By Amnon Ben-Tor\*

#### CHRONOLOGY BASED ON THE SIGHTINGS OF VENUS

Most studies related to the chronology of the first half of the second millennium BCE rely on the almost unanimously accepted assumption that the absolute date of the first dynasty of Babylon is fixed by astronomical observations of Venus, conducted in the eighth year of Ammisaduqa, the tenth sovereign of that dynasty. These astronomical observations result in three different chronological systems, entitled "High", "Middle" and "Low" (see, for example, ÅSTRÖM 1987). Of those three options, the Middle Chronology has become the one favored by most scholars (TAD-MOR 1970: 50, 80), to the point that "Hammurabi 1792-1750 B.C. has become a kind of 'mantra' among scholars" (READE 2001: 28). Close scrutiny reveals a different picture. Some scholars claim that not only is the Middle Chronology "untenable", but that it "is doing more harm than good" (ibid., 2). Furthermore, doubts about the validity of the chronology based on the Venus sightings are by no means novel.

In 1951 Sidney Smith, foremost advocate of the Middle Chronology noted the following: "I see attributed to me in many places an opinion I have always opposed. The record of Venus risings ... is not in my opinion evidence as to the date of Ammi-zadugua, and the chronology of the first dynasty of Babylon cannot be settled by the selection of one or the other solution. The record is not a series of observations but a factitious combination" (SMITH 1951: 67). In the same year Goetze stated that "C'est là, avant tout, un problème historique. Les données astronomiques n'offrent que des possibilités (divers) de solution" (GOETZE 1951: 38) "... la tradition astronomique est dangereuse" (ibid., 43). NEUGEBAUER's position was that "Dans la question chronologique l'astronomie n'a pas la parole. Elle rapporte des spéculations, non des observations. Si un historien s'accommode d'une autre date, il a toute autorité" (*ibid.*, 43). That scholar formulated this position as early as 1929 (NEUGEBAUER 1929). HUBER's position was that these observations (based on the sightings of Venus) were "the worst data set [he] ever encountered as a statistician...at least 20%–30% of the dates are grossly wrong" (HUBER 1982: 120). Gates stated that she had "certain reservations about the accuracy of the Venus tablets of Ammisaduqua in computing an absolute chronological table for the 1st Dynasty of Babylon" (GATES 1987: 76).

Furthermore, it has been shown that the calculation of the cycle of Venus, which underlay all three above-mentioned chronological systems, was faulty and that the cycle is in fact one of eight – and not 56 or 64 – years: "these morning/evening visibility cycles [of Venus], repeat almost precisely in the sky every 8 years" (GURZADYAN 2000a: 43; see also GASCHE 2003: 212). Consequently, "the elimination of the 56/64 year Venus cycles would imply that any given eight year cycle would be acceptable" (WARBURTON 2000: 61) for fixing the absolute chronology of Mesopotamia in the first half of the second millennium BCE.

In spite of these reservations, there still are some scholars who rely on the Venus sightings for their chronology, for reasons of convenience: "Certain ideas die hard, and a scheme as convenient as these Venus risings is difficult to dismiss once it has become, justly or unjustly, adopted" (CARRE-GATES 1981: 37, n. 171). As formulated by Collon, "the Middle Chronology has been adopted in all recent encyclopaedias...there is not enough evidence for abandoning a generally accepted relative [whatever this means, A. B-T] chronology ... We would be out of step with the other major collections of Near Eastern Material in the Louvre, Berlin and the MMA" (COLLON 2000: 8).

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An attempt to base the absolute chronology of Mesopotamia on astronomical observations, not of Venus but of a solar eclipse, was recently suggested by MICHEL and ROCHER, who concluded that "dans la mesure où notre hypothèse s'avérerait exacte ... la chronologie moyenne serait alors à baisser de 51 ans" (MICHEL and ROCHER 1997–2000: 124). Two years later, on the basis of additional information with regard to the date of Anatolian archaeological contexts, which are in turn dated by dendro-chronology (see below), MICHEL modified her position, suggesting that the Middle Chronology should be lowered by not more than 15 years (MICHEL 2002: 17–18).

## CHRONOLOGY BASED ON THE EXACT SCIENCES

A different approach to resolve the problem of absolute chronology is based on the exact sciences, utilizing in particular three techniques: radiometry (14C), dendro-chronology and measurements conducted on ash found in arctic ice cores. Although a detailed discussion of these techniques is beyond the scope of this article, it is noteworthy that various scholars are critical of the accuracy of the chronological results obtained by these techniques. For a detailed discussion and a rich bibliography, the reader is referred to Gasche, who treats all three techniques as a "Chronologie Pseudo-Absolue" (GASCHE 2003: 206–208), and to READE (2001: 10–11). Those critical studies do not deny the importance of the exact sciences for fixing an absolute chronology, but maintain that at present the results obtained are not unequivocal and that the range of possible interpretations of the data is too large.

## Arguments in favor of a Low Chronology

Despite the widespread acceptance of the Middle Chronology, a number of scholars tend to prefer a lower chronology.

As early as 25 years ago, Carre-Gates expressed a preference for the Low Chronology, as a result of her stratigraphic and typological interpretation of the archaeological material uncovered at Alalakh. "My chronological scheme ... is based entirely on Syro–Palestinian archaeological dating, which is heavily dependent on Egyptian history. Although I cannot prove conclusively that the end of the first dynasty of Babylon should date to 1525 [six years later than the date suggested by the "Low Chronology" – A.B.-T.] because it is reflected in Alalakh with the end of level VI, I think it like-

ly...it does confirm the current trend of lowering absolute chronologies in the ancient Near East" (CARRE-GATES 1981: 37). She is to be commended for pioneering the approach which bases chronological schemes on a variety of considerations, including stratigraphical, ceramic and textual factors, and not exclusively on the sightings of Venus (see also GASCHE 2003: 211).

Despite my wholehearted agreement with Carre-Gates' approach, two methodological problems in her reasoning should be noted. First, her contentions that the levels at Alalakh follow each other without any gap, that various observed "phases" reflect no more than "re-flooring" and that an average time span of 25 years should be given to each of the strata (CARRE-GATES 1981: 35–36; GATES 1987: 65, 75–76) require substantiation. Even more problematic is her dating of the Alalakh levels on the basis of the ceramic repertoire and, in particular, on the Cypriote and bichrome wares, as though these ceramic families have any absolute chronological significance of their own. This problem is exemplified in the following excerpt: "The date of ca. 1550 BCE one decade before the official start (whatever this means - A.B.-T.) of Late Bronze I in Palestine, assumes that Bichrome Ware reached Alalakh soon after its first appearance in Palestine in MBII (Megiddo X). There is no way to determine this date precisely now that absolute Mesopotamian dates based on the Venus tablets have proved unusable" (CARRE-GATES 1981: 35, n. 158; 38-39; Gates 1987: 64–65, 75–76).

In her study of the Alalakh ceramic sequence, Heinz similarly concludes that the Mesopotamian Low Chronology best corresponds to the Alalakh data (Heinz 1992: 208–210). It is noteworthy, however, that despite her use of the Alalakh ceramic assemblages to reach her absolute chronology conclusions, Heinz still finds it difficult to do without the chronological schemes based on the Venus sightings. She places the end of Alalakh VI (an event apparently contemporary with the fall of Babylon) at 1531 BCE, in accordance with the low chronology based on the sightings of Venus.

Another scholar advocating a low chronology on the basis of archaeological considerations is Reade: "I have always had a problem [with the Middle Chronology – A.B.-T.] with late Khabur and Mittanni pottery in northern Iraq, and with the way in which the mud-brick temple at Tell al-Rimah, built about the time of Šamši-Adad, lasted

despite neglect into the Mittanian period (READE 2001: 11; OATES 1966: 123–125).

Among those advocating a low chronology on archaeological grounds one should include a group of art historians, for whom the Middle Chronology results in difficulties in tracing the logical development of glyptic styles. As early as 1987, Collon indicated her preference for a low chronology, on the grounds that the chronological gap between the latest Old Babylonian cylinder seals and the subsequent Kassite and Mittanian seals could not be as long as the gap required by the "middle chronology" (COLLON 1987: 58). In a recent study she goes even further and states that "on the basis of seals, I would not even be averse to lowering the chronology by 96 years (= 1499 [for the fall of Babylon, A.B.-T.]) advocated by GASCHE, as opposed to the 64 years (= 1531) of the more generally accepted Low Chronology (COLLON 2000: 8; for Collon's rationale for rejecting that chronology, see above).

# The New Chronology proposed by Gasche and his colleagues

In the late 1990s, the above-mentioned difficulties facing the chronological systems based on the sightings of Venus (see also Gurzadyan 2000a; 2000b; 2003) led to a re-evaluation of the generally accepted assumptions. The result was a new chronological scheme, entitled the "New Chronology" (Gasche *et al.* 1998a; 1998b; Gasche 2003; for the term, see Tarnet 2000). Following is a brief summary of the arguments in support of this scheme:

An almost uninterrupted stratigraphic-ceramic sequence spans the four-century period between the fall of Ur III in the days of Ibbi-Sin and the fall of Babylon in the days of Samsuditana (2006 and 1595 respectively, according to the Middle Chronology). We also have an almost complete chronological sequence, starting with the 14<sup>th</sup> century BCE, 1400 ± 20 BCE (SMITH 1940: 1; BRINKMAN 1977:345; GASCHE *et al.* 1998a: 1, 5; GASCHE 2003: 210; READE 2001: 1). The problem lies in the 200 years between *ca.* 1600 BCE (the fall of Babylon according to the Middle

Chronology) and *ca.* 1400 BCE (the Late Kassite period), a time period for which we barely possess any written documents.

Like Gates, Heinz, Reade and others, Gasche and his colleagues departed from an archaeological ceramic observation: their dissatisfaction with the length of time separating remarkably similar types of pottery at sites in southern Iraq and in Iran, according to the Middle Chronology. "The duration of the interval, as dictated by the 'Middle Chronology', is unreasonably long, because the pace of the shape evolution of the vessels we have examined ... would be retarded tremendously in comparison with what happened before and after. A chronological scheme much shorter than the 'Middle Chronology' would best fit the available archaeological data ... the 'Middle Chronology' is too long by something in the order of 100 years" (GASCHE et al. 1998a: 42-45). A re-examination of the relevant Mesopotamian texts (Gasche et al. 1998a: 47-47; Reade 2001: 3-10) supports the suggested lowering of the chronology by 100 years.

The same holds true for the astronomical observations – not the Venus sightings, but the two lunar eclipses from the Ur III period, mentioned above (GASCHE 2003: 212–213; GURZADYAN and COLE 1999). These two sightings place the date of Shulgi's death and that of the fall of UR III at approximately one century lower than the dates indicated by the Middle Chronology (= 1954 BCE [instead of 2048 BCE] and 1912 BCE [instead of 2006 BCE] respectively). The chronological importance of these two eclipses was noted over 50 years ago, when M. von Soden used them to support Albright's "Low Chronology" (VON SODEN 1951: 44; see also SMITH 1940: iii).

According to Matthews, another scholar concerned with second-millennium seals, "... were the designs the sole source of information, we should scarcely hesitate in describing the First Kassite seals as a special kind of Old Babylonian" (MATTHEWS 1990: 56). A similar observation is presented by Gaulandi, who claims that "studying solely the iconography and styles of the glyptic material, I was forced to conclude that the adop-

<sup>&</sup>lt;sup>1</sup> This insight is not a new one. The importance of ceramic typology for evaluating the time that elapsed between the fall of Babylon and the Kassite period was recognized by Sidney Smith in 1940: "The plain pottery used at Ur in the time of Rim-Sin and Khammurabi was in

shape and ware, closely connected with that of the time of Kurigalzu, probably the Kurigalzu who reigned about 1400. An interval of 600 years between Hammurabi and Karaindash ... seemed impossible, 500 far too much" (SMITH 1940: 3–4).

tion of the Low Chronology [the one suggested by Gasche, see below – A.B.-T.] was the only way to explain the evolution of this art ... there is no so-called dark age between the fall of Babylon and the rise of the Mittanian kingdom" (GAULANDI 1998: 133). Finally, a similar argument is presented by Stiehler-Alegria: "Abweichend von der mittleren Chronologie ... würde die kurze Chronologie [the one suggested by Gasche, see below – A.B.-T.] einige Probleme des 'dunklen Zeitalters' lösen, das zwischen der kassitischen Machtergreifung in Babylon und ihrer Konsolidierung lag" (STIEHLER-ALEGRIA 1999: 1).

It thus appears that there is practically a consensus among art historians of the ancient Near East that glyptic art prefers a chronology even lower than the Low Chronology based on the Venus sightings.<sup>2</sup>

In light of this interdisciplinary investigation, Gasche and his colleagues proposed lowering the chronology of the first half of the second millennium by approximately 100 years, suggesting that Hammurabi's reign took place between 1696–1654 BCE, that the destruction of Mari (in Hummurabi's 32nd year) took place in 1664 BCE and that the fall of Babylon (155 years after Hammurabi's death) occurred in 1499 BCE (GASCHE et al. 1998a: 90; GASCHE 2003: 213).

# Hazor and the New Chronology

The importance of an interdisciplinary approach toward establishing an absolute chronology was recognized over 50 years ago. "Ce que nous voudrions tenter, c'est d'harmoniser la date de Hammurabi avec les renseignements fournis par la liste de Khorsabad, les foilles d' André Parrot à Mari, celles de Cl.F.A. Schaeffer à Ugarit, sans négliger les témoignages des autres chantiers du Proche-Orient, en particuilier à Alalakh et dans la région d'Ashnunna" (DHORME 1951: 37; see also PARROT 1951: 39, who adds Ur and Chagar-Bazar to that list).

One may now make another essential addition to that list: the site of Hazor.

In pointing out the importance of Alalakh for

chronological purposes, Gates states the following (GATES 1987: 60): "the test for absolute chronology in the Ancient Near East cannot be run conclusively on sites within the heart-lands of major cultural regions, but rather on their intersecting or tangent peripheries. It is at these peripheral sites that one can expect synchronisms between characteristic materials from different cultural zones, and hope to interlock their periodic sequences into a broader relative - and, for the 2<sup>nd</sup> millennium BCE, absolute chronological system. The synchronisms indicated by the peripheral sites should be given priority whenever they appear to conflict with absolute chronologies reconstructed from 'heart-land' cultures. The heart-land cultural sequence (as, for example, Old Babylonian period Mesopotamia) will always appear internally consistent, because it exists on a sliding chronological scale rather than one fixed by many points of intersection with other cultural zones, as occurs in the peripheries. Therefore it will need to be adjusted according to the chronological implications given by these peripheries, and cannot accurately impose its own system to their exclusion".

Gates' aspiration is unfortunately unrealistic, at least for the time being. One may certainly establish a relative chronological sequence to the various levels at Alalakh (see above) and correlate them with ceramic assemblages uncovered at other sites in the region, but it is impossible to "determine an independent absolute chronological range of levels VII-IV at Alalakh, quite outside the 'high/middle/low' scheme" (GATES 1987: 62). Such an absolute chronology can be established only on the basis of astronomical observations (for the limitations of other "exact" sciences, see above), and these, at least for the time being, are available only from the "heartland", i.e. Egypt and Mesopotamia. GATES herself ends up basing her chronology on the heartlands by endorsing the Egyptian chronology for the Alalakh levels (GATES 1987: 76–79).

In the following discussion I would like to sug-

The only one to object is Amiet, who, in an article reviewing the New Chronology (see below) states that the Cappadocian seals found in the Treasure of Tod constitute a problem for the New Chronology, a problem which any historian of Neo-Sumerian seals will find

difficult to resolve (AMIET 1998: 188). Warburton counters that "rather than suggesting that the presence of the seals in the Treasure of Tod is incompatible with a low chronology, this evidence can be used to argue the opposite" (WARBURTON 2000: 69)

gest that the site located in a "peripheral region", with synchronisms with "heartland" regions (both Egypt and Mesopotamia), and which is therefore in a position to "suggest a correct chronology" (GATES 1987: 62) is Hazor, rather then Alalakh.

## The Earliest Remains of "Greater Hazor"

The occupational history of Hazor is of vital importance for the assessment of the site's role in determining the absolute chronology of the first half of the second millennium BCE. This is particularly true for the history of "Greater Hazor", which encompasses both the lower and upper cities, forming a site of over 200 acres, the largest in Israel at that time. Because of the proliferation of opinions published over the years, it is appropriate to reiterate the views of the excavators (see Table 1). These are based on the investigation of a total of 15 areas, seven located in the upper city, eight in the lower city and one on the "eastern spur" of the site (Area Q), during the 20 seasons of excavations conducted at the site so far (1955-1985; 1968; 1990-2004).

Following are the archaeological dates proposed by the excavators for the renewal of occupation at Hazor, after an interval that began at the end of the Early Bronze Age IV (see below).

Area A: A modest settlement dated to the transitional MB IIA-B, Stratum "Pre-XVII" (YADIN 1972: 121). The earliest fortification - "wall 375 in "Trench 500" - was built in MB IIB (ibid.; Hazor III-IV [Text]: 53), and the "palace" (which differs from the Late Bronze Age palace uncovered in that area, see below) was built at the same time (YADIN 1972: 124). The renewed Hazor excavations, which began in 1990, showed that Yadin's "palace" is in actual fact the southern "temple" and that it was built towards the end of the Middle Bronze Age, somewhat later than the date proposed by Yadin (BEN-TOR 2000: 248). Another important building erected in Area A is the "northern temple", constructed, according to Yadin, at the end of the Middle Bronze Age and continuing in use in the Late Bronze Age (Strata XVI–XIV; YADIN 1972: 102). Recent excavations have shown that this temple was in fact first built in the Late Bronze Age, in Stratum XIV (Hazor V: 4)

In sum, the earliest indications of human activity in Area A after the Early Bronze Age are modest remains dating from the transitional MB IIA–B. The single most important element constructed here in MB IIB is the fortification wall, and the

other two buildings of significance constructed here (the two temples) date from the end of the Middle Bronze Age and the Late Bronze Age.

*Area A1/210:* Dwellings constructed on virgin soil, dated to MB IIB–C (= Strata 3–4; YADIN 1972: 48).

Area B: The citadel located below the Iron Age citadel, dated to MB IIB (Stratum XVII) or, more probably, to MB IIC (Stratum XVI; Hazor III–IV [Text]: 73).

*Area BA:* The earliest remains here (local phases 14–12) are dated to MB IIB–C (Strata XVII–XVI; *Hazor III–IV [Text]:* 123–128).

Area C: poor occupation remains, constructed on virgin soil and dated to MB IIB–C (Strata 4–3). The earliest building of significance constructed in this area, the temple, was built in the Late Bronze Age (YADIN 1972: 67–69).

Area D: The earliest indication of human activity in this area is dated to MB IIB–C (Strata 4–3; YADIN 1972: 38).

*Area E:* Rock-cut installations, the earliest of which is dated to "early MB IIB" (YADIN 1972: 46).

Area F: the area probably served as a cemetery in MB IIB (Stratum XVII). The earliest building of significance, the "double temple", was constructed in MB IIC (Stratum 3; YADIN 1972: 42–44, 96–97).

Area G: Remnants of a fortification system uncovered here were dated by YADIN to MB IIB (YADIN 1972: 116–117). It has been suggested, however, that they date from the Iron Age (USSISHKIN 1992).

Area H: The earliest remains in this area are the fortifications, consisting of an earth embankment constructed on virgin soil in MB IIB (Stratum 4). The earliest building of significance constructed here, the temple, was built in MB IIC (Stratum 3; YADIN 1972: 75; Hazor III–IV [Text]: 214–215).

Area K: The earliest city gate encountered here was constructed on virgin soil and dated to MB IIB (Stratum 4; YADIN 1972: 58–61; Hazor III–IV [Text]: 276–284).

*Area L:* Several tombs and modest architectural remnants dated to the transitional MB IIA–B (Stratum Pre-XVII) were encountered here, on top of EB remains (YADIN 1972: 117, 202; *Hazor V:* 13, 194–209).

Area L, Tomb 1181: The tomb is dated to Stratum Pre-XVII, termed by MAEIR "Early XVII" (Hazor V:

Area	YADIN 1972	Huzor Ht-IV (2006)	Hirror III-V (Plates)	Have V
	Temples p. 102: Strota XVI–XV (htt. ver <i>Octob</i> V)			Temple: pp. 4; 51–101; 161; Sugar w XIV ( = Lexal phase 8)
A	Fortification: p. 122 ("Treach 500"); Strata XVII–XVI	Fortification: pp. 49-57 ("Trench 500") plan XVI	Fortifications ("Trench 500"); pls. CXCII=CXCV	Fortifications (p. 163), (*Thruch 5067)
	"Palace": p. 124: Supra XVII–XVI	"Palace": pp. 8-11 plans II-IV	"Palace": pl C1AT:18-32	"Palace": pp. 18–;i0: 1 =4161 Stran XVII =XXI ( = Local phase 9D+9C)
A1/210	ор. 47—19; Smara 4—3	608–208.qq FVIX ridg	pl. CCXCVI (3c pro-1=3)	
В	"Citadel"(*) (pp. 123-124): Seata AVII-XVI	рр. 72–74: (МВ П В/С) plan XVII	p.s. CXCVII-CACVIII (="late MRIP")	
B4	p. 116	pp. 125–125; Local phases 14–12 (–5; mio XVII–XVI); plan XXV		

Area	YADIN 1972	Have 1	Hexar II
с	pp. 29-32; MB II B/C (Smala 4-3)		рр. 76-92: pls. CIX-CXV; plan CXVII
ъ	рр.:38-42 МВ II B/C (Str.ha 4-5)	pp. 128-14 : pls. XCIII-XCIV. XCVIII. C-CIV. CXII-CXXE CLAXXII-III	2000
r.	op. 40+47; (*Fody MB II IV)	pp. 145-152; pls. GXXXII. CLXXXIV	

Area	Value 1972	Hone III-H' (Text)	Hazor III-IV (Plates)	Нагог V
r	pp. 42–44. 96–97: МВ П-D/С	рр. 185–149; (Stratum 3)	pis. CCXXXIX; CCXI IV=CCXI VI	
ш	pp 56-54, 75-79; 8mara   1, 3	pp 214-229. plans XLI, XXXVII	pls, CCLIX-CCLX	
K	pp 58-61; MB HB/G Shaa 4-5	pp 276–281; Similar, 3	by CCLXXXAI -	
L	pp. 117, 20g; Stratum Pre-XVII; Strata XVII—XVI			pp. 13, 191–206 Se sta Pro-XVII, XVII–XVI; Local phases 9–6
T. 1181	pp. 901–203: Suption Pre XVII			рр. 200—340; °МВИА ВС
P	pp -60-66, Shaar 1-5			pp. 355-386; (Local phases D(-4), C(-5-424); Fgs. V.1-V 3

Aren	Excavations of 1865 and 2000 (nor yet published)
0	"The ramparts were built either during MBHA, B or in the early part of MBHBT (Manuscript, p. 15).

Table 1 Middle Bronze Age Remnants at Hazor

13), and is "paradigmatic for the material culture of Hazor and its immediate surroundings during Late MB IIA and Early MB IIB, i.e. MB IIA–B" (MAEIR 1997: 327).

Area P: The earliest building activity in the area (a city gate?) is dated to MB IIB, local phase D (Stratum 4). The later gate is dated to MB IIC, local phase C (Stratum 3; YADIN 1972: 64; Hazor V: 382).

Area Q: This area was first investigated in a section cut into the earth embankment by means of a bulldozer (Yadin 1972: 54–57; Dunayevsky and Kempinski 1990). The area was carefully excavated by K. Covallo-Paran in 1995 and 2000,<sup>3</sup> who writes: "The pottery assemblage found in the successive layers of the ramparts contains vessel types known primarily, although not exclusively, in MB IIA and MB IIA–B contexts at the site" (Covallo-Paran in preparation: 13). "Clearly the Hazor ramparts were not built during the early part of the MB IIA period, and most likely were built either during the MB IIA–B transition or early part of MB IIB" (*ibid.*, 15).

In sum, the unequivocal conclusion that emerges from the excavation of 15 areas and from the study of the stratigraphy and ceramic material of Hazor, by the excavators and several other scholars since the 1950s, is that no settlement existed at Hazor during the Middle Bronze Age IIA.<sup>4</sup>

In the upper city of Hazor, the earliest MB II remains lie on top of Early Bronze Age remains (Areas A, AB and L, *Hazor III–IV*: 2–4, 49–57, 123; BEN-TOR 1999: 273; 2000: 248), on top of remains dated to the EB IV (=MB I; various locations in Areas A and L, *Hazor V*: 132; BEN-TOR 1998: 275; 2003: 222), or on top of tombs dated to the MB IIA–B transition (various locations in Areas A and L, *Hazor V*: 132, 163).

Human activity in the upper city of Hazor consists mainly of several tombs of the MB IIA-B transition and of the isolated architectural remnants termed "Stratum Pre-XVII". It precedes the activity observed in the lower city, which does not include either tombs or walls.

With the exception of the upper city fortifications (Wall 375 in "Trench 500") and the earth embankment in the lower city, no architectural remains of significance attributable to MB IIB (Strata XVII and 4) were unearthed at Hazor. In the last season of excavations (2003) we began uncovering parts of what appears to be a huge structure (a palace?), underlying the Late Bronze Age palace uncovered in Area A, in the center of the site. It is not yet possible to determine to which of the MB IIB phases (Strata XVII or XVI) this structure should be dated. The southern temple (Yadin's "palace") in Area A was built in MB IIC (Stratum XVI), as were the temples in Areas F and H (Stratum 3).

It thus seems that the poor remnants of the transitional MB IIA–B phase and early MB IIB encountered at Hazor (Strata Pre-XVII, XVII and 4) represent a small settlement belonging to those who constructed the site's fortifications. Only when those were completed did the city begin to flourish at an ever-growing pace in MB II, a process that reached its peak in MB IIC and continued in the Late Bronze Age.

Contrary to the picture just depicted, various studies have suggested that Hazor was a city already in MB IIA. The most frequently quoted study supporting this claim is the section into the fortifications on Hazor's eastern spur, conducted by Dunayevsky and Kempinski in 1990. Since this issue is crucial to our argument, these publications merit a short discussion.

In their short preliminary report (DUNAYEVSKY and KEMPINSKI 1990), the authors include drawings of 12 sherds (*ibid.*, fig. 1), on the basis of which KEMPINSKI suggests an MB IIA date for the

Most of the earliest Middle Bronze Age remnants uncovered in the lower city are dated to MB IIB (Stratum 4). These appear on top of virgin soil (Areas A-210, C, H, K, and most probably Area P, Yadin 1972: 29, 48, 59, 75; *Hazor III–IV [Text]*: 214) or on bedrock (Areas D and E, Yadin 1972: 38, 46), and in one isolated case on top of a tomb dated to EB IV (= MB I; Area F, Yadin 1972: 43).

<sup>&</sup>lt;sup>3</sup> Her results have not yet been published. I wish to thank Keren Covallo-Paran for permitting me to study her manuscript and to present her conclusions regarding the date of the fortifications.

<sup>&</sup>lt;sup>4</sup> This conclusion is seemingly challenged by the mention of Hazor in the Late Execration Texts, which date from the late 13<sup>th</sup> dynasty in Egypt, before the Second Intermediate Period, i.e. contemporary with the late

MB IIA in Palestine (Yadin 1972: 1–2; Redford 1992: 88). However, this contradiction is, in my opinion, only apparent, even if the identification of the site in that list with our Hazor is correct. Several other sites mentioned in the list, such as Beth Shean, were not inhabited either during MB IIA (Mazar 2003: 324, 326). A more detailed discussion of the subject by the present writer is forthcoming.

construction of these fortifications (ibid., p. 27). It should be pointed out that four of these sherds are EB III-IV in date and the other eight have close parallels in the transitional MB IIA-B assemblages mentioned above. Furthermore, KEMPINSKI himself states that these sherds originate from within the earth embankment, and could therefore be earlier than the date of its construction (ibid., 27). Even Kempinski himself thus does not suggest dating the earth embankment to MB IIA. Furthermore, a few years later, Kempinski states that "because of the method of excavation" (a trench cut into the fortifications by a bulldozer, A. B.-T.) "and the meagerness of the ceramic finds, there is no conclusive proof of the date of the rampart's construction" (Kempinski 1992: 131).

In their study of the population of Palestine during the MB II (BROSHI and GOPHNA 1986), the authors include Hazor among the settlements fortified by MB IIA (*ibid.*, 76), citing as a reference for this statement the entry "Hazor" in an archaeological encyclopaedia (ibid., 76). One wonders how they reached that conclusion since a contrary opinion is stated in this entry: "Stratum 4, the lowest level, is assigned to the beginning of the Middle Bronze Age II-B, that is the mid-eighteenth century B.C. when the first fortifications and the ramparts of the lower city were constructed" (YADIN 1976: 476). Regrettably, the authors do not refer to any other publication - either Yadin's or others' - dealing with this issue. This renders their chronological statements inadequate, which is particularly unfortunate since their study has often been quoted in subsequent research.

In his treatment of Tomb 1181 at Hazor, Maeir dates it to the MB IIA–B transitional period (*Hazor V:* 327), claiming that Hazor was already a "relatively developed material culture..." at that time, even though "additional evidence for this period at Hazor is far from satisfactory, due, I believe, to insufficient excavation of relevant strata" (*ibid.*, 327).

As shown above, no such "additional evidence" has come to light in the eight seasons of excavation conducted at the site since Maeir's treatment of the chronological issue. On the contrary, additional excavation has shown the transitional MB IIA–B settlement at Hazor to have been an "embryonic" one, which grew into a full-fledged settlement only later in MB II. Furthermore, Maeir's chronological scheme, which led him to conclude that the transitional MB IIA–B Hazor was the city that corresponded with Mari, is no longer tenable (*Hazor V:* 6–7; and see below).

In spite of the material uncovered at Hazor since 1997, MAEIR (2002: 265) "still fervently believes", that Hazor's rise to greatness occurred late in MB IIA and was at that time represented by "sherds; City(?)" (*ibid.*, 263–264). According to him, Hazor was already fortified in the transitional phase MB IIA–B, exhibiting a "full blown MBII culture" (*ibid.*, 266).

This view faces the following shortcomings:

- 1. Maeir presents no shred of evidence for his claim that Hazor was already fortified in the transitional MBIIA–B phase. As demonstrated above, the results of the excavations clearly show that the fortifications were not established before MB IIB.
- 2. MAEIR maintains his chronology of 1997, which is too high (even though no absolute dates are presented in his recent 2002 article).
- 3. MAEIR states that in late MBIIA, "Hazor and Dan were the two major centers (*ibid.*, 265), thus contradicting his own statement that only sherds were found at Hazor at this phase (*ibid.*, 265 table).
- 4. Maeir quotes Kempinski as though the latter dates Hazor's earth embankment to MB IIA, despite Kempinski's explicit statement that the date is "inconclusive" (see above).
- 5. Maeir claims that Covallo-Paran's excavation in the eastern spur shows that the fortifications were built in the transitional MB IIA–B phase (*ibid.*, 265), whereas the excavator herself claims that the ramparts "were built either during MB IIA–B or in the early part of MB IIB" (see above).

This survey of several studies claiming that Hazor was already a fortified, significant city in the MB IIA, or, at the latest, in the MB IIA–B, shows that none of them present any argument which is either valid methodologically or compatible with the archaeological data as shown by the excavations.

#### Hazor and its Neighbors: North and South

A view southward: Hazor and Tell el-Dabca

The detailed discussion of the earliest remains datable to the Middle Bronze Age unearthed at Hazor demonstrates clearly that construction started not earlier than the MB IIA–B transitional phase, but that the city did not reach its peak before a relatively late phase of MB IIB.

It is now possible to assign an absolute date to this relative archaeological date with the aid of Egyptian absolute chronology, in which, for the time being, the margin of doubt is much smaller than in Mesopotamian chronology. The absolute chronology of Middle Bronze Age Canaan relies heavily on the results of Bietak's excavations at Tell el-Dab<sup>c</sup>a, where Canaanite finds were uncovered side by side with Egyptian material in stratum H and subsequent strata (BIETAK 2002: 29–42).

The Egyptian material from Stratum H is dated to an advanced stage of the 12<sup>th</sup> dynasty (*ibid.*, 32), that of Stratum G-4 to the beginning of the 13<sup>th</sup> dynasty (*ibid.*, 32), and that of Stratum G-1–3 to the second half of the 13<sup>th</sup> dynasty (*ibid.*, 34). The Canaanite material uncovered in those strata has close parallels in the late MB IIA assemblages of Aphek, phases 2–4 (*ibid.*, 38). In absolute dates (derived from astronomic observations, in which the margin of error is, for the time being, much smaller than in the Mesopotamian Venus observations), this is within the 1820–1720 range (*ibid.*, 31, fig. 2; 35, fig. 7).

The subsequent phase at Tell el-Dab<sup>c</sup>a, Stratum F, is of most concern to us. It is dated to an advanced stage of the 13<sup>th</sup> dynasty, somewhere between 1720–1680 BCE (*ibid.*, 31, fig. 2; 34–37). The Canaanite ceramic assemblage – consisting of imports and local imitations –and forming close to 40% of the entire assemblage in Stratum F, dates from the MB IIA–B transitional phase (*ibid.*, 37) and is thus *contemporary with the earliest building activity at Middle Bronze Age Hazor* (see above).

This observation is supported by K. KOPETZKY, a member of the Tell el-Dab<sup>c</sup>a expedition, who studied that pottery (letter dated 27 January 2004).<sup>5</sup> In her study of the Tell el-Dab<sup>c</sup>a MB IIA juglets, the only parallel she finds at Hazor originates in Tomb 1150, dated to Stratum "Pre XVII" (KOPETZKY 2002: 234, n. 28; and see above).

The transitory nature of Stratum F at Tell el-Dab<sup>c</sup>a was noted by another member of the Tell el-Dab<sup>c</sup>a team, I. Forstner-Müller, who states that one finds "the first appearance of Bietak's piriform 1c type of Tell el-Yahudiyah-juglets... and the first appearance of Kaplan's so called 'ovoid 2 jugs' in that stratum" (FORSTNER-MÜLLER 2002: 167). The same holds true for the weapon typology: "at the end of this stratum we find the older

MB IIA types already mingled with the new MB IIB types" (*ibid.*, 166).

In his study of the Canaanite MB IIA ceramic material uncovered at Tell el-Dabca, Aston (2002: 43-87) barely mentions Hazor. From 295 references, mainly citing Canaanite parallels for the Tell el-Dab<sup>c</sup>a material, only three refer to Hazor. In n. 28 he draws a parallel between storage jars from Tell el-Dab<sup>c</sup>a and jars from Hazor Stratum 3 (= XVI = MB IIB), of a type "popular in MB IIA-B storage jars and kraters found in the northern Levant" (ibid., 44-45). In n. 106 he refers to two carinated bowls from Phase 9D at Hazor (= Stratum "Pre-XVII"). The time span of their appearance at Tell el-Dabca includes Strata F and E/3 (ibid., 47); thus, their date is not limited to MB IIA, Finally, n. 149 also refers to carinated bowls from Tell el-Dab<sup>c</sup>a, for which close parallels are found at Hazor Stratum XVII and in Tomb 1181, dated to the transitional MB IIA-B phase (see above). Aston himself states that such bowls "are entrenched in MB IIA ceramic traditions, though the form continued into MB IIB" (ibid., 48). Even the three Hazor parallels cited by ASTON are thus not necessarily of MB IIA date.

It emerges that in contrast to clear-cut parallels found for the Tell el-Dabca MB IIA ceramic material in Canaanite sites such as Shechem, Megiddo, Kefar Szold, Tel Poleg, Kabri, Tel Ifshar, Tell Qashish, Tell el-Hayyat, Pella and others, no parallels are to be found at Hazor, and this is what we would expect! The above-mentioned Canaanite sites were indeed occupied in the period contemporary with Tell el-Dabca Strata H and G, i.e. MB IIA, whereas Hazor appears on the scene only in the period contemporary with Tell el-Dabca Stratum F (see Figs. 1–6, drawings not to scale).<sup>6</sup> In absolute dates this should be placed anywhere between 1720-1680 BCE. This is the beginning of Middle Bronze Age Hazor, and it becomes a flourishing city only slightly later, somewhere around 1680-1670, probably contemporary with Stratum E/3 at Tell el-Dab<sup>c</sup>a = "Early MB IIB" (BIETAK 2002: 31, fig. 2; 36).

A view northward: Hazor and Mari

Hazor's material culture (architecture and pottery), as well as its spiritual tradition (writing, cult

<sup>&</sup>lt;sup>5</sup> I wish to thank K. Kopetzky for her great help in the comparative study of the Tell el-Dab<sup>c</sup>a and Hazor ceramic material. Thanks are also due to R. Schistl and to I. Forstner-Müller for allowing me to use some of their as yet unpublished material. Last but not least, I

wish to thank my wife Daphna for her help regarding Egyptian chronology in the first half of the second millennium BCE.

<sup>&</sup>lt;sup>6</sup> I wish to thank D. Weinblatt and M. Cimadevilla for their help in creating the ceramic figures.

and art), form an integral part of that of northern Canaan, all the way to Mesopotamia and even as far as Babylon, with which it is connected via a frequently used caravan route. Hazor is thus part and parcel of northern Canaan. This is nicely illustrated by a fragment of a document from the Kassite period found at Babylon, which forms part of a "Dream Book" listing towns located on the route from Mesopotamia to the west in which the following are mentioned: Mari, Emar, Yamhad, Qatna and Hazor (MALAMAT 1989: 62, and bibliography therein). When one lives in Babylon, Hazor is as far as one can imagine. MB II Hazor is "the largest and most substantial site in Palestine" (MAEIR 2000: 37) and should be regarded as "the southernmost extension of the Syro-Mesopotamian world" (ibid., 38).

Hazor extends over an area of 200 acres. From this aspect too, it is closer to the Syro-Masopotamian sites such as Qatna, Carchemish and Ebla than to sites in Israel, of which it is almost ten times as large (*ibid.*, 38; YADIN 1972: 106). The reference to Hazor as "the head of all those kingdoms" (Josh. 11:10) most probably echoes Hazor's greatness in bygone times. Being the largest site in southern Canaan, it is not surprising that Hazor is the only site in this region to be mentioned several times in the Mari archive (BONECHI 1992). The toponym Layaš/Layiš, mentioned in one of the Mari documents and once thought to refer to Tel Dan, ca. 30 km north of Hazor, probably refers to a site in Syria, between Aleppo and Ugarit (ibid., 19; MALAMAT 1989: 58).

The Mari documents dealing with Hazor have been studied extensively (YADIN 1972: 2–6; MALAMAT 1989: 55–66, with bibliography; BONECHI 1992). Akkadian documents were found at Hazor in excavations conducted by Yadin in the 1950s, among which clay model livers, a lawsuit, and a fragment of the HAR-ra–hubullu lexical series are noteworthy. These show "affinities with those from Mari, demonstrating that the cuneiform scribal craft seems to have spread to Hazor, possibly even from Mari itself" (MALAMAT 1989: 56, with additional bibliography).

Several other documents of the Old and Middle Babylonian periods were uncovered at Hazor in the course of the renewed excavations, which began in 1990 (HOROWITZ 1996; 1997; 2000;

HOROWITZ and SHAFFER 1992a; 1992b; HOROWITZ and OSHIMA 2002; HOROWITZ and WASSERMAN 2000). One of these (HOROWITZ and WASSERMAN 2000) is the first document uncovered in this country to mention Mari. The earliest document mentioning Hazor in the Mari archive dates from the time of Šhamšhi-Adad, (writing to Yasmah-Adad), the Assyrian inter-regnum at Mari (MALA-MAT 1989: 56; BONECHI 1992: 10), and the latest is from the 12<sup>th</sup> year of Zimri-Lim (*ibid.*, 17–18, 21). The time span covered by this correspondence can thus be no less than 20 years.<sup>7</sup>

Having determined the date of construction of "Greater Hazor" on the one hand, and briefly described the correspondence between Hazor and Mari on the other, we may now discuss the absolute chronology of the period.

#### **Hazor and Absolute Chronology**

It stands to reason that the Hazor that corresponded with Mari is "Greater Hazor", consisting of the acropolis and the lower city (see below). This Hazor, which began in MB IIA–B, approximately 1720–1680 BCE, reached its peak – even if its rise was rapid – only in MB IIB, some 20–30 years later, around 1680 BCE at the earliest.

The Hazor that corresponded with Mari was thus Hazor Stratum XVI (= 3), and not XVII (= 4), during which construction of the city's fortifications had only begun. As shown above, the Tell el-Dab<sup>c</sup>a chronology indicates that the MB IIA-B transition occurred not before the end of the 18th century, around 1700 BCE. Weinstein suggests dating this transition somewhat earlier, to between 1730-1710 BCE "in the late third and the early fourth quarters of the 18th century B.C." (Weinstein 1992: 38). The difference between these two sets of dates is not crucial for our argument (see below); for the sake of argument we shall adopt a date 1720/10 BCE. This is thus when building activity started at Hazor, even before the earliest mention of Hazor in the Mari documents.

The construction of the huge fortifications of Hazor (consisting of approximately one million cubic meters of fill!) and the large government and cult buildings must have taken no less than ten to twenty years (FINKELSTEIN 1992: 210; BUNIMOVITZ 1992: 226; OREN and YEKUTIELI 1996: 23). Hazor thus reached its peak and became a city

<sup>&</sup>lt;sup>7</sup> I wish to thank W. Horowitz, N. Wasserman and T. Oshima, all of the Department of Ancient Near Eastern Studies at the Hebrew University of Jerusalem, for their help with regard to the Hazor-Mari correspondence.

"worthy" of correspondence with Mari around 1700/1690 BCE at the earliest.

According to the Mesopotamian Middle Chronology, the fall of Mari is dated to 1760 BCE, some fifty years before construction at Hazor even began and sixty years before it reached its peak.

In addition, the Mesopotamian Low Chronology, according to which Mari was destroyed in 1696 BCE, is incompatible with the above-mentioned chronological framework, since it leaves absolutely no room for the duration of correspondence between the two sites.

It is noteworthy that 30 years ago, Yadin pointed out the importance of the Mari-Hazor correspondence for establishing the absolute chronology of the period<sup>8</sup> and had opted for the Mesopotamian Low Chronology (Yadin 1972: 107–108):

"Hazor mentioned in the Mari archives can only be the big Hazor with its lower city ... the earthen ramparts contained considerable amounts of MB IIB pottery. This indicates that the ramparts and the lower city were established at the very beginning of MB IIB at best, and most probably slightly later. [Since] the earliest reference in Mari is from the time of Shamshi-Adad I ... it seems that the results from Hazor compel us to follow either the 'middle' chronology but raise the beginning of the MB IIB to the nineteenth century BCE, or maintain the date of *c.* 1750 for the beginning of MB IIB and follow the 'low chronology'. Of the two alternatives, the latter appeals to me more".

Yadin expressed this view before being aware of the implications of the Tell el-Dab<sup>c</sup>a excavations for the chronology of the MB II. Had these been known at the time, he could not have maintained the date of 1750 BCE for the beginning of MB IIB, and therefore could not have viewed the Mesopotamian Low Chronology as being compatible with the results obtained by the Hazor excavations, but would have had to pursue an even lower chronology.

It seems therefore that the "New Chronology" (Hammurabi 1696–1654 BCE; GASCHE *et al.* 1998a: 91), according to which Mari is destroyed

in 1664 BCE, is the only one compatible with the data originating in Tell el-Dab<sup>c</sup>a, Hazor and Mari. This conclusion, in which Hazor occupies a pivotal role, could theoretically be challenged by one or more of the following six arguments:

1. It could be argued that our Hazor (Tel el-Qedah), in northern Israel, is not the Hazor of the Mari documents. This has, in fact, been suggested by ASTOUR, who claims that the Hazor that corresponded with Mari should be identified with Hasura, ca. 40 km west of Qatna (ASTOUR 1991: 65). This view cannot be accepted. First and foremost, no ancient site is to be found at Hasura, no architecture and not even one pot sherd of the Middle Bronze Age was picked up at that "site". Astour's explanation for the lack of any relevant relics is that in that mountainous region "houses are built not of unbaked bricks ... but of stone which can be reused time after time or of wood, which burn down without leaving anything but ash, quickly dissolved and carried away by the winter rains" (ibid., 63). This is far from convincing. Second, at our Hazor we have found two clay tablets on which the name Hazor was inscribed. The first, of Old Babylonian date (HALLO and TADMOR 1977), is concerned with litigation which took place at Hazor (Ha-zu-ra), "thus furnishing the first textual confirmation of the identification of Tell el-Qedah with the ancient city of Hazor" (ibid., 2); the second, of the Middle Babylonian period (HOROWITZ 2000), mentions goods sent to Hazor (Ha-su-ra). The Old Babylonian tablet found at Hazor in which Mari is also mentioned (HOROWITZ and WASSER-MAN 2000) is another point in favor of the identification of our site with ancient Hazor. There can thus be no doubt that our Hazor is the one named in the Mari correspondence.

2. It could be argued that we have incorrectly dated the earliest Middle Bronze Age pottery at Hazor, and that it should in fact be dated to MB IIA. The response to this is that not only the excavators, but every researcher who has studied the Hazor ceramic assemblage – including specialists on Middle Bronze Age pottery – agree that

The importance of the Hazor-Mari correspondence for determining the absolute chronology of the period was also noted recently by WARBURTON, who claims that it supports the New Chronology (WARBURTON 2000:

<sup>54–56).</sup> I share this view (see below). However, Warburton does not elaborate to which of the phases of the Middle Bronze Age he refers, which makes an evaluation of his arguments impossible.

it cannot be earlier than the MB IIA-B transitional phase (see Figs. 1–6).

- 3. It could be argued that the excavations have not yet penetrated sufficiently deep, and that additional excavations may reveal earlier, MB IIA strata. The response to such a claim is that no such strata were found in the course of 20 seasons of excavation, in various areas of the acropolis and in the lower city. The earliest Middle Bronze Age remains on the acropolis are founded either on top of Early Bronze Age remains or on top of fragmentary walls and tombs of the transitional MB IIA–B phase. In the lower city, all Middle Bronze Age remains are embedded in virgin soil.
- 4. It could be argued that our assumtion that Hazor which corresponded with Mari is "Greater Hazor" is not necessarily correct and that the site of Hazor which was confined to the acropolis alone was significant enough to have conducted the correspondence with Mari. Our response is that such an argument simply does not make sense. As we have seen, significant construction on Hazor's acropolis began only with the erection of the fortifications in the lower city. It is inconceivable that a site consisting of nothing more than a few fragmentary walls and several tombs could have played such an important role, including the presence of ambassadors, and trade in exotic and precious materials, as indicated by the Mari and Hazor documents.
- 5. One may argue that Stratum F at Tell el-Dab<sup>c</sup>a, equated with the beginnings of MB Hazor, is wrongly dated and that it is in fact earlier. The response to this would be that there is a consensus among Egyptologists with regard to the date of this phase and that any margin of error would be negligible. Stratum F is dated relatively late in the 13<sup>th</sup> dynasty, the date of which is also generally agreed upon. Even a slightly earlier date for this stratum (Weinstein, see above) would have no significant bearing.
- 6. It may further be argued that even if the date of Stratum F at Tell el-Dab<sup>c</sup>a is as suggested by the excavators, the appearance of Canaanite pottery there post-dates its first appearance in Canaan. The response to such a claim would be that the

connection between Egypt and Canaan during the period under discussion was uninterrupted, as indicated by the statistical analysis of the occurrence of both the imported Canaanite pottery as well as local imitations, throughout the relevant strata at Tell el-Dabca (BIETAK 1991). Canaanite pottery amounts to 20% of the entire assemblage in Stratum H, the earliest in which it was uncovered, and the same holds true for the subsequent stratum, G4. In the following strata, G1-3, F, E1-3, D2-3, the Canaanite assemblage (both imports and local imitations) amounts to 40% of the entire assemblage (ibid., 32, 34, 38, 39, 40, 43, 46). In addition, the typological evolution observed in the Canaanite repertoire throughout this time span is paralleled at Tell el-Dab'a (ibid., 53-62).

It thus seems that our chronological framework for Middle Bronze Age Hazor is well founded.

Finally, the complete absence of Egypt from the Mari archive has long intrigued scholars, and various explanations for this strange phenomenon have been offered over the years. The New Chronology, supported by the results of the Hazor excavations, offers a clear solution to this problem. In the first half of the 17th century BCE, when, according to the New Chronology, there were relations between Mari and its western neighbors, all the way to the Mediterranean coast (Ugarit), southern Syria (Qatna) and northern Israel (Hazor), Egypt was well into the "Second Intermediate Period". In contrast to the close contacts maintained between Egypt and northern Canaan during the Middle Kingdom, Egypt of the Second Intermediate Period - split and partly ruled by foreigners - was no longer in a position to play any role in the international arena.9

In a recent study Gates states that "it is unfortunate that Aegean and Cypriote pottery, the ceramic most valuable for cross-dating purposes, comes from regions without known historical sequences. In their absence, the network connecting Egypt and Mesopotamia via the eastern Mediterranean coast and western Syria [evidently referring to Alalakh, and Kinet Höyük, the site she is presently excavating, A.B.-T.] remains the only channel for investigation, as indeed asserted

Over fifty years ago, von Soden viewed Egypt's absence from the Mari archive as an argument in favor of adopting Albright's Low Chronology (VON SODEN 1951: 43–44)

by every recent study. A clear and straight forward presentation of new material will achieve more radical and convincing results than attempts at reformulating the old" (GATES 2000: 77–78).

It may now be stated that such a site, "valuable for cross-dating purposes", to use Gates' words, is indeed known. It is, however, not located in the region chosen by her. Situated as it is, half-way between Egypt and Mesopotamia, Hazor provides, for the first time, a link between the chronologies of these two centers. The results of the excavations at Hazor demonstrate that the New Chronology is the only one compatible with the archaeological record.

Object Number	Publication	Plate
1	Вієтак 2002	p. 217, fig. 22:14
2	Вієтак 2002	p. 217, fig. 27:13
3	Вієтак 2002	p.217, fig. 27:16
4	Вієтак 2002	p. 212, fig. 22:18
5	Вієтак 2002	p. 212, fig. 22:20
6	Вієтак 2002	p. 201, fig. 14:7
7	Вієтак 2002	p. 201, fig. 14:12
8	Вієтак 2002	p. 197, fig. 12:2
9	Hazor V	p. 30, fig. II.7:9
10	Hazor III–IV	pl. CCXCVI:1
11	Hazor III–IV	pl. CCLXXXVI: 1
12	Hazor V	p. 300, fig. IV.I:4
13	Hazor V	p. 300, fig. IV.I:2
14	Hazor V	p. 300, fig. IV.I:11
15	Kopetzky (Per. Com.)	TD 4879 F/1-1/22 Tomb 28 str. F
16	Forstner-Müller (Per. Com.)	TD 2522
17	Вієтак 2002	p. 77, fig. 12:1
18	Вієтак 2002	p. 77, fig. 12:2
19	Kopetzky (Per. Com.)	TD 4540 F/1-k/22 Tomb 7 str. G/1-3

Fig. 1 MB Open Bowls - Comperative Table

Object Number	Publication	Plate
1	Вієтак 2002	p. 217, fig. 27:1
2	Вієтак 2002	p. 217, fig. 27:9
3	Вієтак 2002	p. 212, fig. 22:3
4	Вієтак 2002	p. 212, fig. 22:4
5	Вієтак 2002	p. 199, fig. 13:17
6	Hazor I	pl. c: 2
7	Hazor I	pl. c: 1
8	Hazor V	p. 302, fig. IV.2:7
9	Hazor V	p. 302, fig. IV.2:19
10	Вієтак 2002	p. 77, fig. 12:6
11	Вієтак 2002	p. 77, fig. 12:3
12	Вієтак 2002	p. 79, fig. 13:3
13	Вієтак 2002	p.77, fig. 12:5

Fig. 2 MB Closed Bowls - Comperative Table

Object Number Publication		Plate	
1	Віетак 2002	p. 219, fig. 28:1	
2 Вієтак 2002		p. 219, fig. 28:7	
3	Віетак 2002	p. 219, fig. 28:8	
4	Віетак 2002	p. 214, fig. 24:2	
5	Віетак 2002	p. 214, fig. 24:7	
6	Віетак 2002	p. 214, fig. 24:9	
7	Віетак 2002	p. 204, fig. 17:18	
8	Віетак 2002	p. 204, fig. 17:10	
9	Віетак 2002	p. 197, fig. 12:13	
10	Вієтак 2002	p. 197, fig. 12:14	
11	Вієтак 2002	p. 197, fig. 12:15	
12	Hazor III–IV	pl. CCXCVII:11	
13	Hazor V	p. 30, fig. II.7:14	
14	Hazor III–IV	pl. CCXXXV:19	
15	Hazor V	p. 32, fig. II.8:11	
16	Hazor V	p. 32, fig. II.8:12	
17	Hazor V	p. 28, fig. II.6:41	
18	Hazor V	p. 320, fig. IV.9:1	
19	Hazor V	p. 320, fig. IV.9:2	
20	Віетак 2002	p. 180, fig. 14:9	
21	Вієтак 2002	p. 63, fig. 3:2	
22	Вієтак 2002	p. 69, fig. 7:8	
23	Вієтак 2002	p. 69, fig. 8:7	
24	R.Schiestl (Per. Com)	7285 TD	
25	K. Kopetzky: "Settlment Material" (Per. Com.)		
26	K. Kopetzky: "Settlment Material" (Per. Com.)		

Fig. 3 MB Storage Jars - Comperative Table

Object Number Publication		Plate	
1	Віетак 2002	p.220, fig. 29:11	
2	Вієтак 2002	p.220, fig. 29:9	
3	Віетак 2002	p.220, fig. 29:7	
4	Віетак 2002	p.220, fig. 29:2	
5	Вієтак 2002	p. 215, fig. 25:5	
6	Вієтак 2002	p. 215, fig. 25:1	
7	Вієтак 2002	p. 207, fig. 19:10	
8	Вієтак 2002	p. 207, fig. 19:11	
9	Вієтак 2002	p. 208, fig. 20:1	
10	Hazor III–IV	pl. CCXCVI:8	
11	Hazor III–IV	pl. CCXCVI:10	
12	Hazor V	p. 312, fig. VI.6:4	
13	Hazor V	p. 312, fig. VI.6:7	
14	Hazor V	p. 308, fig. IV.4:6	
15	Hazor V	p. 308, fig. IV.4:16	
16	Вієтак 2002	p. 183, fig. 17:2	
17	Вієтак 2002	p. 180, fig. 14:3	
18	Вієтак 2002	p. 230, Fig 2:4885	
19	Віетак 2002	p. 230, fig. 2:3989	
20	Віетак 2002	p. 81, fig. 14:6	
21	Віетак 2002	p. 230, fig. 1:4958	
22	Віетак 2002	p. 87, fig. 17:2	

Fig. 4 MB Juglets – Comperative Table

Number	Publication	Plate
1	Hazor V	p. 28, fig. II.6:2
2	Hazor V	p. 30, fig. II.7:9
3	Hazor III—IV	pl. CCLXXXVI:1
4	Hazor I	pl. CXIX:5
5	Hazor III–IV	pl. CXCVII:13
6	Hazor V	p. 32, fig. II.8:3
7	Hazor V	p. 32, fig. II.8:4
8	Hazor III–IV	pl. CXCVII:12
9	Hazor III–IV	pl. CXCVII:11
10	Hazor I	pl. C:1
11	Hazor I	pl. C:2
12	Hazor V	p. 28 , fig. II.6:25
13	Hazor V	p. 28, fig. II.6:29
14	Hazor III–IV	pl. CCXXXV:29
15	Hazor V	p. 28, fig. II.6:28
16	Hazor III–IV	pl. CCXXXV:16
17	Hazor III–IV	pl. CLVI:23
18	Hazor III–IV	pl. CXCVII:15
19	Hazor I	pl. CXVI:1
20	Hazor V	p. 28, fig. II.6:31
21	Hazor III–IV	pl. CLVI:24
22	Hazor III–IV	pl. CCXCVI:10
23	Hazor I	Pl. C:8
24	Hazor III–IV	pl. CCXCVI:8
25	Hazor V	p. 32 , fig. II.8:11
26	Hazor V	p. 30 , fig. II.7:14
27	Hazor V	p. 28, fig. II.6:41
28	Hazor III–IV	pl. CCXXXV:19
29	Hazor III–IV	pl. CLVI:26
30	Hazor III–IV	pl. CCXCVI:11

Fig 5 Hazor - Str. 4(=XVII)

Object Number	Publication	Plate
1	Hazor V	p. 300, fig. IV.I : 1
2	Hazor V	p. 300, fig. IV.I :12
3	Hazor V	p. 300, fig. IV.I: 9
4	Hazor V	p. 302, fig. IV.2:11
5	Hazor V	p. 306, fig. IV.3:7
6	Hazor V	p. 306, fig. IV.3:6
7	Hazor V	p. 34, fig. II.10:1
8	Hazor V	p. 302, fig. IV.2:7
9	Hazor V	p. 308, fig. IV.4:24
10	Hazor V	p. 308, fig. IV.4:16
11	Hazor V	p. 197, fig. III.6:8
12	Hazor V	p. 310, fig. IV.5:11
13	Hazor V	p. 312, fig. IV.6:8
14	Hazor V	p. 312, fig. IV.6:7
15	Hazor V	p. 312, fig. IV.6:4
16	Hazor V	p. 34, fig. II.10 :2
17	Hazor V	p. 314 fig. IV.7 :3
18	Hazor V	p. 314, fig. IV.7:2
19	Hazor V	p. 312, fig. IV.6 :12
20	Hazor V	p. 34 , fig. II.10 :3
21	Hazor V	p. 318, fig. IV.8 :7
22	Hazor V	p. 318, fig. IV.8:8
23	Hazor V	p. 318, fig. IV.8 :9
24	Hazor V	p. 320, fig. IV.9 :2
25	Hazor V	p. 320, fig. IV.9:1
26	Hazor V	p. 197, fig. III.6 :10

Fig. 6 Hazor – MB Tombs (pre XVII)

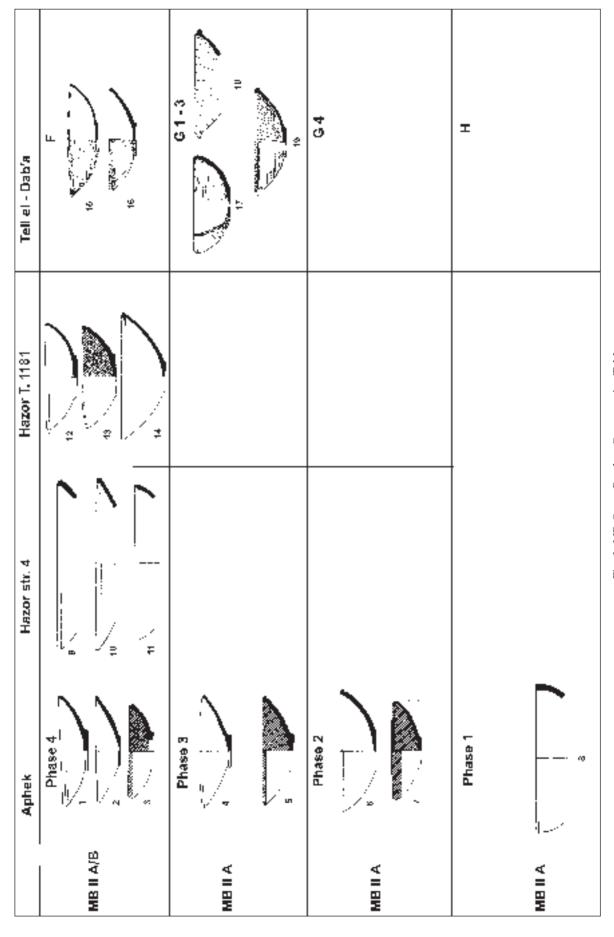


Fig. 1 MB Open Bowls - Comperative Table

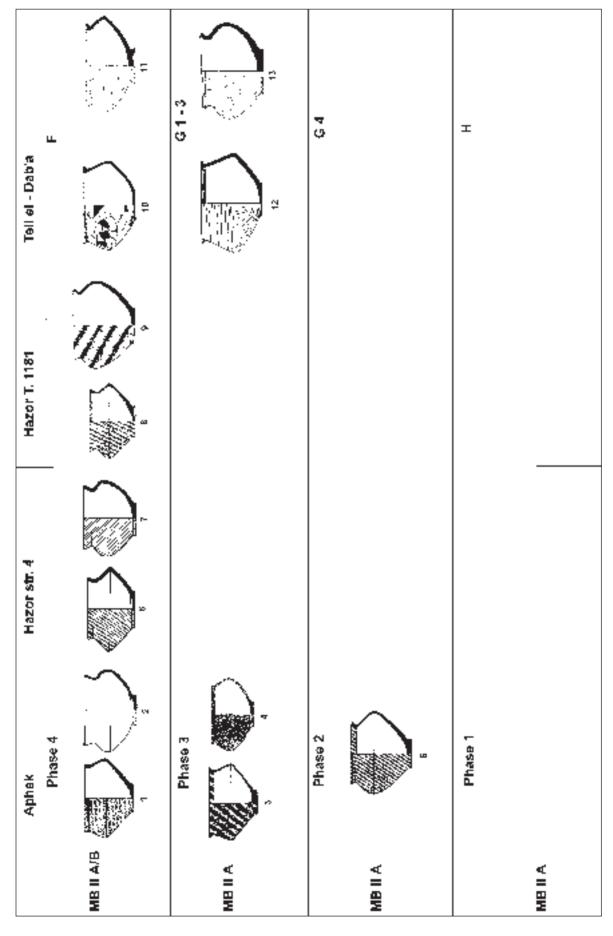


Fig. 2 MB Closed Bowls – Comperative Table

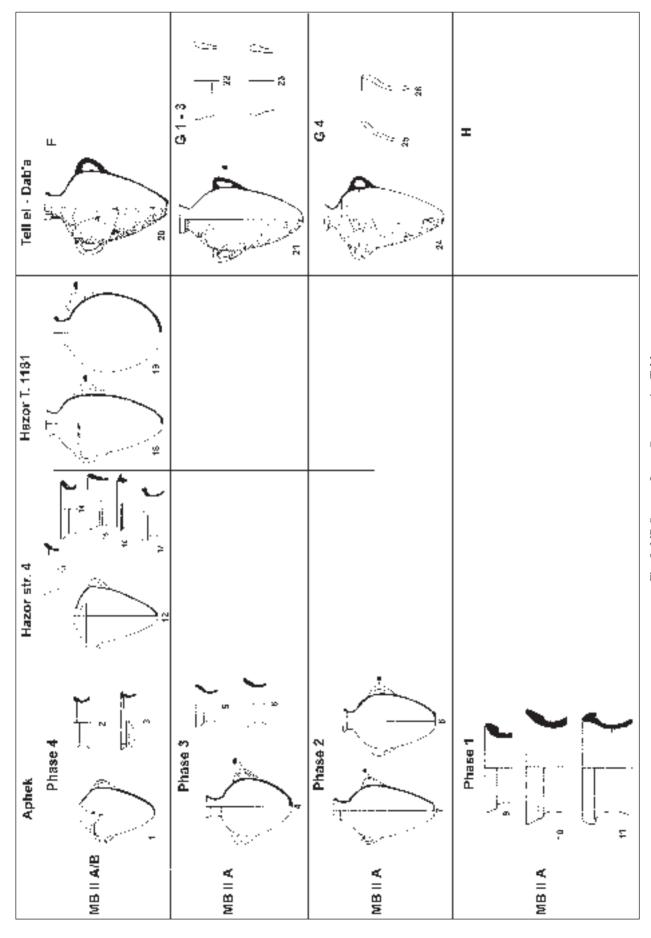


Fig. 3 MB Storage Jars - Comperative Table

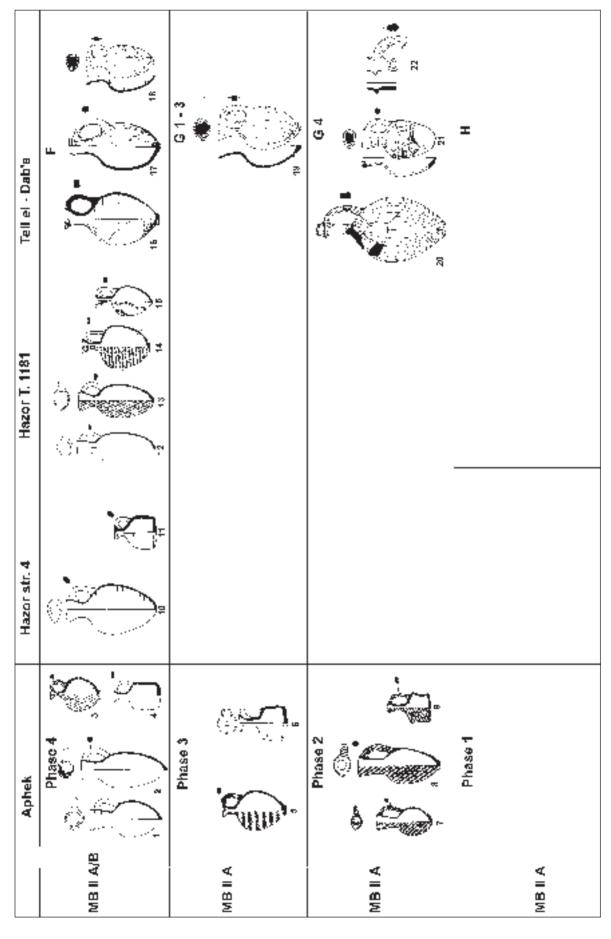


Fig. 4 MB Juglets – Comperative Table

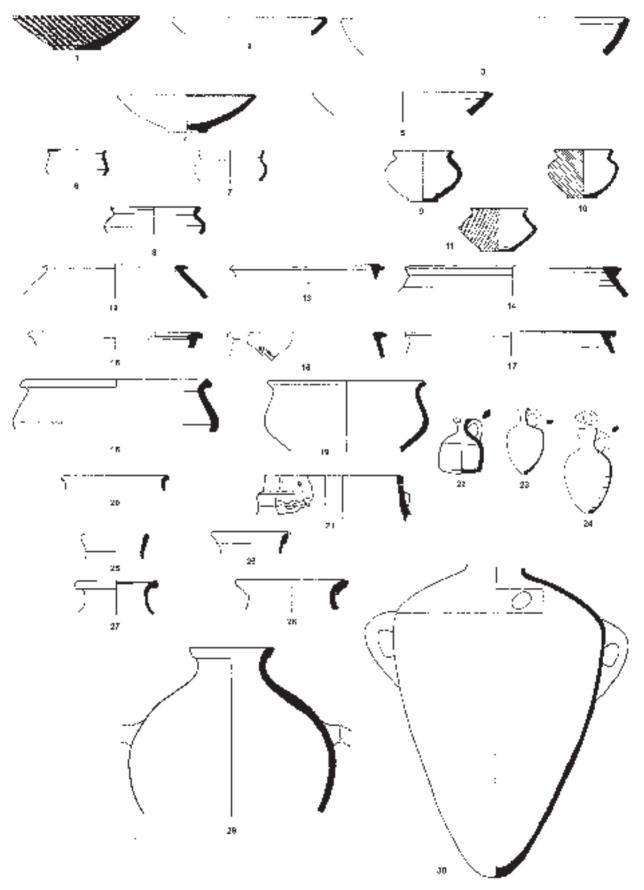


Fig 5 Hazor - Str. 4(=XVII)

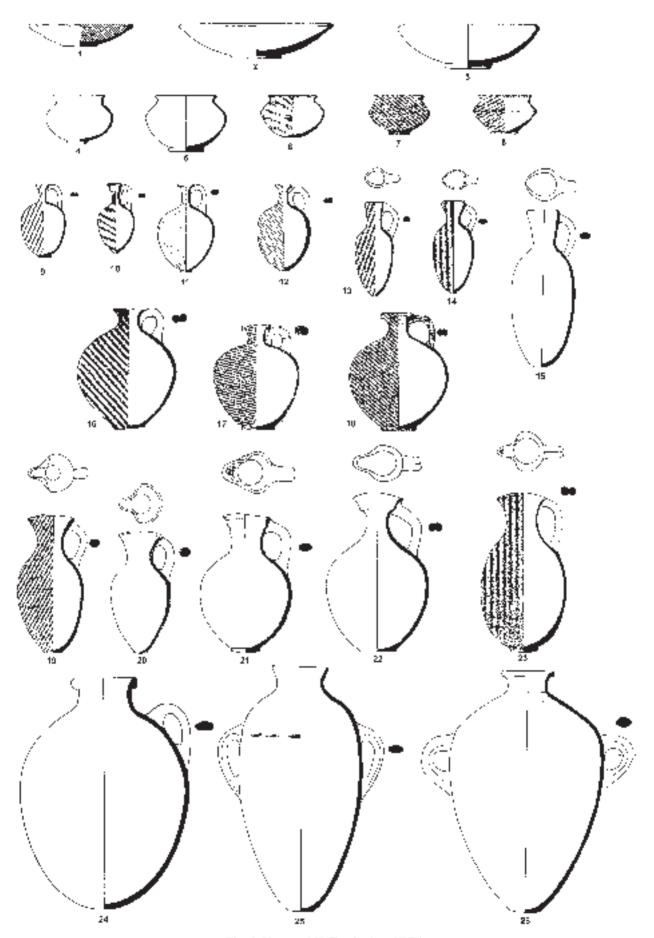


Fig. 6 Hazor – MB Tombs (pre XVII)

### **Bibliography**

AMIET, P.

1998 Rec. de Gasche *et al.*, *Revue d'Assyriologie* 92: 187–188. Aston, D.

2002 Ceramic Imports at Tell ed-Dab<sup>c</sup>a during the Middle Bronze IIA, 43–87, in: BIETAK, M. (ed.), *The Middle Bronze Age in the Levant: Proceedings of the International Conference on MBIIA Ceramic Material, Vienna* 24<sup>th</sup>–26<sup>th</sup> of January 2001, CChEM 3, Vienna.

ASTOUR, M.C.,

1991 The Location of *Hasura* of the Mari Texts, *Maarav* 7, 51–65.

ÅSTRÖM, P. (ed.)

1987 High, Middle or Low? Acts of an International Colloquium on Absolute Chronology Held at the University of Guthenburg 20–22<sup>nd</sup> August (Studies in Mediterranean Archaeology and Literature 56–57), Gothenburg.

BEN-TOR, A. (ed.)

1989 *Hazor* III–IV (*Text*), Jerusalem (= *Hazor III–IV*, *Text*)

BEN-TOR, A.

1998 Notes and News, Hazor 1998, IEJ 48: 274-278.

1999 Notes and News, Hazor 1999, IEI 49: 269–274.

2000 Notes and News, Hazor 2000, IEJ 50: 243–249.

2003 Notes and News, Hazor 2003, IEJ 53: 218–223.

BEN-TOR, A., and BONFIL, R. (eds.)

1997 Hazor V, Jerusalem (= Hazor V).

BIETAK, M.

1991 Egypt and Canaan in the Middle Bronze Age, BASOR 281: 27–72.

2002 Relative and Absolute Chronology of the Middle Bronze Age: Comments on the Present State of Research, 29–42, in: BIETAK, M. (ed.), *The Middle Bronze Age in the Levant: Proceedings of the International Conference on MBIIA Ceramic Material, Vienna* 24<sup>th</sup>–26<sup>th</sup> of January 2001, CChEM 3, Vienna.

BONECHI, M.

1992 Relationes amicales Syro-Palestiniennes: Mari et Hazor au XVIII<sup>e</sup> siècle av. J.C., 9–22 in: DURAND, J.M. (ed.), *Memoires de N.A.B.U.* 1, *Florilegium Marianum. Recueil d'études en l'honneur de Michel Fleury*, Paris.

Brinkman, J.A.

1977 Mesopotamian Chronology of the Historical Period, Appendix, 335–348, in: Oppenheim, A.L., Ancient Mesopotamia. Portrait of a Dead Civilization, Chicago.

BROSHI, M. and GOPHNA, R.

1986 Middle Bronze Age II Palestine: Its Settlement and Population, *BASOR* 261: 73–90.

BUNIMOVITZ, S.

1992 The Middle Bronze Age Fortifications in Pales-

tine as a Social Phenomenon, *Tel Aviv* 19: 221–234.

CARRE-GATES, M.H.

1981 Alalakh Levels VI and V: A Chronological Reassessment, Syro-Mesopotamian Studies 4/2, Malibu.

COLLON, D.

1987 First Impressions. Cylinder Seals in the Ancient Near East, London.

2000 Implications of Introducing a Low Mesopotamian Chronology, *British Association for Near Eastern Archaeology, Newsletter* 13: 6–9.

COVALLO-PARAN, K,

in prep. Tel Hazor – Areas Q (the Eastern Spur) and N. Dhorme, M.  $\label{eq:continuous}$ 

1951 *Passim*, in: Compte Rendue de la Seconde Rencontre Assyriologique Internationale, Paris.

DUNAYEVSKY, I. and KEMPINSKI, A.

1990 The Eastern Rampart of Hazor, <sup>c</sup>Atiqot 10 (Hebrew Series): 23–28, 13\*.

FINKELSTEIN, I.

1992 Middle Bronze Age 'Fortifications': A Reflection of Social Organization and Political Formation, *Tel Aviv* 19: 201–220.

FORSTNER-MÜLLER, I.

2002 Tombs and Burial Customs at Tell el-Dab<sup>c</sup>a in Area A/II at the End of the MBIIA Period (Stratum F), 163–184, in: BIETAK, M. (ed.), *The Middle Bronze Age in the Levant: Proceedings of the International Conference on MBIIA Ceramic Material, Vienna* 24<sup>th</sup>–26<sup>th</sup> of January 2001, CChEM 3, Vienna.

GASCHE, H.,

2003 La fin de la première dynastie de Babylone: une chute difficile, *Akkadica* 124: 205–220.

Gasche, H., Armstrong, J.A., Cole, S.W., Gurzadyan, V.G.,

1998 a Dating the Fall of Babylon: A Reappraisal of Second Millennium Chronology, *Mesopotamian History and Environment*, Series II Memoires 4, Ghent/Chicago.

1998 b A Correction to Dating the Fall of Babylon. A Reappraisal of Second Millennium Chronology, Akhadica 108: 1–4.

GATES, M.H.

1987 Alalakh and Chronology Again, 60–86 in: ÅSTRÖM, P. (ed.), High Middle or Low, Acts of the International Colloquium on Absolute Chronology, Held at the University of Gothenburg 20<sup>th</sup>–22<sup>nd</sup> August 1987, Part 2, Gothenburg.

2000 Kinet Höyük (Hatay, Turkey) and MB Levantine Chronology, 77–101 in: Proceedings of the International Colloquium on Ancient Near Eastern Chronology (Second Millennium B.C), Ghent 7–9 July 2000 (= Akkadica 119–120).

GAULANDI, G.

1998 Terqa Glyptic Data Highly Support a Low Chronology, N.A.B.U. (note 137): 133.

GOETZE, M.

1951 *Passim*, in: Compte Rendue de la Seconde Rencontre Assyriologique Internationale, Paris.

GURZADYAN, V.G.

2000a Astronomy and the Fall of Babylon, *Sky and Telescope* 100: 40–45.

2000b On the Astronomical Records and Babylonian Chronology, 177–186, in: Just in Time: Proceedings of the International Colloquium on Ancient Near Eastern Chronology (2<sup>nd</sup> Millennium), Ghent 7–9 July 2000 (= Akkadica 119–120), Bruxelles.

2003 The Venus Tablet and Refraction, *Akkadica* 124: 13–17.

GURZADYAN, V.G. and COLE, S.W.

1999 Ur III Eclipses Revisited, Akkadica 113: 1–5.

Hallo, W. and TADMOR, H.

1977 A Lawsuit from Hazor, IEJ 27: 1-11.

Hazor I Yadin, Y. et al. The James A. de Rothschild Expadition to Hazor. An Account of the First Season of Excavations 1955, Jerusalem 1958.

Hazor II Yadin, Y. et al. The James A. de Rothschild Expadition to Hazor. An Account of the Second Season of Excavations 1956, Jerusalem 1960.

Hazor III-IV, (Plates), YADIN, Y. et al., The James A. de Rothschild Expadition to Hazor. An Account of the Third and Fourth Seasons of Excavations 1957–1958, Jerusalem 1961.

Hazor III-IV, (Text), Ben-Tor, A., (ed.), The James A. de Rothschild Expadition to Hazor. An Account of the Third and Fourth Seasons of Excavations 1957–1958, Jerusalem 1989.

Hazor V Ben-Tor, A., and Bonfil, R. (eds.), *The James A. de Rothschild Expadition to Hazor. Account of the Fifth Season of Excavations 1968*, Jerusalem 1997.

HEINZ, M.

1992 Tel Atchana/Alalakh – Die Schichten VII–XVII, AOAT 41, Neukirchen-Vluyn.

HOROWITZ, W.

1996 The Cuneiform Tablets at Tel Hazor,  $I\!E\!J$  46: 268–269.

1997 A Combined Multiplication Table on a Prism Fragment from Hazor, *IEJ* 47: 190–197.

2000 Two Late Bronze Age Tablets from Hazor,  $I\!E\!J$  50: 16–28.

HOROWITZ, W. and OSHIMA, T.

2002 Two More Cuneiform Finds from Hazor, *IEJ* 52: 179–186

HOROWITZ, W. and SHAFFER, A.

1992a An Administrative Tablet from Hazor: A Preliminary Edition: *IEJ* 42: 21–33.

1992b A Fragment of a Letter from Hazor,  $I\!E\!J$  42:  $165{-}167$ .

HOROWITZ, W. and WASSERMAN, N.

2000 An Old Babylonian Letter from Hazor with Mention of Mari and Ekallatum, IEJ 50: 169–174.

HUBER, P.J

1982 Astronomical Dating of Babylon I and Ur III, Occasional Papers on the Near East 1:4: 107–199.

Kempinski, A.

1992 The Middle and Late Bronze Age Fortifications, 127–142, in: Kempinski, A. and Reich, R. (eds.), *The Architecture of Ancient Israel*, Jerusalem.

KOPETZKY, K.

2002 The Dipper Juglets of Tell el-Dab<sup>c</sup>a, A Typological and Chronological Approach, 227–244, in: BIETAK, M. (ed.), *The Middle Bronze Age in the Levant: Proceedings of the International Conference on MBIIA Ceramic Material, Vienna* 24<sup>th</sup>–26<sup>th</sup> of January 2001, CChEM 3, Vienna.

MAEIR, A.

1997 Tomb 1181: A Multiple-Interment Burial Cave of the Transitional Middle Bronze Age IIA-B, 295-352, in: Hazor V.

2000 The Political and Economic Status of MBII Hazor and MBII Trade: An Inter- and Intra-Regional View, *PEQ* 132: 37–58.

2002 Perspectives on the Early MBII Period in the Jordan Valley, 261–267, in: BIETAK, M. (ed.), The Middle Bronze Age in the Levant: Proceedings of the International Conference on MBIIA Ceramic Material, Vienna 24<sup>th</sup>–26<sup>th</sup> of January 2001, CChEM 3, Vienna.

Malamat, A.

1989 Mari and the Early Israelite Experience: The Schweich Lectures of the British Academy 1984, Oxford.

MATTHEWS, D.

1990 Principles of Composition in Near Eastern Glyptic of the Later Second Millennium B.C., OBO Ser. Arch. 8, Freiburg/Göttingen.

MAZAR, A.

2003 Beth Shean in the Second Millennium B.C.: From Canaanite Town to Egyptian Stronghold, 323–337 in: BIETAK, M. (ed.), The Synchronization of Civilizations in the Eastern Mediterranean in the Second Millennium B.C. II, Proceedings of the SCIEM 2000 – Euro Conference, Heindorf 2nd of May–7th of May 2001, CChEM 4, Vienna.

MICHEL, C.

2002 Nouvelles donées pour la chronologie du II<sup>e</sup> millénaire, *N.A.B.U.* (note 20): 17.

MICHEL C. and ROCHER, P.

1997–2000 La chronologie du IIe millénaire revue à l'ombre d'une éclipse de soleil, *JEOL* 35/36: 111–126.

Neugebauer, O.

1929 Zur Frage der astronomischen Fixierung der babylonischen Chronologie, *OLZ* 32 : 913–921.

1951 *Passim;* in: Compte Rendue de la Seconde Rencontre Assyriologique Internationale, Paris.

OATES, D.

1966 The Excavations at Tell al-Rimah, Iraq 28: 123-125.

OREN, E. and YEKUTIELI, Y.

1996 The Middle Bronze Age Defense System at Tel Haror, *Eretz-Israel* 25: 15–26, 87\* (Hebrew, with English summary).

PARROT, M.

1951 *Passim*, in: Compte Rendue de la Seconde Rencontre Assyriologique Internationale, Paris.

Reade, J.

2001 Assyrian King-Lists, the Royal Tombs of Ur, and Indus Origins, *Journal of Near Eastern Studies* 60: 1–29

Redford, D.

1992 Egypt, Canaan and Israel in Ancient Times, Princeton.

SMITH, S.

1940 Alalakh and Chronology, London.

1951 67–70, in: Compte Rendue de la Seconde Rencontre Assyriologique Internationale, Paris,

VON SODEN, M.

1951 Passim, in: Compte Rendue de la Seconde Rencontre Assyriologique Internationale, Paris.

STIEHLER-ALEGRIA, G.

1999 Ein kassitisches Rollsiegel aus der Zeit des Abiešuh: Bemerkungen zur kurzen Chronologie und ihre Bedeutung für die protokassitische Glyptik, N.A.B.U. (note 1): 1–2.

TADMOR, H.

1970 The Chronology of the Ancient Near East in the Second Millennium B.C.E., 63–101, in: B. MAZAR (ed.), World History of the Jewish People, vol. II, Tel Aviv.

TARNET, M.

2000 Prolegomena, 1–6, in: Just in Time. Proceedings of the International Colloquium on Ancient Near Eastern Chronology (Second Millennium B.C), Ghent 7–9 July 2000 (= Akkadica119–120).

USSISHKIN, D.

1992 Notes on the Middle Bronze Age Fortifications of Hazor, *Tel Aviv* 19: 274–281.

WARBURTON, D.

2000 Synchronizing the Chronology of Bronze Age Western Asia with Egypt, 33–76, in: Just in Time. Proceedings of the International Colloquium on Ancient Near Eastern Chronology (Second Millennium B.C), Ghent 7–9 July 2000 (= Akkadica119–120).

WEINSTEIN, J.M.

1992 The Chronology of Palestine in the Early Second Millennium B.C.E., BASOR 288: 27–46.

YADIN, Y.

1972 *Hazor: The Head of All those Kingdoms*, The Schweich Lectures of the British Academy, London.

1976 "Hazor", 531–542 in: Avi-Yonah, M. (ed.), Encyclopedia of Archaeological Excavations in the Holy Land, vol. II, Jerusalem.