ping stones on a trading route that reached from China through the Indus Valley to Mesopotamia — all Bronze Age civilizations of the third millennium B.C.

The fortress-like buildings of the civilization are larger than the biggest structures of ancient Mesopotamia or China, said Harvard's Lambert-Karlovsky. "The size at the base of some of the buildings is equivalent to the base of the pyramids," he said.

The Soviet archaeologists determined them to be temples because of their size and distinctive layout, but Hiebert, who spent time looking for bone shards, seeds and other remnants of living patterns, came to a different conclusion.

He said the buildings were more like housing complexes, with areas for ordinary people to live, others for the elite, storage areas, and what appear to be areas for ritual.

The dwellers were industrious in other ways as well. In Bactria and Margiana, there was no natural stone or metal. "It was nothing but sand," Hiebert said, and yet the ruins contained elaborate works in alabaster, marble and bronze. "The oasis people would import materials and manufacture them in their own art style."

Lambert-Karlovsky said that many of the artworks, utensils and jewelry were buried with the dead. In an unusual pattern for other early people, the women were buried with more valuables than the men.

Most of the artifacts Hiebert found remain in Turkmenistan — the politically correct way to do archaeology today. But in his office on the fifth floor of Penn's University Museum, he displays a few.

There is a foot-tall alabaster column, a carved marble plate on a stand, an alabaster bowl, pieces of delicately painted pottery, and a bone pipe, possibly for drug use, carved into a little stylized human figure. Near the pipe, Hiebert found remains of the herb ephedra as well as poppy.

Small bronze axes carry designs, including one of a wild boar, and a piece of pottery is decorated with leopards. "Their world was full of dangers — wild boars, snakes, scorpions," Hiebert said. These animals show up in their ritual art.

The animal patterns support an idea, suggested by the Soviet archaeologists, that the people practiced an early form of the religion known as Zoroastrianism, which originated in Persia. Animal worship was part of Zoroastrian ritual, as was the use of fire, suggested by some hearths, or altars, found in the remains of ancient buildings.

More laboratory work might reveal what the climate was like during the Bronze Age — probably much wetter and more conducive to farming than it is now.

Hiebert plans to go back in June, armed with satellite maps he obtained with the help of NASA. These reveal wet oasis areas — where other lost cities are likely to be found.

RESOURCES:

Detroit Free Press, May 3, 2001, via *The Explorator*.

National Geographic Maps on CD.

Just when you think its all figured out . . .

China finds more Great Wall

The Great Wall of China just got a little greater; China says it's 310 miles longer than previously thought.

A recently discovered section stretches to the edge of Lop Nor, a desert used as a nuclear test site until China stopped testing in 1996, the official Xinhua News Agency said. Previously, the wall's westernmost end was thought to be a remote fortress at Jiayu Pass.

The rediscovered earthen wall extends from Gansu province to the neighboring northwestern region of Xinjiang, according to Xinhua. It makes the Great Wall 4,470 miles long instead of 4,160 miles.

Nor does it likely end there: beacon towers extend as far as Kashgar in Xinjiang's southwest.

"There is no doubt this is part of the Great Wall as it consists of the city wall and beacon towers, forming a complete defense system," Luo Zhewen, regarded as China's foremost Great Wall expert, reports.

Luo said the section was built to protect merchants traveling the ancient Silk Road.

Built some 2,000 years ago and extended and renovated by later imperial dynasties to keep out invaders, the Great Wall is China's most famous landmark.

The latest section — discovered in 1998 by research fellow Mu Shunying of the Xinjiang Institute of Cultural Relics and Archaeology — could help Beijing reinforce its claim to Xinjiang. The region's Muslim ethnic people, the Uighurs, had their own short-lived republic before China's Communist Party seized power in 1949.

Uighur separatists seeking to throw off Chinese rule have waged a low-level campaign of bombings and assassinations since the 1990s.

While eastern sections of the wall near Beijing are made of brick, the recently found section is made of yellow sandy stone and branches.