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Tell Leilan 1989: New Data for Mid-Third Millennium Urbanization and State Formation

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Introduction

Tell Leilan excavations in 1985 and 1987 focussed in part upon the mid-third millennium developmental transition from town to city. The 1989 season of Tell Leilan field research was designed to retrieve additional baseline data for mid-third millennium urbanization and state formation. Some of the first results of that research are outlined here. Principally, a 600 square meter unit in the Lower Town south quadrant was sampled. The unit was first occupied in the Leilan IIId period when a 4,5 meter wide street was planned and constructed with adjacent residences. This area was continuously occupied and rebuilt until the end of the Leilan IIIb period. The chronology of Tell Leilan settlement now refines our knowledge of third millennium north Mesopotamian state formation.

Background

Excavations at Tell Leilan in 1985 and 1987 provided new data for the site's third millennium settlement history (Abb. 1). Leilan period IIId, the terminal strata of the Ninevite 5 ceramic period, was retrieved on the Leilan Acropolis within a 200 square meter unit at locus 44W12/X12. The third millennium Acropolis fortification wall was found there constructed upon the surface of stratum 15 (the terminal stratum for Leilan period IIId), and first used in stratum 16 (the earliest stratum of Period IIa) at the end of the Early Dynastic II period and the beginning of the Early Dynastic III period, ca. 2500–2450 B. C.¹

Secondly, the initial occupation of the Lower Town at the eastern City Wall was redefined through refinement of the third millennium ceramic sequence

¹ For the definition and significance of Leilan IIId, see H. Weiss, Civilizing the Habur Plains: Mid-Third Millennium State Formation at Tell Leilan, in: M. van Loon/P. Matthiae/H. Weiss edit., Resurrecting the Past: a joint tribute to Adnan Bounni (1990) 387–407; H. Weiss/L. Calderone, The End of the Ninevite 5 Period at Tell Leilan; D. Parayre, La glyptique de l'époque "Ninivite 5" découverte à Tell Leilan (Shekhna) en 1987; S. Robinson/H. Weiss, The Absolute Chronology of the Ninevite 5 Period, in: H. Weiss edit., The Origins of North Mesopotamian Civilization: Ninevite 5 Chronology, Economy, Society (New Haven, in press) (= ONMC).

and an additional test of the occupational sequence at another City Wall locus. At Operation 2 the occupation upon virgin soil begins with the Leilan IIId ceramic period², while at Operation 4 occupation begins with Period IIb residences set into virgin soil and the synchronous construction of the City Wall³.

Thirdly, the size of the mid-third millennium city was adjusted through the probable identification of the site's southwestern clobe' as the Assyrian $k\bar{a}rum$ added to the site in the early second millennium. The estimated size of the Period IIb city was thereby reduced from ca. 90 to ca. 75 hectares⁴.

These data for the date and extent of the site's urban expansion serve to initiate a period of intensive research on the origins and nature of the mid-third millennium city and the regional and extra-regional forces which both generated and sustained it. Several components of this research program require extensive horizontal sampling of occupations within both the third millennium Lower Town and Acropolis, as well as environmental and settlement data from the sustaining area of the ancient city. This new period of Leilan research began with the sixth season of Tell Leilan excavations, in September and October 1989⁵, through three retrieval programs.

First, the expanded retrieval and redefinition of the terminal Ninevite 5, Leilan period IIId, sequence of occupations on the Acropolis Northwest was continued to generate a sample size which could also eventually redefine the Leilan IIIc ceramic assemblage. As with the retrieval of Leilan IIId strata in 1987, this operation was executed within the 200 square meter grid squares 44W12 and 44X12⁶. The ceramic, architectural, subsistence and glyptic data

- ³ G. Stein, Excavation at Operation 4, the City Wall Mound, and H. Weiss, Postscript, in: H. Weiss et. al., Tell Leilan 1985: American Journal of Archaeology 94 (1990); H. Weiss, The Diffusion of Mesopotamian Civilization: Bulletin Canadian Society for Mesopotamian Studies (in press).
- ⁴ P. Akkermans/H. Weiss, Tell Leilan 1987 Operation 3: A Preliminary Report on the Lower Town Palace: Annales archéologiques arabes syriennes 38/39 (1989).
- ⁵ Tell Leilan 1989 research was executed through the cooperation of the Directorate-General of Antiquities, Damascus with the collegial attention of Dr. Ali Abu-Assaf, Director-General, and Dr. Adnan Bounni, Director of Excavations. Support for this research was provided by the National Endowment for the Humanities (grant RO 21483-87), and through the generosity of The Beverly and Raymond Sackler Foundation, Mr. Leon Levy, Miss Julia Wightman, Professor emeritus Franz Rosenthal, and Mr. Jonathan Rosen.

Excavations in 44W12/X12, retrieving strata 17, 18, and part of 19 were directed by Laura Calderone (Yale University), assisted by Elena Rova (Venice), and supported by a National Science Foundation Dissertation Improvement Grant (BNS-8913439). The analysis of these excavations will be reported elsewhere. The analysis of the initial step trench on the Acropolis Northwest is reported in G. Schwartz, A Ceramic Chronology from Tell Leilan, Operation 1: Yale Tell Leilan Research 1 (1988); for revisions see ONMC (Anm. 1).

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Abb. 1 Tell Leilan Topographic Map

for Acropolis Northwest strata 17, 18 and parts of 19 complement those retrieved in 1987, and will help to further define the economic role of the Leilan IIId Acropolis within the city and the region (see below, 'the Leilan IIId palace').

Secondly, the project has initiated a soils mapping and analysis program within the Leilan sustaining area through field survey, remote sensing, and chemical and micro-morphological analyses of soil and clay samples⁷. This

² I. Nicholas, Initial Soundings in the Lower Town at Tell Leilan: 57F02 and Operation 2, in: ONMC (Anm. 1).

⁷ This program has been designed and directed by Professor M. A. Mulders (Department of Soil Science and Geology, Landbouwuniversiteit Wageningen), assisted in the field by H. Huisman. A detailed report of this research will appear elsewhere.



Abb. 2 Tell Leilan Hinterland Landscape Zonation, D = Do Gir, L = Tell Leilan, MD = Mohammed Diyab (after H. Huisman)



Abb. 3 Lower Town South Excavation, 1989 (Kite Photo Anwar Abd el-Ghafour)

program includes analysis of datable Tell Leilan late prehistoric and mid-third millennium virgin soils and top soils. The soils map and analyses complement expanded retrieval and analysis of third millennium agricultural assemblages as sources for the history of Leilan region agriculture.

One immediate by-product of the soils mapping program facilitates a finer understanding of Leilan regional settlement history. Previous analyses of the Leilan sustaining area have assumed that the region is an isotropic plain⁸. Soils mapping has, however, defined five Leilan landscapes roughly classifiable into two land use groups (Abb. 2)⁹:

a. Zone A, suitable for animal grazing, characterized by basaltic soils, Northeast-Southwest valleys, basalt and other rock outcrops, higher elevation, lower ground water;

b. Zones B–E, suitable for varying degrees of cereal cultivation, characterized by fluviatile soils, North-South valleys, deeply incised wadis and gulleys,

⁹ Figure 2 was prepared by H. Huisman.

⁸ H. Weiss, The Origins of Tell Leilan and the Conquest of Space in Third Millennium Mesopotamia, in: H. Weiss edit., The Origins of Cities in Dry-Farming Syria and Mesopotamia in the Third Millennium B. C. (1986) 71–108; G. Stein/P. Wattenmaker, Settlement Trends and the Emergence of Social Complexity in the Leilan Region of the Habur Plains from the Fourth to the Third Millennium B. C., in: ONMC (Anm. 1).

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Abb. 4 77F01, south balk, stratigraphic section, detail of test trench (Photo Harvey Weiss)

higher ground water table and inter-zone differences in rainfall, elevation, soils, and drainage.

The 1989 soils mapping program therefore reduces considerably the Leilan region estimate of land available for cereal cultivation. The radial extent of the Leilan sustaining area, expressed as a function of dry-farming cereal production, is thereby increased¹⁰.

Thirdly, the 1989 season of excavations¹¹ inaugurated a program of extensive horizontal sampling of the third millennium residential occupations of the

Excavations were conducted from September 1 through November 1, 1989. Expedition 11 staff included Harvey Weiss (Yale), director; Peter Akkermans (Amsterdam), associate director; Ulla Kasten (Yale), registrar; Wilma Wetterstrom (Harvard Botanical Museum), paleoethnobotanist; James Blackman (Smithsonian Institution), neutron activation analyst; Judith Berman (New York), Anna Curnow (Yale), Harry Fokkens (Leiden), Annelou van Gijn (Leiden), Ann Porter (Chicago), Louise Senior (Arizona), site supervisors; Anwar abd el-Ghafour (Aleppo), aerial and artifact photographer; Laura Foos and Denise Hoffman, draftspersons; Rik van der Velde, architect. I thank Anwar abd el-Ghafour for coordinating several aspects of our fieldwork as representative of the Directorate General of Antiquities and Museums. I am especially grateful to H. E. Moustafa Miro, Governor of Hasseke Mouhafazat and Ambassador Edward and Françoise Djerejian for their support and hospitality, to Dr. Elie Farah for his considerate medical services, and to many friends in Tell Leilan, Siha Saghira, Tell Barham, and Qahtaniyeh for their generous assistance. Lastly, I thank Dr. Ali Abou-Assaf for time spent at Tell Leilan conferring on various aspects of our research program.



Abb. 5 77F01, east face of western street wall, horizontal scale is 50 cms (Photo Harvey Weiss)

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¹⁰ Weiss (Anm. 8) 95.



Abb. 6 Baked clay drains passing through western street wall into street, phase 4 (Photo Harvey Weiss)



Abb. 7 Lower Town South excavations, from the south looking north (Photo Harvey Weiss)

Lower Town. Sampling of the Lower Town is intended to generate data for a range of population, production and technology analyses. The sampling unit selected for this purpose is a six hundred square meter area; in this first case grid squares 76E19, 76E20, 77E01, 76F19, 76F20, 77F01 of the Lower Town South quadrant were excavated (Abb. 3).

Earlier Tell Leilan third millennium excavations were designed as limited stratigraphic tests of Leilan occupational history. This first extensive horizontal sample increases considerably knowledge of the mid-third millennium town to city transformation. The following report describes briefly the unit's occupational sequence, the ceramic assemblages which situate these occupations within the history of Leilan settlement, and a series of preliminary conclusions, drawn from these excavations, with regard to mid-third millennium North Mesopotamian urbanization and state formation.

Mid-Third Millennium Lower Town South

The 600 square meter sample comprises a straight, 4.5 meter wide, sherd and waster paved street running northwest-southeast towards the Leilan Acropolis. Each side of the street was occupied by apparently domestic structures of one or more rooms. On the western side of the street, an east-west wall extended more than twenty meters to perhaps delimit two quarters controlled for residence, mobility and/or property relations. This east-west wall, the street, and the walls which border the street, were built upon virgin soil in the Leilan IIId period and continued to be used through the Leilan IIB period.

The sequence of occupations in the Lower Town South is outlined by the sequence of street surfaces and debris deposits designated as numbered strata in the 77F01 southern balk detail (Abb. 4, 5)¹². These street strata correspond to sets of strata within phases of building, occupation and collapse defined by synchronous occupation floors across the two sides of the street.

Three sets of Lower Town South post-third millennium strata, the last three depositional phases in the Lower Town South, are not illustrated in the 77F01 southern balk detail. Phase 1 is the modern Tell Leilan top soil. Phase 2 is a possibly medieval occupation surface with one corner of one wall cutting the western edge of the 600 square meter excavation area. From this surface large, deep, bell-shaped pits filled with ashy materials extended down to the third millennium occupation levels. Phase 3 is comprised of the erosion strata derived from the abandoned terminal third millennium settlement.

The third millennium occupational strata begin with phase 4, the last of a sequence of superimposed street strata. Associated with phase 4 are the poorly preserved remains of domestic structures, mostly portions of baked brick walls, platforms and baked clay drains associated with sherd littered interior or

¹² For their assistance with the stratigraphic analysis, I thank Louise Senior and Anna Curnow.

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Abb. 8 Two houses, eastern side of the street, phase 5, 77E01 and 77F01 (Photo Harvey Weiss)



Abb. 9 Houses and alley, western side of the street, foreground, phase 5, 76E19 and phase 6, 76F19 (Photo Harvey Weiss)

exterior surfaces. Probably most mudbrick architecture of this phase has eroded away¹³ (Abb. 6).





Abb. 10 Two room activity area, western side of the street, phase 7, 76E20 (Photo Harvey Weiss)

Phase 5 (Abb. 7) settlement remains are comprised of the street and contemporary mudbrick houses. The 4.5 meter wide sherd-paved street is bounded by parallel mudbrick walls. The western wall (3-4 bricks thick) is unbroken through the length of the street; no entryways allow access into the houses and alleyways adjacent to the western street wall. The eastern side of the street is defined by two houses with western walls of the same construction as the western street wall (but 4–5 bricks thick) (Abb. 8). The two houses are separated by an alley filled with a sherd pack over a drain channeling waste from east to west into the street. No entrances are available to these houses from the street nor from the retrieved portion of the alley. Two poorly preserved walls, each two bricks wide and two courses high, parallel to the southern wall of the southern house, were part of a third structure in the southeastern corner of 77F01. At this time, the western side of the street was occupied by at least four houses separated by an L-shaped alley paved with sherds and cobbles (Abb. 9 middle and foreground). The northwesternmost house featured large grain storage bins or bread kilns (Abb. 9, lower right).

Phases 6 and 7, on the western side of the street, comprised two closely sequential building levels with many reused walls (Abb. 10; Abb. 2, eastern half of western side of the street). An east-west dividing wall (three bricks thick), more than twenty meters in length, meets the western street wall at a 70 degree angle, and thereby sectors off a northern and southern area within the western side of the street. The southern sector contains portions of single room houses, possibly with entryways to the south, which used the dividing wall as their common northern wall.

¹³ The contemporary town at Chagar Bazar level 2, otherwise essentially unreported, also featured "an excellent system of drainage as exemplified by stone trough drains under the streets and pottery pipe drains" (M. E. L. Mallowan, The Excavations at Tall Chagar Bazar and an archaeological survey of the Habur Region, 1934–5: Iraq 3 [1936] 15).



Abb. 11 South room of activity area (Abb. 10) with Leilan IIa pottery in situ (Photo Harvey Weiss)

Phase 7 was retrieved in portions of the northern sector house built against the western street wall (Abb. 10). A plastered semi-circular work area was prepared in front of a carefully designed mudbrick shelf. Ceramic vessels and stone tools were retrieved in situ upon the floors of this room. A curtain wall defined a second 'storage room' to the south within which ten ceramic vessels were situated (Abb. 11).

Phases 4-7, above, are the phases retrieved extensively, with the preceding phases 8-12 recovered only in test trenches. Two additional features of phases 4-7 should also be noted here. First, within these phases 35 burials were recovered, of which 26 were neonates or infants. Only eleven of the burials had grave goods, while all adult burials had grave goods. The grave goods, in both cases, are almost exclusively ceramic vessels. Secondly, the botanical assemblages of phase 5-7 middens, house floors and hearths were sampled systematically through flotation of 50-75% contextual units totalling 1400 liters of sediment.¹⁴ Wheat, barley, lentils, grape and various weeds occur in these assemblages as products of household economic activities. The earlier stages of cereal cleaning, documented by both high relative frequency of rachis fragments and large plant remains passed through coarse sieves, are notably absent from this Lower Town sample. Contemporary samples from the Acropolis, however, do show such evidence. This suggests, preliminarily, Lower Town consumption of foodstuffs already processed for consumption, such as rations.

Phases 8-12: In a test trench (1 meter \times 5 meters) along the southern balk of 77F01 (Abb. 4 and 5) four earlier floors of the street were retrieved. Stratum 12 is the earliest street surface, a set of ash lenses set on top soil (stratum 13) above a calcic soil horizon. The street walls were built at this time. The western street wall was apparently set on a socle which eventually served as a footing, as well, for the street floor of stratum 11. The western street wall was constructed of uniform size mudbrick $(31 \times 20 \times 9 \text{ cms})$ of two colors laid as red-brown and green alternating rows. The street was an integral part of the earliest settlement of the Lower Town South. It was planned at the start of settlement and rebuilt with little alteration through stratum 5.

CHRONOLOGY

Phases 8-12 are characterized by ceramics of the terminal phase of the Ninevite 5 incised ceramic tradition, Leilan period IIId (Abb. 12 and 13). The Leilan IIId ceramic assemblage has been defined typologically and quantitatively from the assemblages of strata 15-18 in 44W/X12 (200 square meters) on the Leilan Acropolis northwest¹⁵. Small samples of strata containing similar incised sherds were retrieved within Operation 2 and Operation 57F02; these were initially lumped with sherds of succeeding strata to define a Leilan IIa period¹⁶.

Three other Lower Town South test trenches also provide evidence for strata with Leilan IIId ceramic assemblages immediately below stratum 7:

1. a 1 meter by 2 meter test trench along the west balk of 76F19 (Abb. 2, center left);

¹⁴ Processing and analysis of these samples was directed by Wilma Wetterstrom (Harvard University Botanical Museum). I am indebted to Dr. Wetterstrom for her summary comment. Full publication and analysis will appear elsewhere.

¹⁵ Weiss/Calderone, in: ONMC (Anm. 1).

¹⁶ Schwartz (Anm. 6) and The Ninevite 5 Period and Current Research, Paléorient 11 No. 1 (1985) fig. 6.



row 1 (left to right)
 stratum 7: 5Y7/2 with smoke blackening, fine grit, wheel made, incised;
 stratum 9: 10YR8/2, fine grit, with fine lime pops, wheel made, incised;
 stratum 9: 10YR8/1, fine grit, wheel made, incised;
 stratum 9: 10YR8/1, fine grit, exterior cream slip, wheel made, incised;
 row 2 (left to right)
 stratum 9: 10YR8/1, fine grit, fine mica inclusions, wheel made, incised;
 stratum 9: 10YR8/1, fine grit, fine mica inclusions, wheel made, incised,
 scraped after incising;
 stratum 9: 10YR8/1, fine grit, wheel made, incised;

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stratum 10: 10YR8/1, fine grit, wheel made, incised; stratum 10: 10YR8/1, fine grit, fine lime pops, wheel made, incised; stratum 10: 2.5Y8/2, fine grit, fine lime pops, wheel made, incised; stratum 10: 2.5Y8/2, fine grit, wheel made, incised, finger smudged; - row 4 (left to right) stratum 10: 2.5Y8/2, no visible temper, wheel made, incised; stratum 10: 10YR8/1, fine grit temper, wheel made, incised; stratum 10: 10YR8/1, fine grit temper, wheel made, incised; stratum 10: 10YR8/1, fine grit temper, wheel made, incised;

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2. an intrusive pit whose face was scraped to provide a stratigraphic section of the eastern face of the western street wall in 76E20 (Abb. 10, lower left);

3. a 1.5 meter by 7 meter test trench along the east balk of 77E01 (Abb. 2, upper right).

The 77E01 test trench is particulary important for providing unique data for Leilan period IIId ceramic production at Tell Leilan: small ovens, clay deposits and a 40 centimeter thick deposit of unfired Leilan IIId incised and excised decoration sherds, stacks of typical pointed base cups, and wasters, reduced and over-fired, of the same ceramic types¹⁷.

Phase 7: Stratigraphic continuity between phases 8 and 7 is documented by the continued use of the eastern face of the western street wall (Abb. 4, 5). Several rooms contemporary with phase 7 were excavated within the western side of the street (Abb. 10, 11). The ceramic inventory of these rooms includes unincised pointed base cups and bowls, 'corrugated' ware bowls, low chalices, and ring stands, known from the Period IIa assemblages of 44W12/X12 strata 13–14¹⁸, Operations 2 and 57F02¹⁹. Presentation of the phase 7, Period IIa, ceramic assemblage will require a detailed separate publication.

Phases 4–6: The Leilan period IIb ceramic assemblage of phases 4–6 (Abb. 14–17) features (1) spouted jugs (Abb. 15: 5, 6, 7) documented at Operation 2²⁰, Chagar Bazar 2–3²¹, and, in a slightly different shape, Tell Brak "late Early Dynastic III^{«22}, and (2) flat based, straight-sided beakers (Abb. 14: 6, 7) known from Operation 2²³ and Tell Bdēri²⁴ south of Hasseke. Also present in the phase 4–6 assemblage, but not illustrated here, are collared rim storage jars known from Leilan Operations 2, 57F02, and 4. In Operation 44W12/X12 on the Acropolis Northwest these vessels, with 'numerical notations' impressed upon their rims, are found as early as stratum 14²⁵. Collared rim storage jars, therefore, were in use throughout period II.

Across the Habur Plains knowledge of Leilan II assemblages is growing considerably. The detailed quantitative studies underway will result in discrimination of important temporal and functional distinctions between settlements. Considerable variation is already evident on the presence-absence level

- ¹⁸ See Weiss/Calderone, in: ONMC (Anm. 1).
- ¹⁹ See Nicholas, in: ONMC (Anm. 1).
- ²⁰ Operation 2 (Nicholas, in: ONMC [Anm. 1]).
- ²¹ Mallowan (Anm. 13) 34–35, and fig. 15, with three of four illustrated from graves.
- ²² J. Oates, Some Late Early Dynastic III Pottery from Tell Brak: Iraq 44 (1982) fig. 4: 70, 71, 72.
- ²³ H. Weiss, Excavations at Tell Leilan and the Origins of North Mesopotamian Cities in the Third Millennium B. C.: Paléorient 9 No. 2 (1983) 48 fig. 10: 1, 2.
- ²⁴ P. Pfälzner, Tell Bdëri 1985, Bericht über die erste Kampagne: Damaszener Mitteilungen 3 (1988) 282 ff. Abb. 16, 17.
- ²⁵ Weiss/Calderone, in: ONMC (Anm. 1).

of analysis between reported Leilan IIb assemblages. This may be an artifact of inter- and intra-site functional variability as the contexts from which the present sample of Leilan IIb assemblages derives is functionally very diverse:

- a. the irrigation agriculture villages south of Hasseke, such as Tell 'Atij, Bdēri and Raqā²i;
- b. the administrative buildings within the regional "gateway" administrative center at Brak;
- c. the residential quarters of urban Leilan and the contemporary town at Chagar Bazar levels 2, 3.

PRELIMINARY CONCLUSIONS

The 1989 600 square meter Lower Town South exposure of the third millennium city was an initial test of the density of Lower Town residential occupation. The dense residential occupation here begins in the Leilan IIId period with planned residential settlement and a walled straight street. Settlement was uninterrupted through the Leilan IIb period when the continuously rebuilt street and houses were abandoned. In the context of other Leilan settlement evidence, the Lower Town South data therefore suggest new hypotheses regarding urbanization and state formation in mid-third millennium northern Mesopotamia (Abb. 18).

a. The Leilan IIId palace

The largest exposure of Leilan IIId occupation is, at present, the 200 square meters excavated on the Acropolis Northwest in 1987. There, two complexes of storage rooms in stratum 16 (covered by the black ash stratum 15), and stratum 17 were associated with more than 80 seal impressions from perhaps ten seals²⁶.

The period IIId synchronism now available between initial urbanization of the Tell Leilan Lower Town, the Acropolis construction and use of the 44W12/X12 storage rooms, and the use and deposition of the seal impressions within them, suggests that the Acropolis storage rooms are part of the public/ administrative building that controlled the Lower Town resident population. We can expect the remainder of this 'palace' to be situated immediately to the east within the topographic elevation which defines the Acropolis Northwest quadrant. The identification of the 44W12/X12 period IIId building as a 'palace' allows for revision and refinement of previous hypotheses concerning the origins of classes and state formation at the end of the Ninevite 5 period. On the simplest of levels, we can now suggest the existence of state power, with characteristic administrative and redistribution demands, at the time of reg-

¹⁷ Louise Senior (University of Arizona) is undertaking a study of Leilan IIId – II ceramic production technology.

²⁶ Weiss/Calderone, in: ONMC (Anm. 1); Parayre, in: ONMC (Anm. 1).



 $\underbrace{F_{1}}_{0} \underbrace{F_{2}}_{0} \underbrace{F_{3}}_{0} \underbrace{F_{4}}_{0} \underbrace{F_{5}}_{0} \underbrace{$

- Abb. 15 Period IIb Ceramics (2), Lower Town South, small jars and small spouted jars 1. 76F20 Burial 8, phase 5, lot. 213. d = 3. wheel made, exterior/interior 5Y8/2, fine, no visible temper;
- 2. 76F20 Burial 8, phase 5, lot 213. d = 3.6. wheel made, uniform firing 5Y7/3, fine, no visible temper;
- 3. 76F20 Burial 8, phase 5, lot 213. d = 3.3. wheel made, exterior/interior 5Y6/2 core 5Y4/1, fine, no visible temper;
- 4. 76F20 Burial 8, phase 5, lot 213. d = 4. wheel made, interior/exterior 2.5Y8/2 core 7.5YR7/4, fine, no visible temper;
- 5. 76F20 phase 5, lot 112 [L89–138]. d = 7.8. wheel made, uniform firing 2.5Y8/2, no visible temper;
- 6. 76E19 phase 4, lot 36 [L89–139]. d = 3.1 wheel made, uniform firing 5Y8/2, fine grit temper;
- 7. 77F01 phase 5, lot 118 [L89–136]. d = 6.8 wheel made, uniform firing 5Y7/3, fine grit temper

(Fortsetzung der Beschreibung von Abb. 14)

- 9. 76F20 phase 5, lot 132. d = 7. wheel made, exterior/interior 5YR6/4, medium grit temper;
 10. 76F20 phase 5, lot 127. d = 8. wheel made, exterior and interior 2.5YR6/4 core 2.5YR6/6, exterior hand smoothed;
- 11. 76F20 phase 5, lot 114. d = 6.6. wheel made, exterior/interior 7.5YR7/4, fine grit temper;
- 12. 76F20 phase 5, lot 129. d = 6.1 wheel made, exterior/interior 2.5Y7/4, string cut base;

13. 76F20 Burial 8, phase 5, lot 213. d = 5.5. wheel made, exterior/interior 2.5Y7/2, no visible temper, string cut base, exterior/interior hand smoothed;

14. 76F20 phase 5, lot 29. d = 5.7. wheel made, exterior/interior 2.5Y7/2 core 7.5YR6/4, medium grit with lime pops, string cut base



medium grit with lime pops;

- 2. 76F20 phase 4, lot 104. d = 11. wheel made, exterior/interior 2.5Y7/2 core 2.5Y6/2, medium grit with lime pops;
- 3. 76F20 phase 5, lot 147. d = 10. wheel made, exterior/interior 2.5Y8/2 core 2.5Y7/2, scraped exterior;

4. 77F01 phase 4, lot 106. d = 10. wheel made, exterior 5YR7/3 interior 7.5YR7/2 core 5YR7/2; straw temper, scraped exterior;

5. 77F01 phase 4, lot 106. d = 10.8. wheel made, uniform firing 2.5Y8/2, medium grit tem-

6. 76F20 phase 5, lot 116. d = 20. wheel made, uniform firing 2.5Y8/2, straw temper

ional urbanization²⁷. Alongside the ceramic assemblage changes between Acropolis 44W12/X12 strata 17-15 (Period IIId) and strata 14-13 (Period IIa). major architectural continuities through these strata suggest that these rooms and this area served the same administrative function from at least stratum 17 through stratum 13²⁸. The transition to state power and centralization at Tell

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Leilan is likely, therefore, to have occurred earlier than Acropolis stratum 17. Leilan period IIIc must now be examined as the period which underwent the crises which generated Leilan IIId urbanization and state formation.

b. Urbanization and circumvallation

The Acropolis excavations of 1987 documented the subsequent construction of the Acropolis fortification wall upon stratum 15, associated with Leilan IIId ceramics, and the fortification wall's first interior floors, associated with Period IIa ceramics, in stratum 14. The Lower Town city wall, identified in the 1987 expansion of 1985 Operation 4, was however associated with a Period IIb ceramic assemblage²⁹. The circumvallation of Tell Leilan, therefore, occurred after the site's urbanization. Leilan Lower Town urbanization occurred in late Early Dynastic II - early Early Dynastic III times, without regional or interregional military threat; circumvallation occurred in late Early Dynastic III early Akkadian times, in association with local or foreign aggression, perhaps a function of the synchronous centralisation of southern Mesopotamian state power in a qualitatively new form³⁰.

c. The life and death of Leilan IIId – II cities

The new evidence from the Leilan Lower Town for the Leilan IIId city conforms with surface survey evidence from other late Ninevite 5 period sites: Mohammed Diyab (6.5 kms. from Leilan)³¹ and Do Gir (8 kms. from Leilan)³² in the Leilan hinterland (Abb. 3), and Tell al-Hawa³³, 80 kilometers ESE of Leilan in Iraq, all large towns in late Ninevite 5 times, as well as varieties of ex-

- 32 Weiss (Anm, 8) figures 9 and 10, site no. 9; Stein/Wattenmaker in: ONMC (Anm, 1).
- 33 See now T. J. Wilkinson, Extensive Sherd Scatters and Land-use Intensity: Some Recent Results: Journal of Field Archaeology 16 No. 1 (1989) 31-46; W. Ball/D. Tucker/T. J. Wilkinson, The Tell al-Hawa Project: Archaeological Investigations in the North Jazira 1986-1987: Iraq 51 (1989) 1-66; W. Ball, American Journal of Archaeology 94 (1990) 272-275; T. J. Wilkinson, American Journal of Archaeology 94 (1990) 283-285, and W. Ball/T. J. Wilkinson, Ninevite 5 Town and Country in Northwestern Iraq, in: ONMC (Anm. 1).

For neutron activation analysis of Leilan IIId clay sealings and Leilan sustaining area 27 clays, see J. Blackman, Chemical Characterization of Tablets, Sealing Clays, and Source Clays from Tell Leilan, Syria, in: ONMC (Anm. 1). For strategies of agricultural intensification initiated perhaps in this period, see W. Wetterstrom, Ninevite 5 Period Agriculture at Tell Leilan, Preliminary Results, in: ONMC (Anm. 1).

A detailed analysis of the architectural continuities will be included in L. Calderone's 28 doctoral dissertation.

²⁹ Weiss, Diffusion (Anm. 3).

³⁰ P. R. S. Moorey, Kish Excavations (1978) 55-65, 164-172; P. Charvát, Early Ur-War Chiefs and Kings of Early Dynastic III: Altorientalische Forschungen 9 (1982) 43-59; idem., rev. of B. Foster, Umma in the Sargonic Period: Bibliotheca Orientalis 41 (1984) 136-141.

³¹ Weiss (Anm. 8) figures 9 and 10, site no. 77. I am grateful to Bertille Lyonnet (C. N. R. S) for discussions of her retrieval and analysis of Mohammed Diyab survey data.



- Abb. 17 Period IIb Ceramics (4), Lower Town South, large diameter low-neck jars 1. 76F20 phase 5, lot 112. d = 11. wheel made, exterior 5Y8/2 interior 5Y8/3 core 5Y7/2, medium grit temper with lime pops;
- 2. 76F20 phase 5, lot 109. d = 17. wheel made, exterior 5YR6/3 interior 5YR5/2 core 5YR5/1, medium black grit temper, smoke blackened;
- 3. 76F20 phase 5, lot 109. d = 17. wheel made, exterior 5YR6/3 interior 5YR7/3, medium black grit temper, smoke blackened;
- 4. 76F20 phase 5, lot 109. d = 23. wheel made, exterior 5Y8/2 interior 5Y8/3 core 5Y7/3, medium grit temper with lime pops;
- 5. 77E01 phase 4, lot 109. d = 20. wheel made, exterior 2.5YR6/4 interior 2.5YR5/2 core 2.5YR5/4, coarse black grit temper with lime pops;
- 6. 77F01 phase 4, lot 106. d = 21. wheel made, exterior/interior 2.5Y8/2 core 7.5YR7/2, medium straw temper

cavated data which suggest contemporary urban centers at Gir Nawaz³⁴ and Tell Mozan³⁵, respectively 30 kilometers northwest and 50 kilometers west of Leilan. The density of Leilan IIId urban sites, and the suddenness with which a three tier hierarchy of settlement manifested itself upon the Habur Plains, require systematic investigation. Directly related, but in still unknown manner,

Tell Leilan

is the contemporary series of function-specific grain processing and storage villages along the irrigation agriculture stretches of the Habur River south of Hasseke³⁶.

The region wide urbanization of the Habur Plains in the Leilan IIId period is difficult to accommodate within earlier arguments that emphasized southern Mesopotamian metals acquisition as a force for the transformation of Habur Plains chiefdoms into states³⁷. The available evidence for a metals trade in the mid-third millennium, in any case, pertains to the activities of well established states or their elites, and does not presently include pre-urban, pre-state partners. However, at Tell Leilan, the replacement of 'piedmont lemdet Nasr' sealing technology and iconography with 'late Early Dynastic II – early Early Dynastic III', southern-inspired but locally-crafted seals, in the context of period IIId 'palace' storage rooms, suggest a southern Mesopotamian role in the genesis of Habur Plains states wherein the legitimation of new levels of local authority was sought through emulation of southern administrative iconography.

Precisely when and how political power was centralized within the Leilan Acropolis structures remains for future research to determine. While the gross relative chronological vagaries of northern and southern Mesopotamian developments undergo refinement, the exent of Habur Plains influence upon southern Mesopotamia also needs reexamination. The establishment of southern Mesopotamian state power within 'palace' sectors separate from 'temples' in the late Early Dynastic II period was roughly synchronous with the earliest appearance of state power on the Habur Plains³⁸. In southern Mesopotamia, the stresses which generated the formalization and institutionalization of political power in physically discrete palaces have yet to be analyzed; contemporary Habur Plains developments may have played a role in this process.

The politico-economic organization of these northern states was probably quite different from that of contemporary southern states much as the organization of the Eblaite state differed from those of Sumer³⁹; across the 'high

38 On the problem of identifying Early Dynastic II period remains at Kish, see H. Weiss, Kish, Akkad and Agade: Journal of the American Oriental Society 95 (1975) 434-436.

H. Erkanal, Girnavaz: MDOG 120 (1988) 129–152, and A. Erkanal/H. Erkanal, Ar-34 chäologischer Überblick über die Provinz Mardin, in: K. Emre/B. Hrouda/M. Mellink/ N. Özgüç edit., Anatolia and the Ancient Near East, studies in honor of Tahsin Özgüç (1989) 129-134.

M. K. Buccellati/G. Buccellatti, Mozan I (1988). 35

M. Fortin/G. Schwartz, The Middle Habur in the Third Millennium B. C., in: ONMC (Anm. 1); M. Fortin, Trois campagnes de fouilles à Tell 'Atij, Bulletin Canadian Society for Mesopotamian Studies 18 (1989) 35-56; H. Curvers/G. M. Schwartz, Excavations at Tell al-Raga'i: American Journal of Archaeology 94 (1990) 3-24.

V. G. Childe, Man Makes Himself (1951) 136-142. See now K. A. Yener, A Review of Interregional Exchange in Southwest Asia: Anatolica 9 (1982), and: The Production, Exchange and Utilization of Silver and Lead Metals in Ancient Anatolia: Anatolica 10 (1983) 1 - 15.

P. Matthiae, Ebla: un impero ritrovato (1989) 275-284; A. Archi, Studies in Eblaite Prosopography, in: A. Archi edit., Eblaite Personal Names and Semitic Name Giving: Archivi Reali di Ebla, Studi I (1988) 205-220; W. Heimpel, review of G. Pettinato, Ebla: Journal of the American Oriental Society 109 (1989) 122-123; H. Klengel, Political History of Ebla: paper presented to the History and Archaeology of Idlib conference, Idlib, October 15, 1989.

		YALE	UNIVERS	SITY TELL LEILAN PROJE	ci 1979 - 1989
9 excavation	s in bold face				
	Acropoli	S		Coner Town	
. Period	Acrop. NE	0p. 1	44W12/X12	LT South 0p. 5 0p.3/57F02 0p. 2 0p. 4	ŠEHNAĀ - ŠUBATENLIL - APOM REGIONAL SOCIO-ECOMONIC / SETTLEMENTINDICATORS
0 I 10 [Habur]	Temples B.L. I-III,'X'	1-12, pits		Palaces 1-4 1 1 2 6	disintegration; dispersion (Samsu-iluna conquest) Acum opnasts, Sehna, <u>karum</u> circumvallation; agricultural intensification: "dimus"
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				2 [undefined underlian principalities; Ir-nama in Subir]
00 IIb 00 [Leilan] 00 IIa	c	13-15	14	4 5 3 7 5 5 6 virgin s	<pre>substitutes action southern pre-Sargonic installation: Brak fortress southern pre-Sargonic intrusion?; Subir attacks Eanatum yil tri-modal distribution; tin-bronze; antimony</pre>
00 N IIId 00 N IIId 00 N IIIc 00 N IIIb		gapWall / 16-18 19-20 21-36 37-39	15 16-18 19	7	<pre>circumvailation; agricultural intensification =exogenous urbanization: planned, dense city, Sehnä =-restratun 18 <u>transformation</u>: "mplace" stores/"EDII-IIIa" sea = stratum 19 <u>emulation</u>: burials. "mpledmont" seal; (As-)cope = stratum 22 <u>contact</u>: begin south's Amatolian metal trade?</pre>
00 00 IV 00 [Late U	ruk]	44 44			
00 00 V 00 EEarly 1	Urukj	45 52		·	exogenous urbanization
00 VIb 00 VIb 00 ILate N	o. Ubaid 2]	52a 57			uni-modal village settlements
0000 00 VIa 00 [Late No	o. Ubaid 1]	58 59 61			
0		virgin	soil		

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Tell Leilan Chronostratigraphic Synopsis

Abb. 18

country' and Subir, therefore, the organization and function of Leilan IIId–IIb rulers will eventually emerge as a research problem. Although Tell Brak's role in the region during the Leilan III period is still undocumented, Brak saw the emergence of a Leilan IIa period state which subsequently attracted Akkadian conquest. Under Akkadian domination, workmen from Tell Leilan/Shehna were registered in public buildings at Tell Brak⁴⁰. The subsequent collapse of this imperial organization and the succeeding forms of regional organization and settlement remain unexamined. Tell Leilan was not occupied between the end of Period II and the beginning of Period I.

d. Post-state formation ceramic change

The span of Leilan IIId (77F01 strata 8–12, 44W/X12 strata 15–18) is perhaps 200 years⁴¹. Period IIa marks, by definition, the major break from the ceramic production traditions of Leilan III/Ninevite 5: incising and excising disappear, and new wares, shapes and production techniques dominate ceramic production⁴².

At Leilan, the extant evidence suggests that the organization and technology of ceramic production were relatively stable through the IIIc and IIId periods: ceramic wares, shapes and surface decoration varied, but not considerably. Although we still know little about ceramic production in this period, the shift from disperse village or town level ceramic production to urban Leilan Lower Town ceramic production apparently did not generate synchronous changes in ceramic styles and technology⁴³.

Conservatism in some aspects of material culture may, therefore, have been one characteristic of the new socio-economic conditions which emerged in Leilan IIId times. Alternately, ceramic production may have been sheltered from the agricultural and demographic reorganizations of this period. It is unlikely, after all, that the reorganization of agriculture and workshop production occurred uniformly and synchronously across the economic region of the Leilan IIId state.

- ⁴¹ See Robinson/Weiss, in: ONMC (Anm. 1).
- ⁴² See Weiss/Calderone, in: ONMC (Anm. 1), for the definition of the period IIa assemblage in 44W12/X12.

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⁴⁰ C. J. Gadd, Iraq 7 (1940) plate V 1153, 1159; retrieved in Akkadian contexts within the Naram-Sin fortress and site E. R. (M. E. L. Mallowan, Iraq 9 [1947] 66, 73); O. Loretz, Texte aus Chagar Bazar und Tell Brak: AOAT 3/I (1969) 69: 8.

⁴³ Analogously, the public architecture, cemeteries, and elite artifacts of the late Ubaid period in southern Iraq and Susiana argue for class formation during this period. A recent regional neutron activation analysis of Susiana Uruk period ceramics also suggests that ceramic production "may not significantly affect or be affected by changes in socio-political organization" (J. Berman, Paléorient 15 No. 1[1989] 289).

Summary

The cities of third millennium northern Mesopotamia, including Tell Leilan on the Habur Plains, came into existence and then collapsed within approximately 400 years. These cities developed suddenly at ca. 2600 B. C., more than 200 years prior to the Akkadian dynasty. The Leilan data, therefore, disprove one of Childe's hypotheses concerning the military imposition of urbanism in northern Mesopotamia, as well as Wheatley's explanation of northern urbanism as "primary diffusion associated with the extension of empire"⁴⁴.

This preliminary and summary report of one aspect of 1989 Tell Leilan field research suggests the outlines, however, of but one regional variant of midthird millennium urbanization and state formation. In addition to further Leilan data analysis, and continued sampling of the Lower Town and Acropolis, regional variability and correspondence need to be examined and tested to advance our knowledge of this secondary state formation process. Why the cities of the Habur Plains were incorporated, apparently, into an Akkadian imperial structure, while the plains of Aleppo were not, for example, is a question which Tell Leilan 1989 research calls to our attention. Similarly, the almost synchronous mid-third millennium regional urbanization of West Asia remains to be explained. At Tell Leilan, the new evidence for Leilan IIId period Lower Town urban settlement and Acropolis palace administration adds to the significance of the Leilan IIIc period. At the end of that period the conjunction of local productive relations susceptible to change in certain directions, and the intrusion of external state level agencies capable of promoting structural change, quickly engendered the Leilan IIId state. But the nature of those local productive relations and external agencies remain to be defined.

⁴⁴ Childe (Anm. 37) 138–141; P. Wheatley, Pivot of the Four Quarters (1971) 329–330.