



# News & Notes

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## BRAIDWOODS EXCAVATE IN TURKEY

*The following notes from the field come from Robert J. Braidwood, co-director (with Prof. Halet Cambel of the Prehistory Department of Istanbul University) of the Joint Istanbul - Chicago Prehistoric Project. The Project is now on its eighth field season at the early village site of Çayönü, near Diyarbakir, in southeastern Turkey. For the last four field seasons, Prof. Wulf Schirmer, director of the Institute for Architectural History at Karlsruhe University and his team have also been associated with the Prehistoric Project. Çayönü dates to about 7000 B.C. and yields evidence of how people lived when an effective level of food-production — with domesticated plants and animals for the first time — had just been achieved.*

Yeşilköy Airport, Istanbul, Sept. 5. Back on an old theme of mine - to anyone who started traveling by trans-Atlantic liner, airplane travel is inhuman and a downright bore. It is an outrage that one has no alternative other than to put up with it. It is even more of an outrage to consider that most of the jet-lagged zombies who get off the plane with us here take it as completely normal.

Istanbul, Halet's yali (waterside house) on the Bosphorus, Sept. 10. The repacking of gear we brought from the States and of things Halet has collected here is completed. The VW minibus is reported to be (and seems to be) in good order. Halet has recovered from a bout with the flu; she, our many seasons' field companion Mike Davis, Prof. Carl-Axel Moberg - an old friend and one of the great European archeological generalists - and Linda and I will start south early tomorrow morning. It has been cool and rainy weather all five days we've been here but it is always fascinating to be on the Bosphorus and to watch the busy movement of ships up and down. There is to be an increasing number of Russian tankers loaded, bound from the Black Sea. Last night we saw a cruise ship, all lit up like a Christmas tree with a great billboard sign "Vistafjord" moving upstream.

Ankara, Bulvar Palas Hotel, Sept. 12. Hung up for a day here while the VW gets carburetor attention. We bought the minibus second hand, from the States in 1978 and thus it has the special emission control carburetion the VW people supply for the American market. This requires adjustment which it is almost impossible to find in Turkey. So we lose a day here but find Lee Marfoe in the hotel, at the end of his main Oriental Institute digging season at Kurban Hüyük in the Euphrates salvage area.

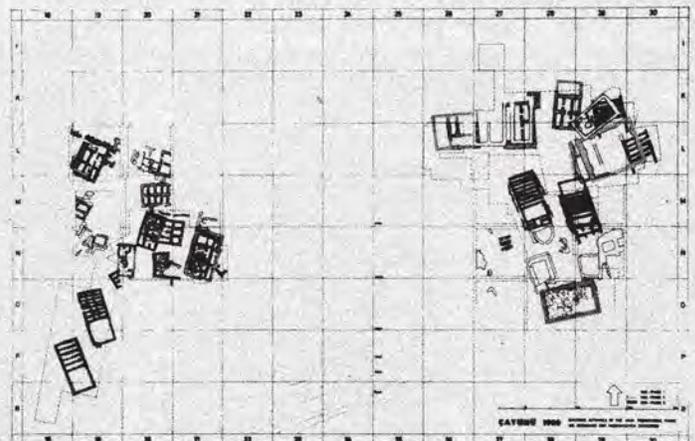
Tahtalıdağ Pass, Sept. 13. Here well more than halfway on the long day's drive from Ankara to Malatya, a full moon is rising as we go over the divide. Behind us lie the Ceyhan headwaters and the Mediterranean - Atlantic; in front are the Euphrates tributaries and the Gulf - Indian Ocean drainage. I always feel we're really moving East when we reach this pass.

Çayönü House, Ergani, Sept. 14. Because of the day's delay with the minibus at Ankara, Halet's Turkish students and the German architects already reached here yesterday. Most of the unpacking is done and the settling in is well begun. All told, we consist of Halet, her young assistant Mehmet

Özdoğan as actual field superintendent, ten other Turks (mainly students), the architectural historian Wulf Schirmer and his assistant Werner Schnuchel, the head geodetic surveyor Wolfgang Zick and four German students, the Swedish archeology professor Carl-Axel Moberg, and Mike Davis, Linda and me as the three Americans. We have a small National Geographic Society grant, the Germans cover their own expenses, but the main funding is Turkish. With all of us here, the expedition house is thus pretty full but the food is good and the water and electricity run (most of the time!). The height of the summer's heat seems to be over.

Çayönü Site, Sept. 26. First ten working days now finished on the excavations. Schedule: Bell rings at 4:45, breakfast, and the car leaves to get staff on the site by 6:00, a 15-minute break and snack at 9:30. Digging ends at 1:30, late lunch and a nap until 4:00, lab work and conference until 6:00, dinner at 6:30, and then free unless the spirit suggests more lab work. So far, we've spent most of our time cleaning up the slumped-in trench margins, cleaning building foundations which were first exposed as early as the 1970 season, and preparing ourselves for a complete re-analysis of the correspondences of building levels. The really very remarkable thing about Çayönü is the degree of standardization and of

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The exposures made of the Çayönü village plan, showing several sub-phases (as of the end of the 1980 season).

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*Braidwoods Excavate in Turkey (Continued from page 1)*

competence in construction which the sequence of its changing building plan types show. For a village which stood upon the very threshold of the new food-producing way of life, 9000 or more years ago, such uniformity and apparant regularity in what we already see of the overall village plan suggests that the social organization of the Çayönü villagers must have been something we have not been prepared to imagine.

Uslu Village, Sept. 29. A day off for all staff. We've rented an extra microbus and driver, packed a picnic lunch, and stopped first at the Hazor lake for swimming. The Hazor, a lovely freshwater lake about fifteen miles long, lies north of Çayönü in the mountains and is a source for one of the two main heads of the Tigris river. From the Hazor, we've driven up westwards onto the mountain divide between Tigris and Euphrates drainages. Uslu village lies upon this divide; the road up to it is quite new. We had our lunch by the side of the road amid an amazing variety of wild fruit trees and bushes. Because of its remoteness Uslu has the appearance of being a far more traditional old style village than are most Anatolian villages today. The villagers have made us most welcome, there are fascinating architectural details throughout the village, and we

are particularly lucky in the day we've chosen for our visit. The women of several different households make pottery in quite a variety of forms. We have been able to watch and take photographs of the open-air firing of a great pile of several hundred pots. Not since the 1930s have I felt I was in so untouched a Near Eastern village. But - the village mayor and several of the elders tell us that they now leave the village each year before the winter snows close everything in. They go to Istanbul where they have, over the last several years, established a plastics manufacturing enterprise!

October 6th. Several days ago, Betty Tieken, an old Oriental Institute friend arrived, and she will carry this back to Chicago. Yesterday, Betty, Halet, Mehmet, Linda, and I went down to Urfa to get Lee Marfoe to take us to see what he has been doing at Kurban Hüyük. It is an absolutely wonderful job of excavation on a fascinating site, but that is Lee's story and I shall leave it for him to tell.

Best of cheer,  
Bob Braidwood

## ROLE OF IRRIGATION IN ANCIENT MESOPOTAMIA

What lies behind the choice of technology of the ancient Near East as the theme of this year's series of lectures? How broad or restricted is the subject? How much is known of it? Our attitudes on technology have changed since Robert McC. Adams, director of the Institute, sought to deal with these general questions in the first lecture, while concentrating especially on how the Mesopotamians managed uncertainties in the control of water across a span of some five millennia.

The definition of technology which Dr. Adams finds most useful is that it is essentially a reproducible way of doing things. It is not hardware but knowledge, including the knowledge not only of how to fabricate hardware to predetermined specifications but also how to influence human behavior toward specific ends. We must not think merely of cook book recipes, since desired technical results are not obtained automatically. Materials vary, circumstances differ, manipulations are hard to control. Even primitive technologies have always had a variety of procedures for adapting actions to circumstances, detecting difficulties, and making corrections. Technology is, therefore, a flexible repertoire of skills, knowledge, and methods for matching ends with available means and for coping with risks as well as opportunities. Management of scarce resources, human and natural, under conditions of prevailing uncertainty, becomes the essence of technology.

Dr. Adams' field approach primarily involves archaeological reconnaissance rather than excavation. He has concentrated on the desert region between the gradually expanding zones of Tigris and Euphrates cultivation. This is a region formerly well watered by multiple branches of the Euphrates, although in recent millennia the river has moved far to the west. Population there always has had to hug available water supply; permanent settlement on any substantial scale requires irrigation. Relatively few environments impose such rigorous demands, such a wide polarization between success and failure. The problem has been not only one of a local absence of rainfall, but also of the undependability of the rivers that rise in distant mountains. These characteristics apply both to the

behavior of the parent rivers and to discrepancies in local distribution.

There were more or less sharply opposed alternative paths by which different groups sought to cope with this chronic problem. Climate, water supply, and landscape constitute a single dynamic system, the impact of whose elements upon the human population cannot be separated from one another except in a very artificial sense. It is equally difficult to draw a line separating this system from technological adaptations to it like irrigation agriculture—or for that matter, separating irrigation agriculture from a still wider social and cultural matrix. Competition and conflict over an undependable supply of water was understandably unavoidable, and one outcome was the impermanence of every effort at political consolidation. The result was a series of deep oscillations not only of the factors and material outcomes of agricultural production but also in the entire social superstructure.

What constitutes traditional irrigation technology in this natural and historical setting? Surely a group of tools and techniques to begin with: Metal picks and shovels as outgrowths of prehistoric digging sticks; baskets for carrying earth; tied reed bundles around earthen cores to stabilize banks and sluice-gates; straw-tempered mud-brick; and baked brick and bitumen for weirs and other structures exposed to strong currents and water pressure.

More significant, however, is a different aspect of technology: Knowledge about how to plan large, integrated systems, and to organize for their construction and maintenance. That kind of knowledge appears in Mesopotamia in the design of weirs and sluice-gates to meet performance standards; it is necessary for deciding upon the breadth, depth and slope of a canal in order to assure adequate carrying capacity to serve a given region and to minimize siltation without overtaxing the available supply of labor. It is an essential aspect of laying out a network of secondary and tertiary canals that by gravity-flow ultimately bring the water to fields at an adequate level to permit irrigation. It is needed for the design criteria of dikes to minimize the cost of destructive flooding;

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*Role of Irrigation in Ancient Mesopotamia (Continued from page 2)*

of reservoirs to assure minimal supplies of water for home consumption and for gardens throughout the long, hot, dry summer. This is where the powers of subtle perception and accumulated (even if never formally recorded) experience become decisive, not so much for the enlarged yields which they may occasionally permit as for the extra margins of protection against disaster which they occasionally afford.

Ancient Mesopotamian irrigation regime was for a very long time one of limited complexity and centralization. Down to at least Hellenistic times it consisted of loosely associated, locally maintained enclaves having individual cities as their focal points. Some of the earlier cities were large, but what is known from excavations suggests considerable population flux rather than permanently large populations. They lay at intervals along what initially had been natural channels of the Euphrates, although gradually the inhabitants undertook to straighten and dike nearby portions of the river beds and thus establish a more "canal-like" regime. The Euphrates ultimately moved to a new series of beds far to the west of the old Sumero-Akkadian cities. From that time on, the environs of the surviving older cities could only be irrigated by the construction of entirely artificial canals following the crests of the ancient natural levees.

The development that followed after this long initial epoch led in an entirely different direction. Very large districts, covering not much less than the entire alluvial land surface that was not given over to swamps of otherwise uncultivable, were systematically gridded with canals of large

dimensions. Their straight courses, fairly even distribution, and technical features reflect centralization not merely of planning but of at least some phases of construction and maintenance. Perhaps the most significant aspect of the new pattern was that it apparently succeeded, albeit fairly briefly, in overcoming the chronic water shortages that had plagued all earlier periods. There is strong evidence, indeed, that the entire plain between the Tigris and the Euphrates was for the first time irrigated not as a series of largely independent enclaves but as a single, integrated system.

In these excerpts from an address, which opened up new vistas into living conditions of the ancient Near East, we catch a glimpse of technology not as a bundle of traditional skills and crafts but as organizing principles around which an arrestingly different view of an entire civilization can be fashioned. The point is certainly not that technology determined the path which society followed. It would probably be a good deal more correct to say just the opposite: The whole complex of institutions and beliefs largely set the pattern with which particular sectors of technology could change. However, the intertwining of technological, social, cultural and environmental themes, there can be no doubt.

Hopefully, the remainder of this year's lectures will continue to illustrate technology's part in this holistic vision of the great civilizations of the Near Eastern past.

—Elda Maynard

## FROM THE SIQ GIFT SHOP



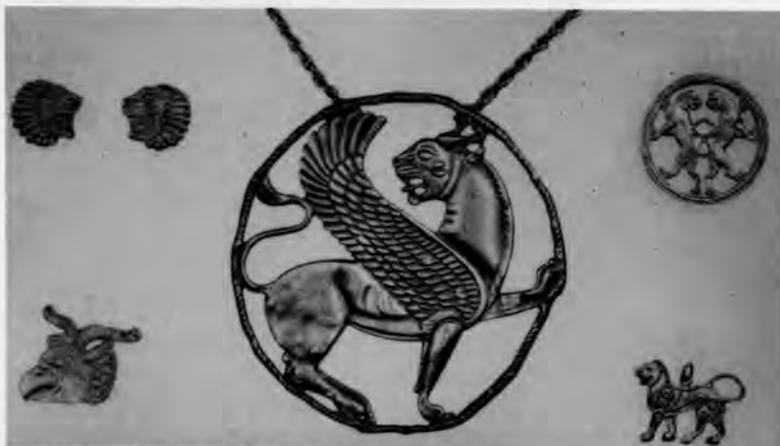
Canopic Jars



Stele of Ramses II



Gold Tablet of Shalmaneser



Double Lion, Lion Head Earring and Rondel



Scarab Paperweight and Scarab Belt Buckle

## SOMETHING NEW

We would like to invite out members to bring their traditional holiday goodies to the reception following Mr. Pigott's Lecture, December 9. Call the Membership Office for further details: 753-2389.

## DECEMBER LECTURES

Vincent Pigott, who is a Research Specialist in Archaeology and Archaeometallurgy at the Museum Applied Science Center for Archaeology, University of Pennsylvania will present an illustrated lecture entitled, The Coming of Iron: The Bronze Age Prelude, Wednesday, December 9, Breasted Hall, 8:00 p.m. This lecture is the third in our series on the Technology of the Ancient Near East.

An additional lecture: Dr. Nabil Khairy, University of Jordan, will give an illustrated lecture, New Excavations at Petra, 1981, on Monday, December 14, 8:00 p.m., Breasted Hall. The Institute is co-sponsoring this lecture with McCormick Theological Seminary.

## EGYPTIAN HIEROGLYPHS BY MAIL

At long last we can offer a member's course by correspondence! Starting January 11, 1982 we will begin Egyptian Hieroglyphs by mail. Frank Yurco has designed a course to cover 8 lessons in 10 weeks. The course will cost you \$65. For this Mr. Yurco will send you weekly lesson notes and exercises. You will send your completed exerises to him and he will correct them and answer any questions you might have. There will be one text book which can be obtained from the SUQ (at your 10% discount). Register now and receive further details. Please send in your registration form by Jan. 4, 1982.

Please enroll me in Egyptian Hieroglyphs by Mail starting January 11, 1982. My check for \$65 is enclosed.

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