Nippur, the holy city of ancient Mesopotamia, continues to be a major focus of Oriental Institute research. During the autumn of 1976, we carried out our fourteenth season of excavation, achieving considerable results with a reduced working crew. Inflation in basic commodities and labor necessitated a continuous search for labor-saving methods, resulting in the use of wheelbarrows and mechanical equipment on a scale unprecedented at Nippur.

In the previous season, 1975, we began investigating the outermost reaches of the ancient city with two trenches across the
city wall in the southern corner of the site. This season, we concentrated all our efforts on the WC area, transforming the two small trenches into sizable horizontal exposures of buildings while also following the city wall for some distance. At the same time, we carried out a number of geomorphological investigations to chart ancient and modern environmental changes. We also collected numerous insect, snail, and other animal specimens from the excavations and from the surrounding, modern, environs.

Our plan of operation in the vicinity of WC 1 was to expose as much as possible of a Kassite building or buildings that we had touched in the previous season. Here we had found pottery of types that seemed to be earlier in the Kassite period than we had discovered previously. Richard Zettler took charge of this operation and was able to show that there were four levels of occupation. The earliest, Level IV, consisted of floors that had on them pottery that seems transitional between the Old Babylonian period and the Kassite. This level is of great interest to us since the transition from the Old Babylonian (down to ca. 1600 B.C.) into the Kassite is virtually unknown. We touched this level in only a few rooms, and even there our work was hindered by water. New reservoirs and water control systems in Iraq have allowed an increased amount of irrigation and the canal, which is less than one hundred meters from WC, was full all season. The resultant level of ground water was about two meters higher than in the previous season.

Resting on Level IV was a large, well-constructed mud brick building of Level III. This building was preserved to a height of two meters and had impressive mud plaster on its walls. On its floors were hundreds of whole and fragmentary early Kassite pottery vessels. Lacking inscriptive evidence for this level, we cannot give a precise date, but we would suggest that the building was constructed some time in the fourteenth century B.C. An Indus Valley stamp seal found on one of its lower floors last season, since it must have been made a few hundred years earlier, cannot help with the dating of the building. Between Floors 2 and 3 of this level there was a major repair, with sections of the original walls buttressed by new mud bricks. The main courtyard was edged with a bench of mud bricks.

Above Level III, there was a large, new building (Level II), with a plan that was different from that of the earlier building. Most of this structure has been lost above its foundations, but there is a well-preserved bath lined and paved with baked bricks. On the floor of one room in the building we found a cuneiform tablet dated
Plan of the early Kassite building, Level III, with bench around courtyard in lower right

Plan of early first millennium houses, Area WC. The main doorway was not preserved, but was probably in the smaller room [lower middle] that leads over a baked brick pavement into the open courtyard. The long room it also leads to was probably a formal reception room.
to the fourth year of the Kassite King Shagaraktishuriash (1241 B.C.). This building thus dates to the same time as the palace found in Area WB in previous seasons, and the earlier building of Level III must date from before that.

Level I consisted mostly of enormous pits that probably were the results of ancient digging for material to make mud bricks. In these pits we discovered about fifty fragmentary tablets from the same time as the one found in the Level II building. Perhaps contemporary with the pits were a number of graves consisting of large jars placed rim-to-rim with a skeleton inside. The objects in these graves were usually numerous, consisting of hundreds of beads, pottery, and other items. One extraordinary object was a glazed pottery incense burner with charcoal still inside. We are dating these graves, tentatively, to the period after the Kassite (ca. 900 B.C. ± 200).

In our other area of extensive exposure around our old Trench WC 2, we had a very good lesson in air photograph interpretation. During the previous season we had expected to find the city wall in WC 2, but did not encounter the 17-meter-wide wall with baked brick foundation that we had found in WC 1. We found only a relatively shallow mud brick wall about five meters wide. An air photograph taken from a kite on the last day of the previous season showed what appeared to be an explanation of our failure to find the
wall. It appeared that the city wall had an indentation in it precisely where we had dug our trench. There seemed to be a gateway and flanking towers. When we excavated, however, we found only houses datable to the early first millennium B.C. A "gate tower" proved to be a fairly substantial house that yielded several good examples of glazed vessels. The "gateway" was only a set of walls of different houses cut by an ancient pit. This operation showed how easy it is to be deluded by surface indications. Although air photographs are an invaluable aid, only excavation can give truly sound evidence for archeological conclusions.

This small group of houses was especially difficult to excavate. The houses were directly below the surface and were much destroyed by weather. They were also an intricate conglomeration of walls built and reused, repaired and replastered. Almost every mud brick had to be individually defined in order to make clear the order in which changes took place. James Armstrong, the supervisor of this operation, showed unusual perseverance and patience in carrying out the work.

The third operation during the season was the investigation of the city wall. By clearing off a few centimeters of surface debris along the ridge which we thought marked the wall, we reached the top of a mass of mud bricks. The small, shallow, five-meter-wide wall found in WC 2 last season did in fact prove to be part of the city wall—at this particular spot, the wall had almost completely eroded away. There is no baked brick foundation under most of the city

A dog found in an Ur III drain in a house
wall; it is present only at the one place in WC 1 where we found it last season. Why the foundation is at that one location we do not know as yet.

Tracing the wall was not easy. There is not one city wall but at least three. The earliest one we found was resting on more ancient material, including houses, which contained Ur III objects, pottery, and tablets. In a house contemporary with the wall we found a tablet dated to the forty-fourth year of the Ur III King Shulgi (2050 B.C.). Embedded in the tablet is a shell of a particular snail that is the vector of schistosomiasis, a major crippling disease. The evidence of the snail does not necessarily mean that the disease was there that early, but it does indicate the possibility.

The city wall had within it a number of long, narrow rooms. In the foundation fill of these rooms were pottery, seal impressions, and figurines of the Ur III period.

Outside the wall we encountered very hard, greasy ground surfaces littered with animal bones, figurines, cooking fires, bread ovens, and other evidence of domestic life. There were many pig bones, including whole skulls, as well as the usual sheep, goats, and cows.
Resting on the earliest version of the wall was a later Ur III wall that extended well out beyond the earlier face. The width of the second wall cannot be precisely gauged because its outer edge was cut away by a great ancient trench, perhaps a moat datable to the Kassite period. The trench was, perhaps, dug when a Kassite mud brick wall (ca. 1250 B.C.?  of about five meters’ width was laid along the crown of the Ur III wall. The time between the Ur III period and the construction of the Kassite wall witnessed an abandonment of this area of the city, if we may judge by the lack of anything but graves of the intervening Isin-Larsa and Old Babylonian periods.

While we were investigating within the city, Stephen Lintner, the geomorphologist, was cutting sections through modern stable dunes to obtain information on the process by which dunes become stabilized. By taking samples of the roots of tamarisk bushes that grow on the dunes, he can gauge with tree-ring analysis how long it takes to build up a dune of a certain size. Given what we know about the drastic shifts from desert to marsh to cultivation back to desert and back again to cultivation in the Nippur area over the past hundred years, he can fit the information on dunes into a general process of environmental change that may be projected into the past. Ancient Mesopotamia probably underwent throughout its history shifts as drastic as those we can document for the past century.

Lintner cut other trenches across ancient canals to obtain information on their dates, the amount of water they used to carry, and other physical properties. In order to determine where the ancient Euphrates, or a canal from it, used to run north of the city, a long trench was dug with the aid of an International Harvester excavating machine down to the water table at about four meters. At the bottom of the trench, there were hundreds of sherds of Kassite pottery embedded in water-laid clays. Analysis of the samples taken from all parts of the two-hundred-meter-long trench will allow the determination of the size of the watercourse, its character (river or canal), and climatic change since the Kassite period. We expect to carry on these and other similar lines of investigation in future seasons to set Nippur in its ancient environment and to elucidate the history of land-formation and climate in the Mesopotamian alluvial plain as a whole.

In this season, as in previous ones, our work has been made possible with the permission and aid of the Iraqi Directorate General of Antiquities. We would like to acknowledge our debt of
gratitude to the Director, Dr. Isa Salman, and to Professor Fuad Safar, Dr. Abdul Hadi al-Fouadi, and Mr. Muhammad Yehya, our representative. The work on the site was carried out by myself as director, Richard Zettler and James Armstrong as archeological supervisors, Robert D. Biggs as epigraphist, Stephen Lintner as geomorphologist, John Sanders as architect, Patricia Deres as photographer, John Mooney as general assistant and keeper of accounts, and Jill Maher as conservator. Elizabeth B. Tieken mended most of the very delicate pottery vessels, and made part of our season much more interesting by her presence.

Carl Haines, the former director of Nippur, was slated to join us for part of the season, but there was some bureaucratic mishap and his visa was not issued. We had counted on his presence not only for the elegant drawings he would have done, but also for his amiable company and excellent advice. As it happened, it was probably for the best that he was unable to come to Nippur this one last time. Carl began to feel ill in December and within a few weeks had died of cancer. I visited him in January and took over his unfinished report on the Inanna Temple. I promised to see the work finished and published, and have taken steps to assure that it will be done. The resulting publication will not be what he could have

Map of Nippur showing areas worked since 1948. The upper square in Area WC is where the old trench WC-I was expanded to expose Kassite buildings; the lower square, formerly WC-2, exposes early first millennium houses. The shaded angle to the left is the corner of the earlier version of the Ur III city wall. The outer shaded area is the Kassite trench cutting off the later version of the Ur III wall.
made it, but we are determined to make it a fitting monument to a very special man.

Analysis and publication of field results has been continuing throughout the year. Joachim Boessneck of the University of Munich has taken on the latest shipment of animal bones. John Sanders is preparing drawings and plans for reports. Judith Franke, Richard Zettler, and I are writing up the results of the thirteenth and fourteenth seasons for publication as "Oriental Institute Communications," No. 24. We hope to complete a draft by the end of the summer, 1977. The report of the twelfth season, "Oriental Institute Communications," No. 23, is still in press but we hope to see it out by the end of the year.

During the past year, short reports on previous seasons have appeared in the journals *Iraq* and *Sumer*. A color-illustrated article, published in *Archaeology*, was sent to all Institute members in January, 1977. Articles on the fourteenth season have been completed and will appear also in *Sumer* and *Iraq*.

In Chicago, the Friends of Nippur organization has continued to support our efforts with generosity. We have gained a number of new members, but have been saddened by the loss of others. Besides Carl Haines, we also lost two of our founding members, Mrs. Hermon Dunlap Smith and Mrs. Solomon Byron Smith, and Dr. Gustavus Swift, a colleague as well as a friend.

Friends of Nippur have received a number of newsletters from the field and also from Chicago. The main activity during the year was the second Nippur Auction, held on May 22, 1977, in the Reynolds Club lounge on campus. Preliminary showings of the items, which included a Yemeni muzzle-loading rifle, saddlebags, rugs, and jewelry, were held in the homes of Mr. and Mrs. Cameron Brown in Lake Forest and Mr. Howard Hallengren in Chicago. We are most grateful to the Browns and Mr. Hallengren for offering their hospitality, and to the people who attended the auction and made it a great success. Plans are already afoot for next year's auction.

We would like to thank Mrs. Donald Hamrin for serving as chairman of the Steering Committee over the past two years. We would also like to announce that Mr. Howard Hallengren has agreed to assume that position as of May, 1977.
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*Additional contributions made as a Memorial to Richard C. Haines.