredibly well made. It was obviously done by a master craftsman potter. this was made up in the desert oasis of Turkmenistan and it reflects a certain style that the people had. They didn't paint their pottery. You might think that had to do with the technology of the time, but in fact, it was their style not to paint their pottery. It's quite nice made. It's sort of buff on top and on the bottom it's red. They distinctly and purposefully did that. All of their ceramics from Central Asia is fine from this time period and it reflects the high level of crafts they had in the area.

Then we move on to three artifacts, not pottery, but metal and bone artifacts dated to about 2000 B. C., so these are about 4100 years old. We are moving back in large jumps of time. And here we see a bronze ax in the form of a bird's head with a feather going back and very clear eye.



Bronze ax in form of bird's head with eye and feather, circa 2,000 B. C. Photograph by Linda Moulton Howe.

And what we call a 'bone tube.' I wish we had a better name for it. They are always polished very finely with eyes, headdress or hair and some form of necklace or some perhaps a beard. And these ancient tubes we think were part

of the ancient rituals of 2000 B. C. And the ritual life is another area we as archaeologists can look at. So we can look at the nature of their houses, the nature of their trade with these stamp seals we find, the nature of their production such as the pottery and even the types of religious objects they had such as the bone tube.



"Bone tube" carved with stylized head, circa 2,000 B. C.  
Photograph by Linda Moulton Howe.

#### **WHAT DO YOU THINK THE BONE TUBE WAS USED FOR?**

We're not exactly sure, but it was found in piles of dirt we have analyzed that had a tremendous amount of ephedra. Ephedra is a type of plant that ancient Zoroastrians used to create a ritual drink that allowed them to hallucinate and get closer to God. It may well be that the tube was used in some pre-Zoroastrian ritual involving ephedra. Ephedra has medicinal factors. The decongestant Sudafed is made from the same ephedra chemical. But if you take it in some quantity and mix it with a poppy or opium, it would have the effect of giving you visions or hallucinations.

#### **WHAT ABOUT THE BEIGE POT?**



Thin ceramic vase on left about 2,500 B. C. On right is oldest pottery shard yet found in central Asian dig, circa 3,500 B.C. Photograph by Linda Moulton Howe.

We have two pots, each a thousand years earlier than each other. This one a very beautiful vase made out of buff ceramics only about 1/8th of an inch thick from 2,500 B. C. This is, would have been made at the same time that the great City/States of Sumer were in existence. This would pre-date some of the fine ceramics that were in China. So it is very significant that we had a civilization in Central Asia at the time. So we can date from the excavations to 2,500 B. C. This is at the time period of some of the earliest cities in central Asia.

The last pot here is perhaps the most ornate. it's painted with absolutely gorgeous tree designs surrounded by squares have a step motif. it's very finely made, only about 1/8th inch thick - a very fine ceramic - and it has this beautiful paint. this is the oldest pottery we have from about 3,500. B.C. and represents the type of ceramics just before people in central Asia began to build big cities.

**IN THE AREA YOU ARE WORKING, IF YOU WERE GOING TO TIE THEM INTO BLOODLINES OF PEOPLE ALIVE TODAY, WHICH**

**COUNTRY WOULD BE CLOSEST TO THIS GROUP?**

That of course is one of the questions we would like to know, but don't have the means to answer right now. I think that if we used the old perspective in suggesting there were individual civilizations that developed by themselves without much interaction, we might say Turkish people in the area are the descendants.

**DID YOU EVER FIND ANY SKELETONS DURING THIS WORK?**

Burials were very formally made. They would build a mud brick structure, construct a little house and put ceramics such as some of these pots here. Sometimes they would leave a ritual last dinner in with the burials. These have taught us a great deal about the people. We haven't found as many burials as we have found along the Indus River or in Mesopotamia, but we've found enough to give us an interesting idea about the funereal rituals and the afterlife that the central Asians thought (exists).

**IS IT POSSIBLE THERE ARE FEWER SKELETONS BECAUSE THEY MIGHT HAVE USED A FORM OF CREMATION AND BURNED THEM?**

That certainly is possible. There is a ritual in ancient Persian Zoroastrianism that we think would have an early form in the desert oases that would involve leaving the bodies out to return to nature.

**IN A DESERT CLIMATE, THEY WOULD HAVE BEEN WIND BLASTED AND DISINTEGRATED?**

Yes, so the burial record might not reflect the size of the population, exactly.

**IT WOULD BE HARD THEN FOR ARCHAEOLOGISTS TODAY TO KNOW FOR CERTAIN WHAT THAT POPULATION SIZE WAS IN CENTRAL ASIA?**

Yes, there are some things we can guess at, but we are never going to be able to determine such as the exact size of the population.

**WHAT HAS SURPRISED YOU THE MOST FROM THE EARLY 1980S TO NOW?**

Well, I think the thing that surprised me most was actually not the archaeological remains themselves, but the reactions of our colleagues. As we began to peel back the lawyers and reveal civilization in the desert oases, some people wouldn't believe us. Some people did believe us. Some people have challenged the origins of this. Some people have simply ignored this. What we are really seeing is that now from the 1980s to the beginning of the 21st Century is finally an understanding that this area really takes its place in among the great civilizations of the old world.

**YOU ARE SAYING THAT YOUR OWN COLLEAGUE SCIENTISTS WERE NOT OPEN MINDED TO THIS DISCOVERY?**

I don't know if they weren't open minded. They hadn't taken into consideration this new area of the world. And the more we work on it, the more we realize that this is an important part of the world. It was an important part of the world in the past and it was directly connected with the other areas. As we work more on this and create a better understanding of it in English and western languages, the more we are getting the idea out that we have a large Bronze Age civilization in central Asia.

**COULD THERE HAVE BEEN IN THE CELTIC WORLD UP IN THE BRITISH ISLES BUILDING THE MEGALITHIC STONE CIRCLES THAT PRE-DATED ALL OF THIS?**

This question of the connection between the Celtic world and the ancient Near East is one that's been suggested as much as 100 years ago. The erection of these large stone megalithic monuments has parallels in the Black Sea world where megalithic tombs are there and further west in the Mediterranean, and perhaps even on the Eurasian steppes.

Nevertheless, to consider those monumental works part of a civilization wouldn't fall into the same category as the types of societies we're talking about

in central Asia or Mesopotamia because the builders of the monoliths really didn't have - we don't have evidence of settled farming or urban life. No cities. None of the domestic animals and plants. It's a type of complexity that is very different from central Asia, the Indus Valley and central Asia or China.

So, I think to be open minded, we have to allow us to understand the deep complexity of building monolithic monuments, but realizing diversity is also something very important. In central Asia, people built cities as they did in Mesopotamia and the Indus Valley. But in the areas of Europe, farming took much longer to get there. The farming that finally entered into Europe after central Asia, thousands of years, and after the Indus Valley, represent a different type of culture.

### **WHERE DOES YOUR WORK GO FROM HERE? WHAT'S NEXT?**

We're very excited about discovering the stamp seal at our site dated to 2,300 B. C. We're certainly going to go back and look for more evidence of literacy and administration of trade from this time period. We hope to dig deeper to find out how (far down) this particular civilization and site goes in this area. We haven't reached the bottom yet. We're still digging down. We really look forward to going back for a couple more seasons at this particular site. Then we hope to expand our research into looking at the ancient trade routes in the area.

### **HOW DEEP ARE YOU DOWN?**

We have a site that is about 35 feet above the present surface and we've dug down about 15 feet below the present surface. And we're still going down! What that means is that the ancient surface has risen through time. There's been deposits that have come from the mountains - silt, dirt, have been deposited around this archaeological site raising the surface through time. So we don't know how much further we have to go down. And it's very exciting that it's continuing to reveal older and older strata to investigate. That's one of the joys of archaeology. You can never predict what you are going to find. Every season there are new surprises."

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## **More Information:**

**June 2001** - Dr. Hiebert and geological team return to Anau site to core down through archaeological dig to see how much further it is to natural geological strata. Work time about a month.

**September 2001 or June 2002** - Return again for more excavation. Work time about two months.

A book about Dr. Hiebert's work is available from [amazon.com](http://amazon.com):

### **Origins of the Bronze Age Oasis Civilization in Central Asia**

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Peabody Museum of Archaeology and Ethnology  
Harvard University

**Other Archaeological News:** Caral, Peru site in the Supe Valley has now been dated between 2627 B.C. and 2020 B. C., the same time period that Central Asia and Mesopotamia were flourishing and the Egyptian pyramids were being constructed. Musical instruments were part of the Caral culture which Science reported on April 27 is the Western Hemisphere's oldest city and home to a civilization as old and advanced as any in the world. See: Earthfiles Science Report 05-06-01.

## **Credits**

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