

REVELATIONS FROM MEGIDDO

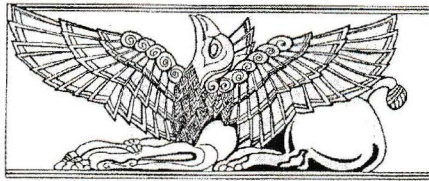
The Newsletter of The Megiddo Expedition

Mysterious Masons' Marks at Megiddo and Samaria

Gottlieb Schumacher, the first excavator of Megiddo in 1902-04, discovered 14 strange marks incised on limestone ashlar blocks. Some of the inscribed stones were part of the *Palast* – more familiar today as the Iron II gate of the Southern Palace (1723) courtyard, which was later excavated by the University of Chicago team. Other inscribed ashlars were interspersed along an eastern wall of this courtyard. Schumacher identified these incisions as masons' marks.

A few years later, in 1908, Schumacher was appointed acting director of the Harvard Expedition to Samaria. He immediately recognized four similar marks carved on the limestone ashlars there, but they could not be associated with any particular building. Six additional inscribed ashlars were found at Samaria by G.E. Reisner, who directed the Expedition in 1909-1910.

The Oriental Institute of the University of Chicago team, which excavated at Megiddo between 1925-1939, added 36 inscribed ashlars to the list. Although many of them were in secondary use in Strata IV and III, 18 marks were found *in situ* in the foundation of Palace 1723 of Stratum VA-IVB. According to the conventional chronology, this palace is



attributed, for the Iron II strata, to the 10th century and associated with King Solomon. According to the low chronology system, it dates to the early 9th century and is associated with the

Megiddo and Samaria. Because many of the marks are in secondary use, it has only been possible to ascertain where they originated by assessing the findspot of each mark. I can now state with certainty that the marks first appear in just two buildings – Palace 1723 of Stratum VA-IVB at Megiddo and the Palace of Building Period I at Samaria. This observation has far

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Masons' marks on ashlars from the foundation of Palace 1723 at Megiddo

Omride dynasty of the Northern Kingdom.

The Joint Expedition resumed excavation at Samaria between the years 1931-1933. They revealed another ten inscribed ashlars.

Yigael Yadin of the Hebrew University conducted investigations at Megiddo in 1965. The 'gallery' or postern, associated with the famous water system, was partially built of ashlar masonry, and one ashlar bore a mason's mark.

I recognized two more marks in 1996 while working at Tel Megiddo as a member of the current Expedition.

All in all, over 70 ashlars, inscribed with some 20 basic signs, have been documented at

Megiddo 2002

Due to the current situation in the Middle East, the expedition directors have decided to postpone and curtail activities at Megiddo this summer. The international component of the summer 2002 dig has been cancelled. Yet, the department of Archaeology and Ancient Near Eastern Civilization of Tel Aviv University will conduct its educational dig at Megiddo for four weeks in July, assisted by a few National Parks Authority workers. The dig will concentrate on areas K and M.

We plan to be back in the field at full steam next summer, starting June 8, 2003. Please follow our two web sites in the coming months.

Registration: www.digmegiddo.com
Tel Aviv University:
www.tau.ac.il/~archpubs/index.html

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auspices of Tel State University, George Washington, and Vanderbilt (Germany).



Megiddo Expedition Directors: Israel Finkelstein, Baruch Halpern, and David Ussishkin. Excavation Directors: Israel Finkelstein and David Ussishkin. Head of Academic Program and Consortium Coordinator: Baruch Halpern.

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reaching implications for the debate on the chronology of the Iron II strata in Israel. Since it is universally agreed that the palace at Samaria was built by the Omrides, it is reasonable to assume that the Megiddo palace was constructed at the same time.



Masons' marks on ashlar at Samaria, from the Harvard Expedition.

The term 'masons' mark' was coined in historical times – masons belonging to an 'atelier' would travel around Romanesque Burgundy inscribing their personal marks on the masonry as a testament to their work. The earliest known examples of masons' marks occur in Middle Minoan Crete, where it has been proposed that they served as religious or magical signs.

The Israelite marks bear a slight resemblance to the Cretan ones. In March 2001, on an unseasonably hot day, I invited an expert on the Cretan marks—Dr. Louise Hitchcock of the University of California at Los Angeles—to Megiddo to view the masons' marks on site. She confirmed that although in some aspects they resembled marks found in the Minoan Palaces, they are distinct. As we inspected the exposed ashlar masonry, another three marks materialized under her practiced eye! So when you next walk over the tel, remember to scrutinize the ashlar masonry for a trace of any hitherto undetected marks.

What engendered the use of these marks at Megiddo and Samaria? Were they some sort of cipher used by Israelite masons? Perhaps they used an alphabetical system, and if so, which

alphabet? Why do they only appear at these two sites, and (originally) in only two palatial buildings? Were the masons local Israelite laborers or were they itinerant craftsmen employed, willingly or unwillingly, at these two royal cities?

Norma Franklin

Excavating Biblical History

The basic fallacy of "Biblical Archaeology" has been to link text and archaeology on the level of the artifact, be it in the guise of "Israelite" four-room houses or collared-rim jars, "Solomonic" city-gates or houses of "St. Peter". The interaction of text and archaeology should, however, be possible on the level of history, as it refers to changes of human society over time. This should lead to significant profiles of sequences both in the archaeological and the textual record.

What did we excavate in the season of 2000 in Area H? At the lowest level, we reached an elaborate semi-monumental building added to a pre-existing, small-scale domestic occupation (Phase H6b). The monumental building was never finished; it may have housed some squatters in the period of its abandonment (Phase H6a). Squatter occupation continued in the ruins (Phase H5d), followed by the construction of city Wall 325 (Phase

H5c). It is obvious from the inclination of the Area H surfaces that Wall 325 represents the first city wall of Iron Age Megiddo. Throughout the different phases of occupation of Level H5, Area H is devoid of architecture; it contains a sequence of more than 20 floor levels with abundant traces of open-air domestic activity. There was domestic architecture immediately to the south of Area H (unexcavated), for the occupation of Phase H5a was terminated by an earthquake, which cracked the city wall and strewn parts of walls of these southern buildings all over Area H. Our Phases H6b-a should be assigned to the University of Chicago's Stratum V, while our Phases H5d-a (plus Levels H4 and H3 excavated in past seasons) cover the time-span of the University of Chicago's Stratum IVA.

How to decipher all this historically? The commencement of elaborate construction in Level H6b testifies to the prosperity at the end of the Omride dynasty as its abandonment may reflect the consequences of Jehu's revolt. The destruction of Phase H6a and the subsequent squatter-occupation (H5d) illustrate the fate of Israel under Aramaean domination (II Kgs 10:32-33; 13:3, 22). The construction of the city wall in Level H5c indicates the beginning of Israel's recovery under Joash and Jeroboam II (II Kgs 13:24f; 14:25-28). City Wall 325 was the wall of the city conquered by Tiglat-pileser III in 733 BCE. The destruction of Phase H5a should probably be attributed to the earthquake in the time of Jeroboam II, mentioned in Amos 1:1 and archaeologically also attested at Hazor and Tell Deir 'Alla in the Jordan Valley, where it toppled and buried the stele with the famous Balaam-text.

Synchronizing the stratigraphy of Area H with the biblical record is perfectly possible within the framework of the "Low Chronology". According to the traditional chronology, Phase H6b (= University of Chicago's VA) should reflect the time of Solomon. The subsequent decline would then be due to the demise of the "United Monarchy" and the civil wars in Israel between Jeroboam I and Omri. It would have been Omri or Ahab who built city Wall 325. But then, the earthquake of Jeroboam II's time would not have left any trace in the occupational deposits, whereas the earthquake in our Phase H5a escaped the attention of the ancient texts.

Ernst Axel Knauf

Santorini Ashes at Megiddo?

Project "Thera Ashes" is the volcanologic component of the Austrian Special Research program "Synchronization of Civilizations in the Eastern Mediterranean in the Second Millennium B.C." The aim of this project is to use the eruption products of the Thera volcano (Santorini, an island in the Aegean Sea north of Crete) in the second millennium BCE to establish a datum-line in the stratigraphy of sites in the Eastern Mediterranean region. During this strong explosive event, a large volume of magma erupted within a few days. The majority of the material consisted of tephra (volcanic ash) with a volume estimated from 16 to 35 km³. The eruption column reached a height of about 35 km. The fine particles ("ashes") were transported over large distances and then deposited on the ground. In ancient sites these fine eruption products can serve as a time marker. A similar situation can be postulated for pumice (sponge-like volcanic material) that was collected from the sea shore and widely used in ancient times as an abrasive. Needless to say, these pumice stones were often reused and therefore they can serve to establish a chronological datum only in their first appearance. In both cases it is necessary to have a method for reliable identification of the volcanic products as related to the "Minoan eruption" of Thera.

Instrumental neutron activation analysis (INAA) is used to identify eruption products by their element distribution patterns – the "chemical fingerprint." This analysis can distinguish chemically between the Thera materials and similar eruption products of other sources, such as the Aegean islands of Kos and Milos. Analysis of stratified pumice lumps from excavations at Tell-el-Dab'a in the Nile Delta showed that long storage under wet conditions does not interfere with elemental classification.

The analysis of pumice samples is carried out after conventional preparation. However, in the search for

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the tephra layer in distant regions, where the thickness is far beyond visibility and diluting effects are obvious, special techniques must be used. Polarization microscopy is the best method for identifying volcanic particles in soil samples. In order to increase the efficiency of this work, sorting of concentrated material and purification procedures are performed. A technique to separate a pure fraction has recently been developed. It allows an analytical treatment similar to that used for pumice.

In July 2000, I visited Megiddo and other important sites in Israel to search for possible deposits of Minoan tephra. On the advice of the Directors and with the assistance of Norma Franklin, soil samples were taken from the most promising Middle Bronze-Late Bronze levels of Area F. This location is also suitable from the geological point of view, as it is situated at the foot of the tel where wind and rain could have enriched the volcanic dust at the time of deposition or shortly thereafter.

Ten samples were taken. They were investigated by using a polarization microscope with magnifications of 100-1000X. Volcanic particles consist of silicic glass and can be identified by their characteristic appearance. No such particles have been identified in the Megiddo samples. This agrees with unpublished results obtained from Dead Sea drilling cores.

This does not come as a total surprise, as investigations in other areas of the eastern Mediterranean basin show that the Thera ashes were driven by wind primarily to the northeast. The future strategy in this field of research for sites in the eastern Mediterranean, including Israel, is therefore the identification of first appearances of Thera pumice, which was transported by sea. This will hopefully be done in the near future

Max Bichler

Megiddo in Cyberspace

•You can send your comments, ideas, Megiddo news, request for publication information, etc., to the Editor at:

archpubs@post.tau.ac.il

•See "Megiddo" at the web site of the Institute of Archaeology of Tel Aviv University (with *Revelations* in color):

www.tau.ac.il/~archpubs/index.html

Armageddon Quakes

Tel Megiddo, one of the most important mounds in Israel, lies on the Carmel Fault Zone, an active branch of the Dead Sea Fault system. Southwest of the fault, the Carmel Ridge is uplifted, whereas northeast of it the Jezreel Valley subsides. A left-lateral component of movement (the valley is moving southeastward and the ridge northwestward) is also inferred from analyses of earthquakes and offset stream channels. Recent activity of the fault is evident in the steepness of the cliffs of the Carmel Ridge, displaced stream channels, and frequent weak earthquakes. A few earthquakes were even felt in nearby settlements and the city of Haifa within the last few decades. The characteristics of the Carmel Fault Zone are typical of a fault that is capable of producing strong destructive earthquakes.

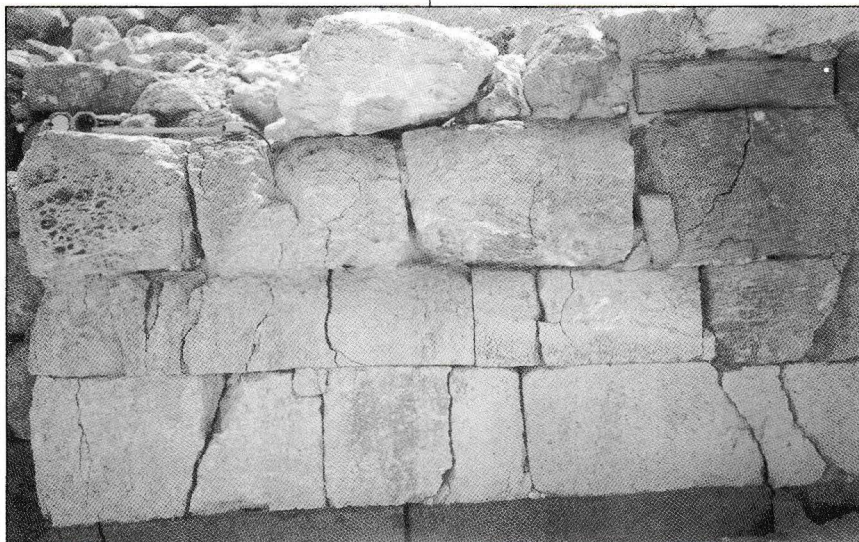
The densely populated Haifa Bay area might be in danger, not only from violent earthquake shaking, but also from secondary ecological catastrophe from the concentration of petrochemical industry in the region. Rapid growth of population and the ensuing development of the area adjacent to the fault call for reliable earthquake hazard assessment and mitigation of possible damage. In order to assess the hazard we must obtain knowledge on the behaviour of the fault in general and on the occurrence of strong earthquakes in the past in particular.

Important knowledge can be gleaned from earthquake damage in archaeological sites. Toward this end, we decided to examine damage to structures at Megiddo. The importance of Tel Megiddo comes from its location a few tens of meters from the trace of the Carmel Fault, and the abundance of structures representing well-studied history of several millennia.

The major difficulty in such an archaeo-seismic study is the identification of the cause of the damage. Earthquake-related damage often resembles damage caused by man-made destruction, or slow deterioration because of old age. Where damage is widespread and contemporaneous it is likely to indicate an earthquake, but even in that case we

are faced with uncertainty regarding its source fault.

In the summer of 2000 we carried out fieldwork at Megiddo, with the aim of tracing evidence of ancient earthquakes. We were looking for structural damage such as tilted walls, cracks and fractures in stones etc. We located about a dozen spots with possible evidence for tectonic activity. Following are three examples.



Extension cracks in the six-chambered Iron II gate, probably caused by an earthquake

Extension cracks occur in the six-chambered, Iron II gate complex. Rows of ashlar in the middle of the walls (enclosed between other rows) are fractured. Horizontal sliding of the fragments occurred everywhere in the same direction, nearly parallel to the face of the wall. The damage was probably caused by earthquake-related horizontal shaking. The late 8th century Stratum III gate built on top of the six-chambered gate is not damaged. Therefore, this event may be linked to the biblical reference to a major earthquake in the time of Jeroboam II, ca. 760 BCE.

In Area L, the stone and plaster floors of the Stratum IVA "stables" are level, while the walls and fills of Stratum VA-IVB Palace 6000 are tilted. This indicates a deformation after the construction of the palace, but before the building of the "stables", a deformation which may be linked to the 8th century event mentioned above.

The broad walls of the monumental temple of Level J4 in Area J (Early Bronze I, late fourth millennium BCE) are fractured in several places, parallel to their faces. The eastern part of the building is tilted eastward. Both the fractures and the tilting may be associated with a strong earthquake. In the Early Bronze II, Megiddo was not

occupied, and the stones of the Early Bronze III temple built on top of the Early Bronze I monumental building are not fractured. Hence the earthquake that damaged the Level J4 building must have taken place in the late Early Bronze I. In fact, it may have been the reason for the abandonment of the temple and the subsequent occupational gap at the site.

These interpretations are strongly

supported by the conspicuous uniformity observed in the inferred direction of shaking. A large group of structures moved along an E-W axis while another group moved N-S. The current state of knowledge does not allow us to assign a specific source fault in general (an extremely important issue in terms of seismic hazard), or to understand the activity characteristics of the Carmel Fault in particular. We believe that a more complete documentation of the deformations at Megiddo, combined with data from other contemporary sites, can yield reliable information on the activity and danger of the Carmel Fault.

**Shmulik Marco and
Amotz Agnon**

Megiddo III:

The 1992-1996 Seasons.

This two-volume report (631 pages) can still be ordered from the Publications Dept., Sonia and Marco Nadler Institute of Archaeology, Tel Aviv University, P.O. Box 39040, Tel Aviv 69978, Israel. You can also order through the web site at: www.tau.ac.il/~archpubs/index/html

The News Corner

Jennifer Peersmann is getting married in May, with a ceremony at Tel Megiddo!

Philippe Guillaume received his Ph.D. from Geneva University with a dissertation on the book of Judges (to be published by Sheffield): *Saviors, Judges, Rogues and Losers*.

Ann Killebrew has taken a position as assistant professor of archaeology at Penn State University.

Baruch Halpern's newest book is out: *David's Secret Demons*. For this book, B received the Frank Moore Cross award from ASOR.

Yuval Gadot is the proud father of twins, a boy and a girl.

Congratulations to Guy Avivi on his recent marriage.

Denise Gold is now the proud grandmother of twins, a boy and a girl.

Congratulations to David Ussishkin on the birth of his granddaughter, Gefen.

Farewell to Michele Burns, editor of *Revelations* and *Tel Aviv*, who will finish her degree in the USA.

Our condolences to David Ilan on the loss of his wife, Ornit, who lost her battle with cancer.

Condolences also to Denise Gold on the loss of her husband, Bernard.

Megiddo in the World

A special Megiddo Exhibition is on display in the Hamburg Museum of Archaeology and History at Harburg, Germany. David Ussishkin attended the opening ceremony and brought greetings from the Megiddo Expedition. A book and catalog of the exhibition, *Megiddo-Tell el-Mutesellim-Armageddon: Biblische Stadt zwischen Krieg und Frieden* (edited by Ralf Busch) was published for this occasion.

Israel Finkelstein lectured on Megiddo and the United Monarchy at the British Museum in November. The lecture was chaired by Lord Allenby of Megiddo.

A special Megiddo session entitled "Ten Years of Renewed Excavations at Megiddo" is scheduled for the Annual Meeting of ASOR in Toronto 2002.

Another special Megiddo session is scheduled for the SBL Annual Meeting in Toronto. The session, entitled "Mounts on the Mount", will present new evidence on the Megiddo "stables".