HAMOUKAR

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"Can we go higher?" Khalid's question felt as if a knife had been stabbed into my side. Some seventy feet above ground, in a basket whose size and shape resembled more an Oriental Institute wastebasket than a contraption that safely could hold two six-foot guys (myself and Khalid Abu Jayyab, a student from Damascus University), this was about the last question I wanted to hear. Suspended from a crane whose arm had been extended close to capacity our basket was shaking dangerously in the wind, but the view below us was breathtaking. In the back the dark silhouette of the Jebel Sinjar rose across the border in Iraq, a constant reminder of the delicate geopolitical location in which we had been working for the past two months. But our attention focused on the panorama view that presented itself directly below us — a large area (600 sq. m) containing the remains of a city that flourished here until it was violently destroyed around 3500 B.C. — a breathtaking view but too large even from our elevated view point to fit into one picture. The basket suddenly started bouncing, jolting us around, indicating that the answer to Khalid's question was yes. When the movements finally subsided I grabbed the camera and, with trembling fingers, pressed the button. I did not know that this photograph soon would be featured in the *New York Times*, the *Chicago Tribune*, and in *Science Magazine*, but on that day I wouldn't even have cared — the view from above onto our work repaid for all hardships that we had endured for the past two months (fig. 1).

In the 2004 and 2005 *Annual Reports* I summed up our long road back to Hamoukar. Between 1999 and 2001 McGuire Gibson, then director of the Hamoukar expedition, had carried out three highly successful seasons of excavations, but the Iraq War and legal complications in Syria had prohibited further work on the site since then. In 2003 Gibson turned over the directorship of the site to me. In 2004 and 2005 I undertook four trips to Syria to negotiate the terms for a new excavation permit and to repair our magnificent dig house at Hamoukar, which Gibson had built but which had suffered badly from winter rain and lack of maintenance. While some negotiations were lengthy and complex, I found the representatives of the Syrian Department of Antiquities and Ministry of Culture with whom I had interacted to be very helpful, friendly, and open-minded. By June 2005 all problems in the way of a new excavation permit had been solved. Hamoukar is a joint expedition between the Oriental Institute and the Syrian Department of Antiquities; I was delighted when I heard that Salam al-Kuntar, a veteran of the 2000 and 2001 seasons at Hamoukar who is currently working on her dissertation at Cambridge University, was appointed as Syrian co-director. Salam's energy, commitment, and loyalty to the expedition were instrumental in obtaining a new permit — I could not have asked for a better co-director.

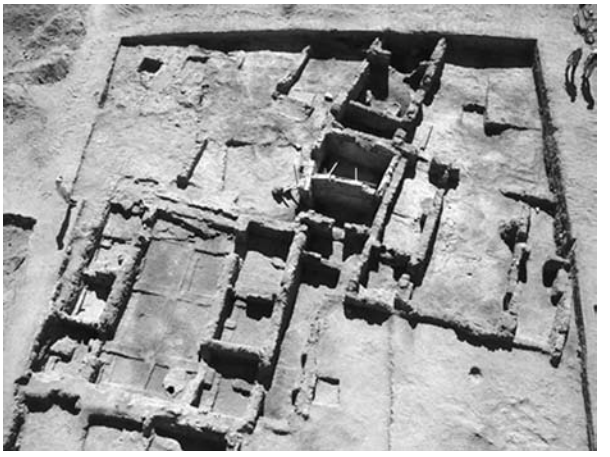

Figure 1. Area B view from crane (taken from north), showing both tripartite buildings (TpB-A and B) and interceding rooms. Compare with plan in figure 9

Though time was running short we decided on having a fall season in September and October, giving us little more than two months for preparations. Three archaeology students from Chicago — Dan Mahoney, Tate Paulette, and Alexandra Witsell —

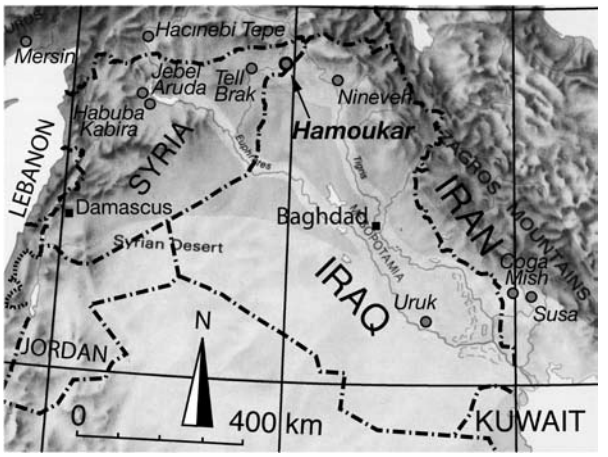

Figure 2. Map of Syria, showing location of Hamoukar and related sites

signed up for the expedition immediately and enthusiastically, making considerable sacrifices in scheduling and finances. Miranda Semple, a student at Cambridge University, joined us as the team's micromorphologist. Karen Terras, who had worked as a volunteer for our Iraq Museum Database Project and the Diyala Project, joined us as the expedition's object registrar. I was pleased that Claudia Beuger (German Archaeological Institute, Berlin), with whom I had worked during the University of Tübingen's excavation at the site of Tell el-Abd in 1993–1994, agreed to join us as well. Prior to the 2003 Iraq War Claudia had worked at Assur in Iraq, hence was very familiar with the complexities of excavating a multi-period site with mudbrick architecture. Financing our endeavor on such short notice was another matter, but thanks to a number of very dedicated individuals, whom I will acknowledge later on, we were able to take off for Syria in late August.

On September 5 Dan, Tate, Miranda, and myself left Damascus for Hamoukar. A look on a map (fig. 2) shows that this is really a trip from one end of Syria to the other, passing through almost all geographic and climatic zones that the country has to offer. In Raqqa we met up with Mahmoud el-Kittab, our housekeeper, driver, and man-of-all-trades, who had supervised both the construction of the house in 2000 and its reconstruction in 2004 and 2005. After a bone-shattering fourteen-hour trip we finally arrived at Hamoukar, where we were welcomed by Salam, who had arrived a few days earlier to start setting up the house (fig. 3). In the next few days our Syrian team members arrived — Khalid Abu Jayyab, Dina Kalaas, and Grace Kaswani (archaeologists, Damascus University); Ibrahim al-Alia (archaeologist, Aleppo University); Ghassan Abdel Aziz (conservator, Department of Antiquities, Damascus); and Nomiar Shaheen (architect, Department of Antiquities) — while we continued to organize the house, buy tools, and start hiring workers. Being new in the role of co-director and following a four-year hiatus in excavation these were unsettling days for me. Since the Iraq War prices for commodities and labor had changed considerably, and I was not at all sure if our budget was realistic. It is largely thanks to Mahmoud's resourcefulness that we not only kept expenses within our budget but actually managed to save a lot of money. This allowed us to hire more workers — what had originally been planned as a small test season with twenty-four workmen grew into a larger endeavor; at peak times we employed sixty-five workers on site and up to fifteen villagers in the house. The 1999–2001 seasons had given us a good idea of Hamoukar's periodization and potential,

Figure 3. Hamoukar dig house, seen from crane

making it possible to develop a fairly comprehensive research design.

Hamoukar's heydays as a city were between 2500 and 2200 B.C., during the Early Bronze Age, when urbanism in northeastern Syria reached a degree that was never again achieved in this area. Like other cities at Tell Brak, Tell Mozan, Tell Chuera, or Tell Leilan, Hamoukar's size multiplied within a very short time, growing to approximately 100 hectares (260 acres). As a result, most of the settled areas of most of these cities were located in large "lower towns" that surrounded the ancient city mounds, while the mounds themselves accommodated large palaces and temples. During our initial stratigraphic sounding, a step trench dug in 1999 in Area A along the northern slope of the high mound (fig. 4) we encountered a well-constructed building that dated to about 2500 B.C. The limited exposure achieved in this 3 m wide trench, however, allowed no conclusion on this building's function. We therefore decided to open a new 10 × 10 m trench to the east of the former step trench to get a better idea of this building's nature. Work in this area, supervised by Tate Paulette, proved trickier than it had seemed at first. Tate not only found one building but a whole series of rebuildings, realigned walls and pavements. None of these phases seemed to have been in use for any long period of time, so little if anything was found in floor context. Nonetheless, Tate managed to identify three major architectural phases. Phase II, articulated in figure 5, had three distinct rooms (*a, b, c*), of which room *a* is likely to have been a courtyard due to its size. The building's northern wall (*d*), which was up to 1.5 m thick, not only represented this building's northern limit but presumably also the northern extent of Early Bronze Age architecture along the edge of the mound, which already must have shown a significant slope around 2500 B.C. In the absence of doorways and clearly associated floors the precise function of this building remains unclear. The size of walls, rooms, and the quality of wall constructions, however, clearly indicate that this is a non-domestic building, and it may well be part of the city's palace or of a unit associated with it.

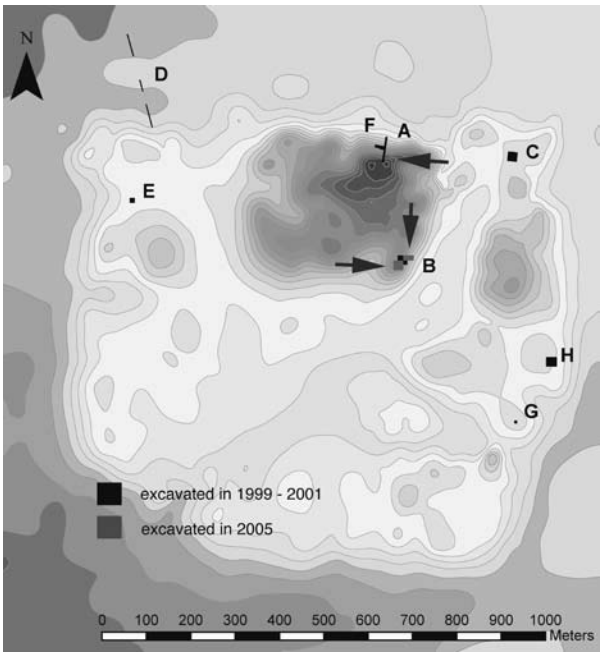

Figure 4. Hamoukar site map, showing main excavation areas; arrows identify 2006 excavations

Hamoukar's significance as an urban center, however, did not commence in the Early Bronze Age, but almost 1,000 years earlier. Below the Early Bronze Age building, our step trench had located a 3 m wide city wall (fig. 6) that dated to ca. 3700 B.C. During the same season we uncovered a sequence of large ovens in Area B, located on

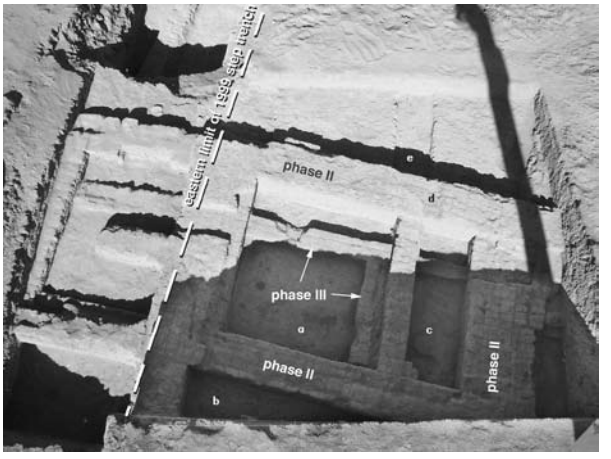

Figure 5. Area A: Third-millennium B.C. building from above. View from south

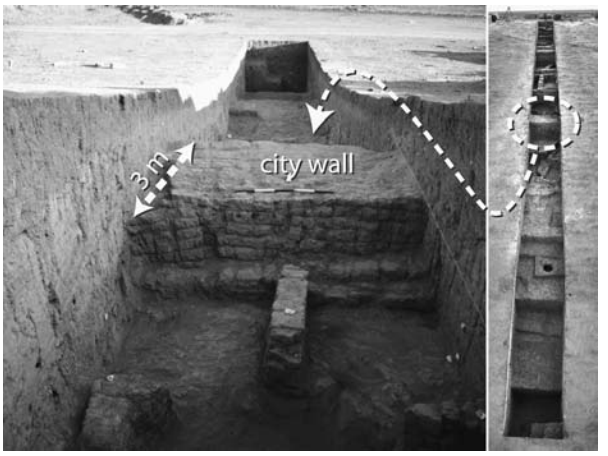

Figure 6. Area A: View of step trench (right); close-up of fourth-millennium B.C. city wall (left)

Figure 7. Area B: Plan of tripartite building (TpB-A) excavated in 2001. Lozenges represent sealings found at ground floor level, triangles those from the upper floor

a southern spur of Hamoukar's high mound, suggesting food production at a non-domestic, almost industrial scale. It became clear that by 3500 B.C. Hamoukar had developed features that are firmly associated with urbanism. When we first reported these discoveries in 1999 they caused somewhat of a sensation among colleagues, for these discoveries defied key traditional models of urban development. Traditionally scholars have seen the emergence of the Middle East's first cities in southern Mesopotamia with its two major rivers the Euphrates and Tigris. The development of agriculture in an area that sees little rainfall throughout the year required water management on a large scale, which included the digging of canals to irrigate the fields as well as the building of dams to keep the floodwaters out before harvest season. Such undertakings required the organization of massive labor forces, which furthered craft specialization, the division of labor, and the emergence of social hierarchies, all of which added more momentum towards urbanism, the emergence of the first urban entities in southern Mesopotamia. In northern Mesopotamia, by contrast, a much higher levels of annual precipitation allowed rain-fed agriculture that easily sustained farmers' subsistence at a village level, providing neither obvious incentives nor coercion to move into the narrow confines of a city. Cities in northeastern Syria were generally seen as a "transplanted" concept, following the "Uruk Expansion" into Syria and Anatolia after 3500 B.C. Named after the city of Uruk in southern Iraq, this expansion was driven by a need for a supply of vital raw materials such as wood, stone, and metal that are absent in southern Mesopotamia but which can be found in Syria, Anatolia, and Iran. Economic contacts between northern and southern Mesopotamia date back into Neolithic times, but around 3500 B.C. southern Mesopotamia's interest in its neighboring areas increased at a colossal scale, of which hundreds of Uruk "colonies" in these areas

bear ample testimony. Whether this early southern Mesopotamian expansion should be conceived as a political and territorial "empire," the outcome of a competition between rivaling southern Mesopotamian city states, or as an "informal" empire whose sustainability was based on mutual economic interests in this exchange, remains a hotly debated issue among scholars.

Figure 8. Area B: Detailed artifact mapping in TpB-A

The notion that Hamoukar played an important role during the Uruk expansion is not a recent one. Surveys during the 1950s and 1960s had noted a considerable spread of Uruk pottery. Our step trench in 1999 found several levels of Uruk occupation, they all postdated the construction of the city wall. While Hamoukar was part of the Uruk system during the later part of the fourth millennium B.C., it became clear that its key urban features predated this takeover by centuries. Our discoveries at Hamoukar therefore contradicted established models of urban developments in this area, raising a fundamental question: what environmental, social, or economic factors had convinced people to live in a city in an area so far away and so different from Southern Mesopotamia?

Figure 9. Area B: Architectural plan with tripartite buildings and surrounding units excavated in 2001 (dark gray) and 2005 (light gray)

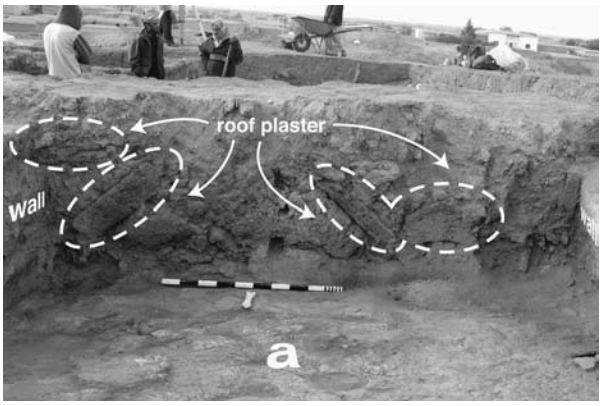

Figure 10. Area B: TpB-B central space a: several large piece of fallen roof plaster indicate that the central room of this building was roofed, not an open courtyard

The debate on Hamoukar's early role as an urban entity regained momentum in 2001 when we found a well-preserved tripartite building (hereafter TpB-A) on top of the mound in Area B (fig. 7). It had been destroyed by fire, accounting for an excellent stage for preservation. The destruction, which according to C^{14} samples occurred around 3500 B.C., seems to have been sudden and unanticipated, for we saw no evidence of items having been removed prior to the building's collapse. While numerous large storage pots, grinders, and whetstones indicate that some food had been processed in this building, the discovery of 173 clay sealings made it clear that it did not serve a domestic purpose. Several of its doors could be locked, suggesting that it housed a number of small storage units, a suggestion reinforced by the recovery of numerous door sealings. Careful recording of the findspots of these sealings allowed us to separate the ground floor artifact assemblage from that of an upper floor, which had fallen down during the destruction of the building (fig. 8). From this building we also retrieved two of our best-known finds, the "kissing bear" seal and a seal in shape of a lioness killing a calf (see *Annual Reports* for 2004 and 2005).

The tripartite layout of TpB-A closely resembles that of houses at the Uruk sites of Habuba Kabira and Jebel Aruda at the Middle Euphrates in Central Syria. At first, therefore, this building seemed to be another indicator for the Uruk presence at Hamoukar. The pottery and most of the sealings from this building, however, were entirely local in character — we tend to refer to this cultural assemblage as "Late Chalcolithic." Moreover, the pottery and sealings from this building date its destruction to about 3500 B.C., some 300 years earlier than the foundation of Habuba Kabira and Jebel Aruda. If our building was indeed connected with the Uruk Culture, it would have to be correlated with an earlier event than the one that brought about the existence of the Habuba and Aruda settlements.

With these questions in mind we opened three trenches in this area to the south, southwest, and west of TpB-A. Our assumption that this building was unique in this area turned out to be wrong, for we found another tripartite building (hereafter TpB-B) just to its west (figs. 1, 9; labels used below are given in fig. 9). It followed the same orientation as TpB-A, but was smaller (7.6 × 7.1 m vs. 7.9 × 8.2 m). Both buildings are arranged largely symmetrically on a northeast to southwest axis. Like TpB-A, TpB-B has two niches in its northeastern wall, probably mirroring two entrance doors to the building at the opposite southeastern wall, which had been destroyed completely. At first glance, the same sense of symmetry also governs the arrangement of its doorways, but the doorway from central space *a* to room *d* on the eastern side is mirrored by a niche between space *a* and room *b* in the west. In addition, three rooms (*d–f*) along the eastern side of space *a* are matched by only two rooms (*b, c*) along

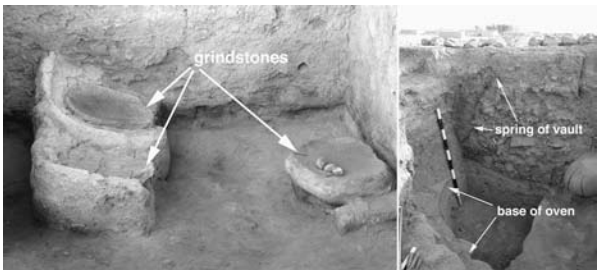

Figure 11. Area B: Kitchen with grindstones (left); domed oven (right)

its western side. In short, while TpB-B superficially adhered to the strict principles of symmetry found in TpB-A, it showed its own idiosyncratic variants in its layout. The destruction debris in central space *a* contained large chunks of roof plaster (fig. 10), indicating that some 5,500 years ago roofs didn't look too different from those we see in villages nowadays. The roof beams first were covered with mats, then straw for insulation, and finally with a thick layer of mud, which prevented winter rain from seeping all the way through the roof. The presence of roof collapse in space *a*, however, is interesting. To the present day there remains substantial scholarly disagreement on whether the long rectangular spaces that form the central units of tripartite buildings were open courtyards or roofed spaces. With this building type showing up anywhere from Central Anatolia to southwestern Iran from TpB-B cannot provide a universal answer to this question. At least for Hamoukar, however, with its long seasons of winter rains, the central spaces of tripartite buildings appear to have been roofed and therefore rooms, not courtyards.

Figure 12. Stamp seal, bone, in shape of duck, perforated for suspension; bottom shows geometric zigzag as seal design. From Area B; date ca. 3500 B.C.

TpB-A and TpB-B both were parts of larger complexes, of which the general layout is sufficiently well understood. The entrances of both TpB-A and B were in their southern walls, where they could be entered from two large, presumably square courtyards. Despite their incomplete excavation it is clear that both courtyards were surrounded by rooms on their eastern, southern, and western sides. Between TpB-A and B was a sequence of seven rooms (*g–m*), of which the four northern ones (rooms *g–j*) belonged to the same complex as TpB-A and the three southern ones (rooms *k–m*) belonged to that of TpB-B. Several of these rooms showed evidence for food production on a large scale. The floors of rooms *g* and *h* were covered with ashes and littered with burnt animal bones. The southwestern corner of room *g* (labeled *g** in fig. 9) contained the remains of a large, domed oven, possibly the place where large quantities of meat were cooked. More evidence for food production, though of a different kind, was found in room *l*, which opened to the west and therefore was part of the TpB-A complex. Room *l* contained three large grindstones that were embedded in clay benches, indicating that fairly large amounts of grain here could be ground into flour (fig. 11 left) in room *m* immediately to the south of room *l* was a large domed oven, suggesting that this suite of rooms was used for bread baking (fig. 11 right). Excavations in the lower parts of Area B in 1999 and 2005 recovered long sequences of superimposed ovens, indicating that large-scale food production in this area had a long history in this area. The large number of storage vessels and of clay sealings found in 2001 in TpB-A, however, leaves no doubt that its main function was storage, not food production per se. Additional evidence for this interpretation was found in 2005 in room *g*, a long narrow room along the western side of the building. This room clearly was a secondary addition to the complex, its construction was followed by a clear change of plan in this area. Originally there was a doorway between rooms *g* and *h*. At some stage, however, this doorway was blocked and access to *g* was instead provided through a doorway from room *o* in the northwestern corner of TpB-A. In 2001 we had noticed this doorway in the western wall of room *o* as a "niche?," but it puzzled us as did much of the evidence from this little room. In addition to a large number of storage vessels we had found numerous door sealings in it. It was obvious that room *o* had a lockable door, suggesting that it was a store room, yet its small size would only have accommodated a limited number of objects.

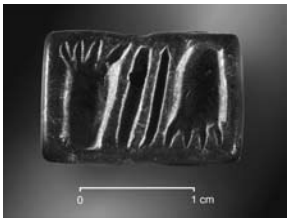

Figure 13. Stamp seal, black stone, perforated for suspension, showing four-toed (bear's?) feet as seal design. From Area B; date ca. 3500 B.C.

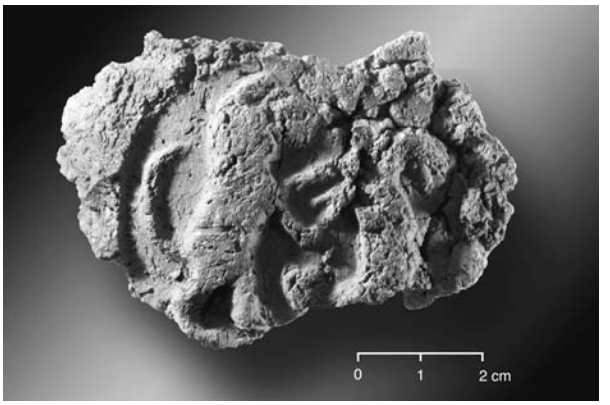

Figure 14. Clay sealing with stamp seal impression, seal design shows lion in upright position grabbing goat at its beard. From Area B; date ca. 3500 B.C.

The 2005 excavations showed that *o* was actually an entrance room to the much larger room *g*, which also was full of storage jars. The fact that room *g* was a later addition suggests that it was added at a time when storage space in the main building was running out.

The sudden fire destruction of the complexes buried many artifacts in place, including numerous seals and sealings which complement the rich corpus already excavated in 2001. Highlights among the seals include a duck-shaped seal made of bone (fig. 12) and a square stamp seal showing four-toed (bear's?) feet (fig. 13). The seal motifs on sealings show a wide repertoire ranging from simple geometric to complex scenes, mostly involving animals. Perhaps the most notable of the latter ones displays a standing lion that gas grabbed a goat by its beard (fig. 14). This is a distinctively human posture (lions, after all, are quadrupeds and they do lack opposable thumbs!), which recalls similar scenes in contemporary seals from the Susiana in southwestern Iran. Considering the distance involved, citing such a parallel may seem far-fetched considering the distance involved, but this is not the only glyptic evidence for such long distance contacts. A sealing from Hamoukar found in 2001 that shows a squatting woman with a harp finds its closest parallels in seal impressions from Susiana including one from Chogha Mish that was excavated by an Oriental Institute team (fig. 15). Even our kissing bears seal may hint at such interregional connections — though bear-shaped seals are known from Tell Brak and Hamoukar itself, its closest parallel is found in a seal in the shape of a kissing couple (possibly monkeys) from Susa. An intriguing variant of clay sealings was found on numerous pieces that contained incised designs instead of seal impressions, including that of a lion (fig. 16). Some colleagues have suggested that they represent makeshift solutions in cases where a seal had been lost or misplaced. All these sealings, however, were found in one room (room *g*; see fig. 9), so unless all officials administering this room were slobs or scatter brains this suggestion is difficult to maintain. Time and future discoveries may tell if we can see these drawings as early "pictograms" — for now much caution should be applied before we start rewriting the history of the development of writing.

Figure 15. Left side: clay sealing with seal impression showing squatting pig-tailed woman and harp; from Hamoukar, Area B (found in 2001, drawing by Peggy Sanders). Right side: seal design (composite drawing) found on clay sealings from Chogha Mish, showing squatting figures, one of them holding harp (drawing by Abbas Alizadeh)

Last season's work also clarified what caused the fire destruction of these buildings. Mixed in with the destruction debris and wall tumble we found more than 1,200 roughly egg-shaped sling bullets (fig. 17a). Their average sizes were around 3.6 × 2.4 cm, with their average weight around 25.4 grams (0.89 ounces). Most of them were carefully shaped by hand, as indicated by numerous finger impressions, with a pointed top on the smaller side. Their discovery leaves little doubt that the destruction of these building was caused by warfare. This

discovery caused somewhat of a sensation when we first reported it in December 2005 — several papers went as far as referring to our Hamoukar battle as the "world's first war." There is, of course, nothing that would justify such a claim. For starters, it is difficult to find comparative data for this battle. "Finding" ancient warfare is not like finding a physical object — it's an ancient event that left its imprint on the archaeological context, such as the pattern in which a building had been destroyed or a particular way in which objects were scattered during combat, destruction, or subsequent looting. Such clues are easily missed during excavation. Sling bullets of the type found at Hamoukar are attested on fourth-millennium B.C. sites across Turkey, Syria, Iraq, and Iran, but in many instances they may be evidence for hunting, not warfare. Yet there are a few cases where they clearly were used as military weapons. Excavations in Mersin in southern Turkey, for example, uncovered a fortified gate from ca. 5000 B.C. that had been destroyed by fire. Large quantities of sling bullets were found not only in the destruction debris, but also in piles within rooms along the fortification walls — apparently stashes of ammunition for the gate's defenders. This gate appears to have been the entrance to a fort, not a city, leaving our discoveries at Hamoukar with the title of "earliest urban war zone."

Figure 16. Clay sealing showing incised design of a lion; reverse impression shows jar rim covered with cloth or leather, identifying object as a jar sealing. From Area B; date ca. 3500 B.C.

Some 200 clay objects mixed in with the debris and the bullets, which we first nicknamed "Hershey's Kisses" for lack of a good interpretation may indicate that the city did not fall as easily as may have been anticipated by the aggressor (fig. 17b). All of them had an essentially round base, while their vertical sections were irregular, ranging from conical to onion shaped. One characteristic that united them were cracks in the clay along the perimeter of their base, indicating that there were somehow "squashed" into this shape by force. Impressions of chaff-tempered wall plaster on the bottom of some of them finally helped us to understand that these were sling bullets that had hit a wall at great velocity and hence were deformed. Their clay must have been wet when they were fired, for otherwise it would have been impossible for them to lose their shape. But why pelt the enemy with wet clay? In times before large transport vehicles were available it would have been impossible for an army to carry massive amounts of ammunition along, so most of these bullets would have been made locally in sight of the enemy, where transport ceased to be an issue. Clay, however, takes a long time to fully dry out — for an object of this size it can take up to twenty-four hours. Even the greatest surplus stash of bullets would eventually be depleted if the battle dragged on for a while. New bullets would experience shorter and shorter drying periods; in the end they would literally have been fired as they were made.

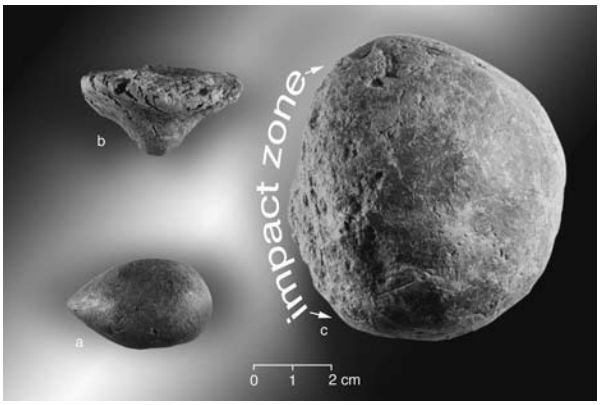

Figure 17. Fourth-millennium B.C. missiles retrieved at Hamoukar: (a) sling bullet; (b) sling bullet deformed by impact ("Hershey's Kiss"); (c) clay ball showing damage due to impact. From Area B; date ca. 3500 B.C.

The area also contained over 130 larger clay balls with diameters ranging between 6 and 10 cm (fig. 11c). A fair number of them show damage on one side, indicating the side of impact and making it clear that they were indeed ancient "missiles." With

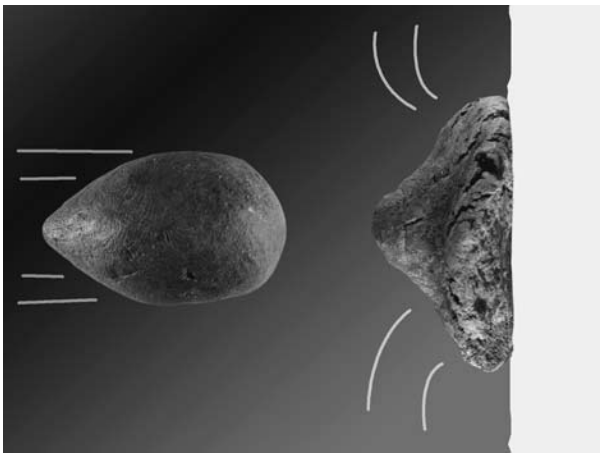

Figure 18. Simulation of the effects of a sling bullet made of wet clay hitting a wall at high velocity

their weights ranging between 255 and 520 grams these have to be considered "heavy" artillery. At this point I cannot see a clear functional distinction between them and the sling bullets. Their spatial distribution in the collapse pretty much appears to be the same, so we cannot identify one as the weapon of the aggressor, the other one as the weapon of the defendant seems impossible. What seems pretty clear is that both types of bullets were launched with slings — centrifugal force would have been the only force strong enough to accelerate both sling bullets and clay balls to a potentially lethal speed. As someone who up to recently has never held a sling in has life I am very grateful to the input on technical questions that I have received from the "slinging community" (little did I even know that such a thing exists). Their Web site (www.slinging.org) lists a lively and informative discussion on our finds at Hamoukar. Academics are generally reluctant to involve outside enthusiasts in their analysis — and often with good reason — but in this case I had to lean back and learn something of which I never anticipated the need to know about for archaeological work.

Who caused the destruction of this early city? Though in the absence of writing we cannot make a bullet-proof case (no pun intended) there is a very likely contender. Sandwiched between the ruins of destroyed buildings and the present day surface of the mound were numerous pits. They were associated with a higher architectural level from which they had been dug, but this level had completely eroded away. The pottery from these pits consisted almost exclusively of southern Mesopotamian Uruk pottery. Its sudden appearance on this site following the violent destruction of the building complexes in Area B implicates the Uruk culture quite heavily. But what was the reason for the attack? Geopolitics may have played in here. Hamoukar is located at or in close proximity to an ancient east–west trade route, which comes from southern Mesopotamia, crosses the Tigris ca. 90 km northeast of Hamoukar at the site of later Nineveh — where an Uruk settlement dating to the Middle Uruk period is attested — and extends across the northern Syrian plain towards the Mediterranean and into Southeastern Anatolia (fig. 2). Was Hamoukar seen to be a roadblock to the Uruk culture's expansion westwards in its quest to secure access to raw materials in Syro-Anatolia? Or was Hamoukar even perceived to be a competitor for raw materials? This gets us back to some of our big research questions — why was a city built in this very location, far away from any known watercourse? And what was the motivation to give up village life and the relative comfort of rain-fed agriculture (especially when compared to irrigation agriculture) in favor of the narrow and competitive confines of a city? The best guess I can offer at this point is that city life promised the prospect of significant profit made of specialized commodity production and trade. Even in antiquity, some people knew better than others how to make a buck.

While the economic powerbase of Hamoukar's fourth-millennium B.C. city remains to be investigated there indeed is evidence for specialized production at Hamoukar from an even earlier period. Surveys undertaken in 1999 and 2000 in a low-lying area to the south of the main site, referred to by us as the site's "Southern Extension," showed a scatter of obsidian that extended over 280 hectares (ca. 730 acres). The pottery associated with this scatter dates to Late Chalcolithic 1 and 2 periods (4500–4000 B.C.). The size of the scatter combined with this early date certainly

has to attract attention, as its size would even exceed the size of Uruk in southern Mesopotamia a good thousand years later. Following the original survey of the area, McGuire Gibson and Tony Wilkinson suggested that this was a "shifting" settlement that changes its location over the centuries. That would certainly explain its enourmous size and the absence of any noticeable mound formation. But was it a seasonal or a permanent settlement that existed in this location? To answer this question, we opened three trenches in this area under the overall direction of Salam, who is also doing her Ph.D. research on the Late Chalcolithic 1 and 2 periods in Syria. The answer remains somewhat tentative — we found numerous sherd pavements, one of them framed by postholes and hence possibly representing the inside of a tent, which point towards seasonal occupation. On the other hand we found the remains of a room with large storage vessels, which strongly suggest an all-year around settlement (fig. 19). Interestingly enough, the obsidian scatter retrieved included lots of production debris as well as cores (fig. 20), indicating that obsidian tools were not only *used* but actually *made* at Hamoukar. We hope to be able to analyze some samples in the near future to find the source of the obsidian — a likely source is the Nemrud Dağ in southeastern Turkey. Obsidian blades from that source have been found in the Ubaid levels at Ur and Eridu in southern Mesopotamia. It is possible that in the late fifth millennium B.C. Hamoukar was a production site for lithic tools that were then traded on southwards. Such trade networks may have extended into the fourth millennium B.C.; cooper tools found in Area B indicate that by that time Hamoukar had a well-developed metal-working industry, yet another potentially profitable trade with southern Mesopotamia. Such endeavors, however, may well have run afoul of the Uruk Culture's interests to secure its own access to raw materials, which ultimately may have led to the elimination of this unwanted competitor.

Figure 19. Southern Extension: Some of the earliest evidence of proto-urban life south of Hamoukar's main mound, including a storage room with large storage vessels dating to the earlier part of the Late Chalcolithic period (ca. 4200 B.C.)

After only four seasons of work Hamoukar has produced a vast amount of material that will certainly cause us to revisit major theories on the origins of urbanism in the Middle East. Yet, looking at the overall size of the site, it feels as if we have barely scratched the surface. In Area B we have a virtually unique chance of excavating a fourth-millennium B.C. city right below the surface of the mound, allowing us to uncover a large area while at the same time taking great care and diligence during excavation and recording. In all our excitement about finding an early fourth-millennium city, however, we should not lose sight of the fact of Hamoukar's lower town, which promises unique opportunities to study the functional layout of a large urban entity dating to the mid- to late third millennium B.C. Initial work in this area seems promising — excavations between 1999 and 2001 in Area C to the northwest of the high mound located a large Early Bronze Age public building. The finds from this complex included numerous clay slabs with cylinder seal impressions dating to the early Akkadian period (ca. 2300 B.C.). There is a good chance that this

Figure 20. Early industries: Lithic production debris, such as this obsidian core from the Southern Extension (Area Z), indicates the presence of a lithic industry at Hamoukar as early as the late fifth millennium B.C.

building also contains an archive, which not only helps us to identify the ancient name of Hamoukar but also puts a historical component into our research. Excavating an Early Bronze Age lower town is relatively easy, for there is hardly any later overburden, but its size can make such an undertaking a daunting task. The area of Hamoukar's lower town extends over some eighty-five hectares — even if we opened and finished five new 10 × 10 m trenches every season from now on year by year it would take us 850 years to excavate just about 50% of it! Fortunately, in the past fifteen years geophysical techniques have helped archaeologists to look into the ground without excavation. Magnetometry, for example, creates maps by measuring deviations from the earth's magnetic field in the ground, as created by baked bricks, kilns, or large concentrations of pottery. Electric resistivity records the electric resistance posed by buried features. Such maps of subsoil features can be surprisingly detailed. If mapped on a large scale, whole city quarters can be mapped in a few years, giving us the functional layout of an ancient city. This technique has the added advantage of being non-destructive — the architecture can be mapped without the need for excavation. Where desired these maps will help to identify the most promising areas for excavation, ensuring immediate success and maximized results without years of "poking" holes into the site. I am more than pleased to report that the University of Chicago's Women's Board of Education has generously agreed to help initiate geophysical work at Hamoukar by financing an initial season of work, which is to take place in fall of 2007. To all members of the Women's Board I would like to express my very heartfelt thanks for their enthusiasm in support our work and their willingness to support yet another Oriental Institute project at a crucial time.

I would like to close this summary by thanking everyone who has made the 2005 season a great success. On the Syrian side I would like to express my thanks to Dr. Mahmoud al-Saeed (then Syria's Minister of Culture), Dr. Bassam Jamous (Director General of Antiquities and Museums), and Dr. Michel al-Maqdissi (Director of Excavations). A particularly heartfelt thank you goes to His Excellency Dr. Imad Moustapha, Syria's Ambassador to the U.S., who has supported our project above call and with great interest and enthusiasm and who visited the Oriental Institute in January 2006 to inform himself first-hand about the Institute's work in Syria. At the Oriental Institute I would like to express my gratitude to Director Gil Stein for his generous financial and moral support in resurrecting this project, and to McGuire Gibson for entrusting me with its directorship and for his continued help. Numerous private donors have contributed generously to our project — among those I would like to express my special thanks to Mr. Ronald Michael (Chicago), Mr. Howard Hallengren (New York), Mr. Alan Brodie (Chicago), Mrs. Carlotta Maher (Chicago), Guillermo Algaze (San Diego), and to Mrs. Brigitte Treumann-Watkins (Chicago) for their great generosity and enthusiasm for our work. This year we welcomed a new group of supporters in members of the Syrian community of the Chicagoland area, who visited the Oriental Institute for a Hamoukar fundraiser on June 4. I cannot list everyone who supported this event by name, but none of this would have happened without Antoun and Sonja Koht, who not only initiated and organized this fundraiser but also spread their enthusiasm about the Oriental Institute's ongoing fieldwork in Syria — our most heartfelt thanks go to them. At this time, when the relationship between Syria and the U.S. remains strained (to say the least), the symbolism behind a

joint Syrian-American archaeological expedition is lost on no one. Syria has remained open to American missions and its government, its cultural institutions, and above all its people continue to welcome us despite the adverse political situation. We hope that the excellent relationship we enjoy with our Syrian friends and colleagues will not only last but continue to grow, serving in the exploration of one of the world's earliest cities.