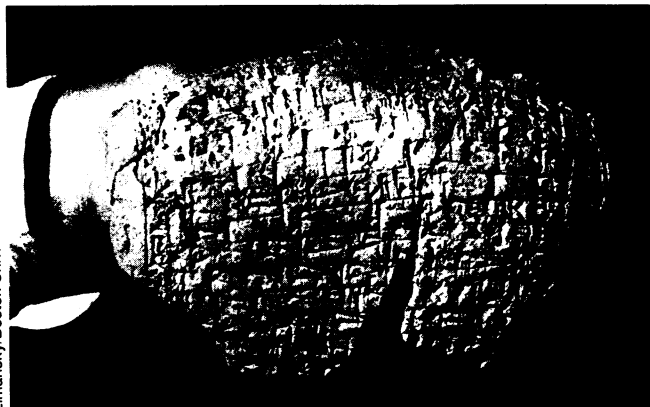


Iraqi dig uncovers Mesopotamian city

Nergal, the ancient Babylonian god of death and king of the netherworld, has resurfaced in a desert in southern Iraq, and archaeologists are delighted.

The reason for their elation: Nergal survives in the form of a city built in his honor 4,000 years ago in Mesopotamia and identified Jan. 13 by a scientific team led by Elizabeth C. Stone of the State University of New York at Stony Brook and Paul E. Zimansky of Boston University.

Unlike other Mesopotamian cities under excavation, the newly discovered site—one of the world's oldest cities—was not reoccupied after its destruction around 1720 B.C., Stone told a press conference in Boston last week. With the original city ruins undisturbed, she notes, "we've de-



Fragment of an inscribed clay cylinder found at Mashkan-shapir by archaeologists in January, with a Sumerian text recording the construction of a nearly 4,000-year-old city wall by King Sin-iddinam of Larsa.

termined the location of the major activity areas of this important ancient city and recovered an extraordinary number of artifacts in only about six weeks."

Called Mashkan-shapir, the walled city lay between the Tigris and Euphrates rivers. First settled in 2050 B.C., it was an important trade center and capital of a

city-state in its prime.

The researchers initially surveyed the site, first spotted in satellite photos, in May 1987. Traces of architecture were obvious among the flattened ruins, as were clay figurines, metal implements and other artifacts, but the city's identity was unknown.

A second season of field work last December and January began with aerial photographs of the site taken by a camera with an automatic timer mounted on a kite that soared over the ruins. Military restrictions prevented the use of an aircraft for photographs.

To the scientists' surprise, this simple approach revealed building plans, city walls and gates not immediately apparent from the ground.

As Stone traced the city wall on foot last Jan. 13, she found fragments of clay cylinders inscribed with Sumerian cuneiform, a writing system used throughout ancient Mesopotamia. She recognized the name Mashkan-shapir on one of the pieces and felt certain Nergal's city had been found. Nearly 150 clay fragments confirm the construction date of the city wall as 1843 B.C.

Mashkan-shapir ballooned into a major city around 2000 B.C. when the king of Larsa, a city in southern Mesopotamia, built a channel joining the Tigris and Euphrates for trade purposes just north of the small settlement. The cuneiform on the clay fragments says the city wall was a contribution of King Sin-iddinam, who ruled Larsa from 1849 to 1843 B.C., according to Piotr Steinkeller of Harvard University, a project member who is translating the ancient text. The clay cylinders were originally embedded in the wall as "official propaganda" for Sin-iddinam, Steinkeller says. For example, the text on the cylinders describes lavish workers' wages for the time, which were probably greatly exaggerated, he notes.

Stone and her colleagues have identified the remains of a large palace, a religious quarter, a cemetery, several canals, two harbors and four gates through the city wall. Occasional concentrations of copper slag and kiln wastes suggest the city consisted of distinct neighborhoods, each with its own coppersmith and potter, Stone says.

— B. Bower

Cocaine mothers imperil babies' brains

Babies born to women who used cocaine during their first trimester of pregnancy may suffer subtle neurological damage, a finding that raises questions about whether these children will develop learning disabilities later in life. The study marks the first time scientists have studied the effects of cocaine use during the initial months of pregnancy.

A related report confirms that women who used cocaine and/or marijuana during pregnancy run an increased risk of having underweight babies. Compared with newborns of normal weight, tiny infants have a greater risk of medical problems and death.

In the first report, Ira J. Chasnoff and his colleagues at the Northwestern University Medical School in Chicago studied the infants of 23 women who stopped using cocaine during the first trimester, 52 women who used the drug throughout pregnancy and 40 women with no history or evidence of drug abuse. The researchers questioned the women about drug use and gave them drug tests once a week.

Examiners gave newborns the Neonatal Behavioral Assessment Scale, a test that picks up neurologically related behavioral difficulties such as the inability to remain alert. Cocaine-exposed infants scored poorly on the test compared with unexposed babies, the researchers report in the March 24/31 *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*. These infants had attention and orientation problems and were less likely to respond to a human voice or face, Chasnoff says.

"Even if the woman stops using cocaine during the first trimester, the baby still has neurological damage," Chasnoff says. "Women of childbearing age should not be using cocaine."

The National Institute on Drug Abuse estimates that 14 percent of women age 15 to 44 have tried cocaine at least once.

Doctors may not recognize the subtle behavioral problems of cocaine-exposed newborns, Chasnoff says. "Cocaine-exposed infants are either very irritable or they become so overwhelmed that they shut down and go into a deep sleep," Chasnoff says. These traits in infants may make it difficult for some mothers to provide the human interaction that is an important part of the learning process, he says.

In the second report, Barry Zuckerman of the Boston University School of Medicine and his colleagues studied 1,226 new mothers and found that 27 percent used marijuana sometime during pregnancy and 18 percent used cocaine. The researchers relied on interviews and drug tests to determine drug use.

Infants exposed to marijuana weighed an average of 79 grams less and were 0.5 centimeter shorter than babies born to women who had not used drugs, the researchers report in the March 23 *NEW ENGLAND JOURNAL OF MEDICINE*. Babies born to women who used cocaine weighed 93 grams less and were 0.7 centimeter shorter than control infants. That finding mirrors results seen in the Chicago study. In addition, Chasnoff's team found that women who used cocaine throughout pregnancy had smaller babies than did controls or women who stopped using cocaine early in pregnancy.

Both reports suggest pregnant women should not use drugs—advice addicted women may find hard to follow. "We have to develop ways of helping people cope with stress in some other way," Zuckerman says.

— K.A. Fackelmann