

# PAPER ABSTRACTS

## Plenary Address

### **Eric H. Cline (The George Washington University), “Dirt, Digging, Dreams, and Drama: Why Presenting Proper Archaeology to the Public is Crucial for the Future of Our Field”**

We seem to have forgotten that previous generations of Near Eastern archaeologists knew full well the need to bring their work before the eyes of the general public; think especially of V. Gordon Childe, Sir Leonard Woolley, Gertrude Bell, James Henry Breasted, Yigael Yadin, Dame Kathleen Kenyon, and a whole host of others who lectured widely and wrote prolifically. Breasted even created a movie on the exploits of the Oriental Institute, which debuted at Carnegie Hall and then played around the country in the 1930s. The public was hungry for accurate information back then and is still hungry for it today. And yet, with a few exceptions, we have lost sight of this, sacrificed to the goal of achieving tenure and other perceived institutional norms, and have left it to others to tell our stories for us, not always to our satisfaction. I believe that it is time for us all—not just a few, but as many as possible—to once again begin telling our own stories about our findings and presenting our archaeological work in ways that make it relevant, interesting, and engaging to a broader audience. We need to deliver our findings and our thoughts about the ancient world in a way that will not only attract but excite our audiences. Our livelihoods, and the future of the field, depend upon it, for this is true not only for our lectures and writings for the general public but also in our classrooms. If we are unable to successfully engage our own students, and to show them that good research goes hand in hand with good teaching, lecturing, and writing, with each informing and improving the others, we will fail to cultivate the next generation of archaeologists.

### **1A. Transitions, Urbanism, and Collapse in the Bronze Age: Presentations in Honor of Suzanne Richard**

CHAIRS: William G. Dever (University of Arizona) and Jesse Long (Lubbock Christian University)

### **Joe D. Seger (Mississippi State University), “The Early Bronze Age in the Southern Levant: A View from Tell Halif”**

Beginning in the 1970s, the Lahav Research Project (LRP) conducted extensive research at and in the environs of Tell Halif, near Kibbutz Lahav in southern Israel. Excavations on the tell and on the adjacent eastern terrace exposed well-stratified evidence of Late Chalcolithic to EB I and subsequent EB III occupations.

The Halif Terrace remains included four well-defined strata (XIX–XVI) and 13 contiguous phases of Chalcolithic and EB I settlement. These provide clear evidence of association with other regional emporia in a trading network with Pre- and Early Dynastic Egyptians.

After a hiatus during EB II, when regional occupations migrated to the major centers at Arad and Yarmut, Halif recovered in the EB III, becoming a large, well-fortified city flourishing along with regional sites such as Tell el-Hesi and Yarmut. This first EB III settlement (EB IIIA, Stratum XV) suffered massive destruction. Nonetheless, occupation at Halif endured through three further stages of development (Strata XIV–XII). These were unfortified, open enclaves sustained by local agriculture and a still-thriving flint knapping industry. Stratum XII occupation ended in the 23rd century B.C.E., perhaps at the hand of General Uni in his campaigns during the Egyptian VIth Dynasty. Halif's progressive decline is paradigmatic of the ruralization of late EB III cultures in southern Palestine as contacts with Egypt flagged, and local subsistence became increasingly untenable.

**Stanley Klassen (University of Toronto) and Timothy P. Harrison (University of Toronto), "The Madaba Settlement Cluster and the Nature of Early Bronze Age Urbanism in the Central Highlands of Jordan"**

Numerous studies have attempted to define the evolution and nature of Early Bronze Age urbanism in the southern Levant, ranging from cultural-historical and linear evolutionary approaches to more recent formulations that have invoked concepts of heterarchy and corporate village identity. Site-specific case studies, meanwhile, have emphasized their "individual histories," highlighting the uniqueness of their urban development, evident in town planning, potential "palatial" buildings, and the inference of centralized craft production and the distribution of goods, or lack thereof. While pan-Early Bronze Age models of hierarchical systems based on scale or size are still advocated by some, an increasing number of scholars now argue that the rise and decline of settlement in the southern Levant was based on rural rather than urban development, demonstrating that the level of integration of cities, towns, and rural communities is a better indicator of the level of complexity and "urbanization" than scale or size. The Madaba settlement cluster, situated in the highlands of central Jordan, offers a unique opportunity to test integration at the regional level. This paper will present the results of a holistic analysis of Early Bronze Age pottery from sites within the Madaba settlement cluster and will emphasize the distributed organizational structure of this regional community, as reflected in this craft industry.

**Steve Falconer (University of North Carolina at Charlotte) and Pat Fall (University of North Carolina at Charlotte), "EB IV Settlement, Chronology, and Society along the Jordan Rift"**

Bayesian modeling of calibrated  $^{14}\text{C}$  ages from Khirbat Iskandar, Bab edh-Dhra', and Tell Abu en-Ni'aj bolsters an emerging high chronology for the southern Levantine Early Bronze Age. The work of Suzanne Richard, especially through the excavation of Khirbat Iskandar, highlights the importance of sedentary settlements amid the mobile pastoralism normally emphasized for EB IV society. Comparative analysis of radiocarbon dates from Khirbat Iskandar and Bab edh-Dhra' permits reexamination of their stratigraphic and chronological correlations. Integration of these results with a Bayesian model of  $^{14}\text{C}$  ages from Tell Abu en-Ni'aj provides a coordinated overview of chronological relationships among these important sedentary communities and through the full course of a newly lengthened EB IV. Jointly, the temporal insights from these settlements contribute to a

potential uncoupling of EB IV from the Egyptian First Intermediate period, both chronologically and interpretively, and a revised orientation toward non-urban settlement as a hallmark of Early Bronze Age society.

**Andrea Polcaro (University of Perugia) and Marta D'Andrea (Sapienza Università di Roma), “Urbanism, Collapse, and Transitions: Taking the View from Transjordan in the Early Bronze Age”**

Early urbanism and “rural complexity” have been crucial topics in Suzanne Richard’s research on the southern Levantine Early Bronze Age. Therefore, reconnecting to this line of research, Jabal al-Mutawwaq, in the Middle Wadi az-Zarqa Valley, and Khirbat Iskandar, along the Wadi al-Wala, will be used as key sites to reanalyze, respectively, EB I–II and EB III–IV.

First of all, the settlement sites and the necropolis at Jabal al-Mutawwaq will be presented to review the state-of-the-art of EB I, considered not just as a transitional period but, rather, as a formative stage in the developmental trajectory of the southern Levant toward urbanization. In fact, recent discoveries at Jebel al-Mutawwaq suggest that the site represents a case study to re-investigate different stages of transformation and evolution of the settlement model from villages in EB I to walled settlements in EB II–II. Subsequently, Khirbat Iskandar will be used as a case study to reappraise the question of early urbanization in Jordan during EB II–III, as well as of how it came to an end and transitioned to the non-urban EB IV period. The question of continuity and discontinuity between EB III and IV and between EB IV and the Middle Bronze Age will be discussed, too, considering archaeological correlates and chronological issues.

In this way, the paper aims to reconsider Early Bronze Age urbanism in Transjordan taking a *long durée* perspective from the mid-fourth to the end of the third millennia B.C.E.

**Shlomit Bechar (University of Haifa), “The Architectural Fabric of Hazor’s Lower City in the Middle and Late Bronze Ages”**

The transition between the Middle and Late Bronze Age is the first transition in archaeological periods which is based on historical events. The traditional date is attributed to the expulsion of the Hyksos from Egypt and the beginning of the New Kingdom (approximately the mid-16th century B.C.E.). Recently, the date of this transition has been challenged, with the suggestion that the date should be later and ascribed to the conquest of Canaan by Thutmose III (approximately the first half of the 15th century B.C.E.).

This paper will present the changes in the built environment of the lower city of Hazor during the Middle and Late Bronze Ages. It will show that major changes occurred between Stratum II, dated to LB I, and Stratum IB, dated to LB IIA. During the Middle Bronze Age and LB I, most of the excavated areas in the lower city comprised public and monumental buildings, whereas in LB IIA the city was mainly occupied by domestic structures. The historical and social implications of these observations will be discussed as well as the question of the identity of the inhabitants of the lower city of Hazor.

## **1B. Yerushalayim, Al Quds, Jerusalem: Recent Developments and Dilemmas in Archaeological and Historical Studies from the Bronze Age to Medieval Periods I**

CHAIR: Yuval Gadot (Tel Aviv University)

### **Joe Uziel (Israel Antiquities Authority), “Rethinking Identity in the Iron Age Southern Levant: A View from Jerusalem”**

The Iron Age in the southern Levant is often thought of as the particular instance in which the cultural and political fluidity so commonly discussed in earlier periods is largely replaced by well-defined entities that occupy particular geographic regions, each developing its own particular paradigm of political structure, cultic practice, material culture, and more. The influence of the biblical text on such a framework has no doubt largely contributed to this. However, more recent studies on unique cultural entities—particularly recent studies on the Philistines—have shown that, despite certain political affiliations and cultural affinities, both material culture and culture on a whole were less rigid, with the flow of ideas and commodities not adhering to political borders. Whereas this has somewhat influenced the understanding of borderlands, such as sites in the western Shephelah, more inland Judah has not been reconsidered in light of its possible interactions with other entities or the ways in which these interactions may have formed personal, communal, or political identities. The following presentation will examine aspects of the material culture exposed in Jerusalem, in order to further our understanding of the ways in which the Jerusalemite viewed his own identity, and the manner in which these identities influenced the political and economic sphere of Jerusalem in the ninth–early sixth centuries B.C.E.

### **Lidar Sapir-Hen (Tel Aviv University), “Pigs in Iron Age Jerusalem”**

Recent studies on pork consumption during the Iron Age have demonstrated its avoidance in Judah during this period. Still, scarce pig remains have been recorded in Iron Age II excavations of Jerusalem and neighboring sites, suggesting some pigs were present. Recently, in excavations along the eastern slopes of the City of David, remains of an articulated pig skeleton were discovered in an Iron Age IIB–C building, located beyond the alleged city walls. The skeleton was found in a room where several smashed vessels were uncovered, suggesting a possible violent destruction event. Subsequent to this event, the rooms were used continuously until the end of the Iron Age. Preliminary analysis shows that the pig was very young and was probably not yet consumed. The discovery of an articulated pig in an Iron Age building in the capital of Judah is intriguing, and will be discussed in the context of pork consumption and avoidance in the region. Further study of the entire faunal assemblage from this room enables the exploration of the pig in the context of daily consumption. With a comparison to other published faunal assemblages from Iron Age Jerusalem, this study also sheds light on issues of urbanization and socio-economic processes.

### **Efrat Bocher (Tel Aviv University), “New Insights on the History of Jerusalem in Light of the Analysis and Publication of the Reich-Shukron Excavations”**

The excavations conducted in the City of David from 1995–2010 by Ronny Reich and Eli Shukron have advanced our knowledge of the history of Jerusalem—or more particularly the southeastern hill—particularly in the second and first millennia B.C.E. While numerous preliminary articles on their results have appeared, the lack of final publication of the excavations has limited our ability to fully integrate their results into the archaeological reconstruction of ancient Jerusalem. Two years ago, the full analysis and publication of the excavations were undertaken under the auspices of the Center for the Study of Ancient Jerusalem. With the completion of the first excavation report, including data from several areas (A, J, F, H, D, and L), new data are now available for Jerusalem from the Middle Bronze Age to the Medieval period. The following paper will present some important highlights of these data, which had not been published until now, and what they teach us about Jerusalem’s past. Special attention will be given to the fortifications and the water system of the Bronze Age, the fortifications and expansion of the hill during the Iron Age, and the settlement of Jerusalem in the Persian period.

**Yiftah Shalev (Israel Antiquities Authority) and Yuval Gadot (Tel Aviv University), “Looking for the Missing Link—New Evidence for Persian and Hellenistic Jerusalem and Its Implications”**

Although it has been excavated for over 150 years, the fate of Jerusalem between its destruction by the Babylonians in 586 B.C.E. until the erection of the first fortification wall by the late Hasmonean kings is still highly disputed. Whereas written sources describe Jerusalem as a fortified city with a temple standing at its heart, at least from the days of Nehemiah, years of field research have revealed very little archaeological information regarding Persian Jerusalem, and the Ptolemaic and Seleucid town is even less explored.

Excavations conducted in recent years revealed new and intriguing finds dated to the Persian and Early Hellenistic periods (fifth–second centuries B.C.E.). Three stratigraphic phases, dating between the Late Iron Age and the Early Hellenistic periods, were recognized. Remains from these phases includes several different structures, some of public and some of domestic nature.

Based on these finds, we wish to claim that the western slope of the City of David ridge was settled continuously from the latter part of the Iron Age onward. Furthermore, in periods of urban expansion—the late Iron Age and the Hellenistic period—it was utilized for the construction of public buildings. This marks an important transition in the concentration of the city’s layout from the eastern slope, close to the spring, toward the western one. This transition reflects, in our opinion, a major change in the importance of the spring in the city-built environment.

**Yoav Vaknin (Tel Aviv University), Ron Shaar (The Hebrew University of Jerusalem), Yuval Gadot (Tel Aviv University), Yiftah Shalev (Israel Antiquities Authority), Oded Lipschits (Tel Aviv University), and Erez Ben-Yosef (Tel Aviv University), “Jerusalem’s Geomagnetic Field in August, 586 B.C.E.: An Anchor for Archaeomagnetic Dating and a Tool for Understanding Site Formation Processes”**  
Measurements of magnetic properties of archaeological materials can provide insights on

issues related to chronology as well as site formation processes. Here we demonstrate how our archaeomagnetic study yielded insights on the destruction and post-depositional processes of a monumental structure that was heavily burned during the Babylonian conquest of Jerusalem in August 586 B.C.E.

This structure, exposed recently in the Givati Parking Lot excavations, included a thick floor that broke into tens of separate segments. Much ash and large charred wooden beams were found, suggesting the entire building was destroyed by fire.

By studying the direction of the magnetic field as recorded in the tilted floor fragments, we were able to show that the floor had been exposed to extremely high temperatures and cooled only after it broke. The results suggest that the floor was originally of a second story, an observation that adds to the monumentality of the structure. During the fire the wooden beams failed, causing the floor built upon them to collapse. Furthermore, using this method we were able to identify floor segments that moved after cooling, due to secondary use or post-depositional processes.

Our study also resulted in a reconstruction of the geomagnetic field's direction and intensity at the time of Jerusalem's destruction. The precise dating of this event makes the new data an important anchor in the reference dataset for archaeomagnetic dating in the Levant, one that can also be used for validating synchronizations with other sites presumably destroyed at the same time.

**Abra Spiciarich (Tel Aviv University), and Lidar Sapir-Hen (Tel Aviv University), "The Acra and the Slaughterhouse: Faunal Remains from Hellenistic Jerusalem"**  
Examination of the animal remains from the glaciis fills of the Seleucid citadel (Acra) allows for a unique glance into the construction techniques of Hellenistic Jerusalem (ca. 175–129 B.C.E.), as well as for contending with questions of the fills' origin, urban provisioning, and Hellenization. The location of the citadel, in Area M4 of the Givati Parking Lot excavations, sits right in between the cultic and residential sectors of the city, suggesting the refuse used for construction could have derived from a number of socially charged contexts. While the refuse contained within the fills depicts a subsistence strategy geared towards meat production and secondary products, the refuse collected likely derives from intense butchery practices. In fact, this assemblage has the highest frequency of butchery ever recorded in the history of Jerusalem. The standardization and style of the butchery, along with the demographic profile of the assemblage in comparison to a neighboring one, lead to the assessment that the material must have derived, in part, from a slaughterhouse. The aim of this paper is to discuss aspects of the formation processes within the sub-phases of the citadel's glaciis, as well as the provisioning of urban Jerusalem with an assortment of goods such as choice meat cuts, leathers, *sofars*, and additional secondary products, in light of Hellenization.

## **1C. Archaeology and History of Feasting and Foodways**

CHAIRS: Elizabeth Arnold (Grand Valley State University), Margaret Cohen (W. F. Albright Institute of Archaeological Research), and Deirdre Fulton (Baylor University)

**Tina L. Greenfield (University of Saskatchewan), “Religion and Ritual: The Cult of Sacrifice in Ancient Mesopotamia”**

The Early Dynastic Period (ca. 2950–2350 B.C.E.) in southern Mesopotamia is when city-states, with large institutions and text archives, appear and spread across the landscape. The region’s ancient textual archives are rich in economic documents that record elite diets and animal exploitation. This is also a time of organized religion in which both the elite and lower stratum sectors participated in elaborate festivals dedicated to the patron god of their cities. Textual sources primarily focus on the elite members of society and their ritual behavior (e.g., animal sacrifice) while largely ignoring the larger lower stratum population.

Recent excavations at Girsu/Tello has provided data on the religious activities performed at the ancient site. The city was an urban religious center where yearly religious festivals occurred that saw individuals from across the hinterland travel to the city to participate and pay tribute to the patron gods. A small portion of a *favissa* was excavated in 2015 and yielded a tremendous number of ritual artifacts, including a significant amount of faunal remains. The *favissa*, located along the Sacred Way to the temple, was the location where these sacrificial activities took place prior to the entrance to the city and temple.

Questions about religious and socio-economic behaviors associated with animals and cultic spaces can be further understood from the analysis (traditional and isotopic studies) of these animal remains and will help to further our knowledge of how these citizens organized their sacred spaces and religious festivals, in order to satisfy the ever-demanding needs of the gods.

**Jacob Damm (University of California, Los Angeles), “Conflict and Consumption: Foodways and Identity Negotiation in the New Kingdom Southern Levant”**

This paper explores cultural contact between Egyptian and Levantine peoples during the New Kingdom’s imperial occupation of the southern Levant (ca. 1550–1125 B.C.E.). Rather than focusing on specific objects as indices of identity negotiation, I explore a constellation of foodways-based practices to identify the maintenance and negotiation of identity in the face of persistent, oftentimes asymmetrical interaction. Food offers unique insight into identity, with every aspect—production, consumption, display, storage, and disposal—bearing some cultural baggage. However, foodways are also subject to the vagaries of fashion, offering malleable tools for status displays. These aspects, along with the ubiquity of foodways evidence in the archaeological record, mark it as a profitable means for exploring ancient cultural identity. Drawing on a broad array of evidence that includes paleobotanical, zooarchaeological, and ceramic data, this paper proposes a new model for the systematic exploration of Egypto-Levantine cultural interaction. By highlighting practices rather than individual objects, it is possible to indicate instances of cultural conservatism and dynamic change, as well as selective modification to adapt to the circumstances in the interaction zone. What emerges is a picture characterized by messiness, with both Egyptian and Levantine actors being forced to constantly revise

their expression of identity in response to the exigencies of an unstable imperial periphery. While there was always some effort to maintain a degree of distinctiveness, what we see is not the replication of “pure” Levantine and Egyptian identities, but the creation of something altogether new.

**Kristine Garroway (Hebrew Union College-Jewish Institute of Religion), “Thou Shalt (Not) Eat Thy Children: Cannibalism in the Hebrew Bible and Surrounding Cultures”**

From the perspective of the Hebrew Bible “humans” would seem to fall squarely into the category of “what not to eat.” However, 2 Kgs 6:24–33 presents an astonishing narrative wherein two Israelite mothers agree to eat their children. Granted, the city of Samaria is under siege and food is scarce, but this hardly lessens the shock and horror that the reader experiences when learning that two Israelite mothers have resorted to cannibalism. This is the only place in the Hebrew Bible that clearly mentions cannibalism being carried out. The story is bizarre by all accounts. The victim is one of the most valuable and also vulnerable members of Israelite society, a child. Those who should be protecting the child are not. They eat him.

This paper uses an anthropological and archaeological lens to explore attitudes towards cannibalism, especially as it relates to children in the biblical text and surrounding cultures. It will explore the various categories of cannibalism, and then focus on cannibalism that manifests itself as a ritualized practice. As a ritualized practice, this paper will demonstrate how the cannibalism in 2 Kings 6 can be understood as a child sacrifice, a practice that is clearly unappetizing to the biblical writers.

**Stephen Pfann (University of the Holy Land), “A Table Prepared in the Wilderness: Pantries, Pottery Stores, and Order at Community Meals at Qumran, in the Dead Sea Scrolls, in Josephus, and in Other Parallel Cultures during the Late Hellenistic and Roman Periods”**

Communal meals and place settings among sectarians and rebels are reflected in the pantries, pottery stores, and buried leftovers found in the archeological excavations at Qumran and Ein Feshkha. The community documents and Josephus’s account provide evidence of the liturgies, etiquette, order, and timing of the meals each day, including the set order of thousands, hundreds, fifties, and tens that applies in the community meals and allotments, as well as prayers. During the rebel occupation of Qumran, table settings and order differed from that of the sectarians after the site had been deserted by the sectarians, a difference that is reflected in the remains of the pottery stores. The burying of discarded foodstuffs and pottery will also be treated in this presentation.

**1D. Archaeology of Islamic Society**

CHAIR: Beatrice St. Laurent (Bridgewater State University)



**Bethany Walker (University of Bonn), “Problematizing ‘Cottage Industries’: Understanding the Complexity of Household-Based and Small-Scale Industrial Activity at Tall Hisban”**

The last few seasons of excavations at Tall Ḥisbān have provided convincing evidence for industrial activities in the Mamluk period taking place in domestic structures. Such activities range from specialized productions (glazed ceramics, plain blown glass) to less specialized ones (handmade pottery-making, spinning and weaving, food preparation on a large scale, masonry and vault construction, and even flint-knapping). The appearance of what can only be described as workshops, at a time when the site as a whole increasingly took on more “urban” functions, provides further evidence of important changes in the local economy with the establishment of the garrison on the summit of the tell in the 14th century.

This paper aims to revisit common assumptions about “cottage industries” by considering the implications of this new evidence for diversification of production. It will do so through multiple strategies: by analyzing the production installations themselves and their spatial distribution, through materials analysis of the products, and through spatial analysis of disposal patterns of the refuse. Interpreting such patterns at this single site will be aided by comparison with other sites in southern Bilād al-Shām. The paper will also take into consideration information gleaned from contemporary written sources, such as customs lists, *muḥtaṣib* manuals (of market regulations), and the Geniza documents of Cairo, in an effort to “come to terms with the terminology” archaeologists use to describe industry.

**Veronica Morriss (University of Chicago) and Donald Whitcomb (University of Chicago), “In Search of an Early Islamic ‘Commercial Crescent’ in the Red Sea”**

Scholarship on the Red Sea has traditionally focused on the well-publicized Hellenistic and Roman periods. The following late antique and Early Islamic periods have received comparatively little attention. This decline in interest is influenced by assumptions about the limited nature of trade, as well as a paucity of historical documentation for this critical transitional period. Archaeological evidence, amassed over the last several decades, hints at a very different picture of commercial development—one in which the exchange networks of the Red Sea were strengthened and redirected under the early caliphs.

The artifact assemblages from the University of Chicago’s excavations at Ayla (Aqaba) provide evidence of trade and production spanning ca. 650 to 1100 C.E. The result is a detailed picture of the chronology and commercial contacts of this Early Islamic city. Most importantly, the earliest phase (650-750) provides a unique opportunity to reassess similar assemblages found along the Saudi and East African coasts. Rather than the traditional framework of declining trade, this evidence indicates that, during the first decades following the Muslim conquest, this region experienced a period of commercial development spurred by unification, the new prominence of the Hijaz, and the availability of entrepreneurial capital. This redirection of trade laid the foundations for a “commercial crescent,” an economic region that, through burgeoning commerce and exchange, would

stimulate the growth of coastal communities and trade along the Red Sea and northern Indian Ocean.

**Nicolo Pini (University of Bonn), “Khirbet Beit Mazmil and Tall Hisban: a Comparison of Vernacular Architecture from the Mamluk and Ottoman Periods”**

The paper compares the vernacular architecture at two sites: Khirbet Beit Mazmil (near Jerusalem) and Tall Hisban (Jordan). Khirbet Beit Mazmil is a Late Mamluk/Ottoman fortified farmstead (though reoccupying and reusing earlier structures), occupying a strategic high place, possibly developed as a satellite site of a nearby village; Tall Hisban is a village/town with a long and almost uninterrupted occupation since the Iron Age, but that experienced a major development in the Mamluk period. The work is part of a larger regional comparison of rural highland sites at the University of Bonn and directed by Prof. Bethany J. Walker. Despite major differences between the two sites (especially in terms of settlement typology), it is interesting to compare the two contemporary rural architectural traditions in the Ottoman period (from the Palestinian highlands on the one side, and from the Madaba Plains on the other). Some common features can be identified, especially as far as reuse of earlier structures and building material are concerned, possibly having a direct impact on the local architectural techniques and organization of the space. Another interesting element for comparison is the system of drains and connected basins, well-attested in both sites. In particular, Hisban’s last excavation season revealed a series of channels and re-plastered basins which finds a direct parallel with Khirbet Beit Mazmil, even if on a reduced scale. The 2019 season at Khirbet Beit Mazmil will hopefully offer further elements of comparison and clarify the precise function of such features.

**Ian Jones (University of California, San Diego), “The Islamic Period Village at Khirbat al-Balu‘a: A Preliminary Report of Investigations by the Balu‘a Regional Archaeology Project (BRAP)”**

This paper presents preliminary results of investigations of the Islamic period settlement at Khirbat al-Balu‘a, in central Jordan, conducted as part of the Balu‘a Regional Archaeology Project (BRAP). Although primarily known as an important Iron Age settlement, there is a sizeable (ca. 3.5 ha) Islamic-period village in the southwestern portion of the site. Preliminary analysis of material from the village indicates that the peak of settlement was likely during the Mamluk period (13th-16th centuries A.D.). Of particular interest is a large, square building (ca. 40 m on each side) with a central courtyard at the southwestern edge of the village, which has been tentatively identified as an inn. Using data from the BRAP investigations of the site, and drawing comparisons to nearby Khirbat Faris and Lahun, this paper explores the various roles played by villages on the Karak plateau during the Mamluk period. Particular attention is given to the relationship of the village itself to the potential inn, the connections between Khirbat al-Balu‘a and the town of Karak, ca. 20 km to the southwest, and the role of villages like Khirbat al-Balu‘a in facilitating the movement of people and goods through the Karak Plateau.

**Hend Elsayed (University of Bonn), “Magic or Thriftiness? Spolia in Mamluk Cairo”**

The phenomenon of spolia in the Islamic period has historically been attributed to local perceptions of the intrinsic magical properties of ancient architectural elements. The scholarship surrounding the practice of incorporating spolia in new monuments has largely focused on the use of ancient materials as talismans, as well as Hermetic traditions. This paper argues that the magic behind the re-use of building materials should be revisited. Given the economic conditions in Mamluk Cairo, the re-use of ancient building materials was necessitated. This paper examines the ways in which the Mamluk elite sought to identify and secure building material for building projects when resources like marble, quality cut stone, and wood were scarce. The study builds on earlier scholarship on Mamluk architecture, which has emphasized the legally questionable methods used by the elites of the day to secure building space in an already crowded city and to accumulate the funds necessary to finance these projects. What is missing from these studies, though, is a critical assessment of the ways in which building materials—precious natural resources in Cairo’s urban environment—were sought after and made available.

**Agnieszka Ochal-Czarnowicz (Jagiellonian University) and Przemysław Nocuń (Jagiellonian University), “First Results of the New Archaeological Project at Qasr ed-Deir (Tafila, Jordan)”**

Qasr ed-Deir is a historical and archaeological site situated in southern Jordan, around 5 km southeast of the city of Tafila. It was recognized no later than 1934 by Nelson Glueck, who himself suggested that the site had been described even earlier. The site has since been briefly described during survey work, while some basic excavation work was conducted in 2002.

In 2016 the Qasr ed-Deir site was chosen for a detailed archaeological project conducted by the Institute of Archaeology of the Jagiellonian University in Krakow. Comprehensive studies of masonry combined with excavations works started a year later. During the research, all visible masonry structures were recognized and recorded and two test trenches were opened. Some more complex architectural studies are planned to be conducted this fall.

According to the data we have today, Qasr ed-Deir should be seen as a compact but multi-phase building complex. Its origins most probably dated to the Byzantine period. The structure was developed and reconstructed more than once and the last great alterations took place during the Mamluk period.

In this presentation we would like to discuss the results of the field work, especially the analysis of the stratigraphy of masonry structures, and suggest the complex’s possible functions.

**1E. Between Cities: Exchange and Urban Networks I**

CHAIR: Robert Kashow (Brown University)

**Gojko Barjamovic (Harvard University), “Bronze Age Urban Networks and Social Change”**

Bronze Age urbanization in the Near East caused a precipitous rise in traffic in raw materials and luxury goods over long distances. Cities were tied into multiple overlapping commercial networks that exchanged goods far beyond their own geographical horizon. A problem is how to identify and quantify their interaction and recognize its implications on a continental scale. Combining models of long-distance exchange with data from scientific and urban archaeology, as well as textual and visual records, this paper explores early urban networks, the commercial and political infrastructure that bound them together, and their impact on social development in Africa and Eurasia during the Bronze Age.

**Ido Koch (Tel Aviv University), “Urbanization in the Southern Levant during the Assyrian Period”**

Assyrian hegemony in the southern Levant lasted 100 years, beginning with the capture of Damascus and Samaria by Tiglath-pileser III and Sargon II and ending in the final decade of Assurbanipal or during the short reign of one of his successors. From its onset, Assyrian colonialism had a multifaceted impact on the local landscape. Local rulers were integrated into a colonial network—they took an oath of loyalty to the king and were forced to send tributes of raw materials and finished products to the court and to its agents who were based in the neighboring hubs. The strongest local polities eventually capitulated and their political centers, mostly the capital and its regional branches, were transformed into Assyrian hubs. Inhabitants of these settlements, mainly the elite, were deported and replaced by imperial agents and newcomers from distant parts of the empires who were forced to leave their homes. In this paper, I would like to explore some of these places that prospered under Assyrian control, their importance to the colonial network, and their aftermath following the collapse of Assyria.

**Shana Zaia (University of Vienna), “The Management and Movement of Resources between Cities in First Millennium B.C.E. Mesopotamia”**

For the powerful empires of Mesopotamia during the first millennium B.C.E., it was imperative to control and manage resources, whether the goods were entering the empire from external or distant territories or circulating within the empire’s core areas. These resources comprised basic necessities, such as livestock for the daily cult of a temple; prestige goods and exotica, including precious metals, minerals and dyes, or aromatics; and even people, such as specialists and skilled laborers. Several studies have addressed how these assets were procured through long-distance trade or through more forcible means such as conquest or required taxes and tribute. This paper seeks to add to our understanding of the management and movement of resources within an empire by focusing on inter-city socio-economic relationships and especially short-distance trade between neighboring urban centers. In doing so, this study will provide a different perspective for how resources moved through an empire, one that has the potential to engage with issues related to the roles of the crown versus private traders in distributing goods, inter-city competition and cooperation over resources, and trends in the types of assets affected and cities that benefitted.

**Jennifer Singletary (Georg-August-Universität Göttingen), “Ask the Babylonians Whom You Know’: Scholarly Exchange Across Cities in the Neo-Assyrian Empire”**

Neo-Assyrian kings depended on various types of highly-trained scholars to keep them well-informed and advised concerning important matters, especially predictions for the future. During the seventh century B.C.E., scholars from a number of cities in Babylonia as well as Assyria, including Babylon, Borsippa, Uruk, Arbela, Calah, Kilizi, Nineveh, and elsewhere, engaged in extensive correspondence with the kings of Assyria, offering interpretations of astronomical events, informing them about the results of extispicy, explaining the significance of omens, and giving reports and advice on military, religious, and other matters. The widespread geographic distribution of scholars reporting to the king was especially crucial for astronomical observations, which could sometimes only be viewed properly in specific locations. By analyzing letters to the king from scholars operating in these different locales, this paper explores how and why these rulers maintained and utilized this interconnected network of experts working in urban centers across their empire. In addition, this examination also looks at the mechanisms scholars from different cities employed to exchange information with their colleagues, their interpersonal relationships, their movement between cities, and how these interactions helped to shape their messages to the king.

**Caroline Wallis (University of Helsinki), “On the Road Again: The *Akītu* Frenzy and the Political Significance of Simultaneity”**

The question I ask (and try to answer) in this paper is: How do New Year rituals link cities together and to their direct environment under the Neo-Assyrian and Neo-Babylonian empires? I will start by looking at the material aspects of the organization of the festival and sketch—as precisely as our sources allow—the social relations woven before, during, and after the Spring *akītu* festival. I will concentrate on the circulation of kings and their royal garments, state officials and artisans, statues of gods, flocks of two- and four-legged animals, sacks of wool and bundles of yarn, raw meat and dishes of cooked food and the like along networks of roads and canals. I will ask: How do these patterns change from the Neo-Assyrian to the Neo-Babylonian empire? The second part of the paper will deal with the symbolic implications of this *akītu* frenzy. Social scientists have shown how social representations of time and space can vary from one individual to another and from one social group to another within a given society. But what can we say about the sense of simultaneity? Why is the synchronization of state rituals so important for these imperial powers? Is the frenzy depicted above a mere side effect of the ritual or can we argue it constitutes one of its main objectives?

**Ryan Fitzgerald (The University of Texas at Austin), “Synagogues and Symbiosis: Networking through Municipal Constructs”**

This paper examines social links through the first-century C.E. synagogue of Julia Severa in Acmonia. A first-century inscription tells of a synagogue whose patron was Julia Severa, a Galatian high priestess of the imperial cult, descended from Galatian royalty and mother of a Roman senator. The patronage relationship between an imperial cult priestess and a Jewish synagogue is not obvious; even less so is the public advertisement of such an attachment. Through a lens of religious sentiment, Julia was seen as a “god-fearer,” or a Jewish sympathizer. By examining this relationship within a framework of

benefaction and social mobility we can see that it is the exchange of social capital in benefaction that permits a permeability of boundaries between ancient neighbors. This study pushes out problematic anachronisms of public and private spaces and the assumption of Jewish municipal isolation. Studies of ancient tombs demonstrate that by assuming that certain phrases or symbols denote Judaism, we construct a Judaism that may not reflect ancient practice. We then delineate Judaism by monotheism, temple worship, and/or circumcision. This isolates ancient Jews from their non-Jewish neighbors both physically and ideologically, a reality that is discouraged by the Acmonian synagogue. This paper contributes to the ongoing evaluation of these relationships in Asia Minor, particularly the nature of public building projects acting as social buoys in the Roman empire, in which upward mobility is a ceaseless climb. Finally, this will contribute to the postmodern concern about ancient categorization in regard to ancient Jews in their urban environments.

### **1F. Archaeology as a Tool for Enhancing Participant Welfare, Social Cohesion, and Education I**

CHAIR: Rona S. Evyasaf (Technion-Israel Institute of Technology) and Stephen Humphreys (American Veterans Archaeological Recovery)

#### **Gilad Cinamon (Israel Antiquities Authority), “Archaeology and Heritage Education—The Revolution of Consciousness Change in Israel”**

For the past four years, the Israel Antiquities Authority (IAA) has been leading a change in the Israeli public attitude toward the remains of the past. This is being achieved by allowing different sectors in Israeli society to participate in excavations, as well as by preserving antiquities and making them accessible to the general public. The idea behind those activities is developing identification with the local heritage and the many Israeli identities.

The active role of the IAA includes the integration of thousands of schoolchildren of various ages and high school graduates in various frameworks of their ongoing activities. For the students the practical activities in the excavation create a real, physical contact with the land and an extra-curricular educational experience. Archaeological practice thus becomes a mediator of historical and social experience that continues over a lifetime. Other activities of the IAA include social media, seminars and series of lectures open to the general public, and the publication of an Arabic-language journal for the general public.

This exposure to the heritage and history of the land leads to a change in the consciousness of various groups in Israeli society towards their responsibility for the physical remains of the past. The accessibility of antiquities, and the creation of framework stories in which each group can find its place, enable a connection between the geographical location of local communities and the biography of places, and the “imprint” of heritage in the collective and personal consciousness.

**Yair Amitzur (Israel Antiquities Authority) and Einat Ambar-Armon (Israel Antiquities Authority), “The Sanhedrin Trail’: Community and Educational Archaeology and the Roman Galilee Heritage”**

The Israel Antiquities Authority is the state authority responsible for the antiquities of Israel, for their exposure, conservation and research, and for bringing the community close to the rich heritage of the Holy Land. The IAA Department of Community Outreach carries out a broad spectrum of educational activity, whereby school children, youth, and communities take part in archaeological excavations and in a variety of educational initiatives. One of the IAA’s major educational ventures over the past year is the “Sanhedrin Trail.”

The Sanhedrin Trail crosses the Galilee from west to east, from Beth She’arim to Tiberias, passing through ancient sites associated with the Sanhedrin, the Jewish rabbinical leadership and court in Roman-period Galilee. The trail was formally dedicated in May 2018 in honour of the state of Israel’s 70th birthday. The trail links the hikers with the Galilean landscape and its environment as well as its rich cultural heritage, including archaeological and historical sites, and the various cultures that have influenced the region down to the present day.

The trail was created through the participation of thousands of pupils, youth, and volunteers from all backgrounds, who took part in archaeological excavations; created, prepared, and signposted the trail; and developed the sites along it. Jewish, Muslim, Christian, and Druze pupils, youth and students from Israel and abroad, worked alongside pensioners, volunteers, and special-needs groups, all experiencing the Sanhedrin Trail. The trail is undergoing continuous development by exposure of the archaeological sites and the significant educational activities along it. Developments will continue in the future.

**Daniel Weinberger (Israel Antiquities Authority), “Municipal Archaeology as a Tool to Study Personal and Community Strength: The Lod and Modi’in Projects as Case Studies”**

A new trend in archaeology, starting about a decade ago, puts an emphasis on the educational-community aspect of the excavations. This paper will discuss two different community projects—the Lod project and the Modi’in project—conducted by the Israel Antiquities Authority (IAA), as case studies for municipal excavations in which archaeology serves as a tool for personal empowerment.

The Lod project is based on the idea that engaging the city’s inhabitants on archaeological sites, which suffer from neglect and vandalism, will foster a commitment to caring for Lod’s cultural past. What is unique about the project is that it involves Jewish and Arab fourth-grade students studying in separate schools. The students participating together in this annual project learn about the city’s archaeological past, meet in diverse groups, and break barriers and conventions during the excavation. Ultimately, the project is making a significant contribution towards removing barriers between Jews and Arabs.

Givat Hatitura, an archaeological site in the center of Modi'in, serves as a magnet for the children and residents of the city who seek to reconnect to Modi'in's past through participating in the archaeological investigations. In recent years, the IAA has conducted a community-educational project aimed at connecting the city's residents to its rich past, by implementing a municipal educational program for archaeology and identity studies. Students from all age groups participate as well as volunteers, who view the excavation as a way of personal empowerment and connection to the cultural heritage of Modi'in and the Land of Israel.

**Annelies Van de Ven (Université Catholique de Louvain) and Sharyn Volk (University of Melbourne), "Using Archaeological Methods to Bridge the Urban-Rural Educational Divide"**

This paper presents the results of the ongoing project "Engaging Antiquity in the Goulburn Valley." The project is presented as a model for using archaeology, in terms of both methodological analysis and employment of institutional object collections, to assist in the educational outcomes and career pathways of rural students. This is achieved through broadening their contextual historical perspective, improving their knowledge retention, and providing opportunities for skills-building.

Research has confirmed that many students from rural schools suffer educational disadvantage. Students face challenges encompassing such issues as lower socio-economic status, limited school resources including long-term access to experienced teachers and support staff, minimal parental and student educational aspirations, difficult transitions to higher education, and constraints inflicted by geography and therefore access.

Bridging the educational divide brought about by these difficulties is central to addressing wider issues of social cohesion. The gap is currently approached primarily through the prisms of science, mathematics, and ICT (information and communications technology) education, as these are believed to be the most efficient pathways to improved academic potential. However, as this paper will argue, hands-on engagement with archaeology provides important opportunities for confidence- and skills-building that go beyond the traditional curriculum.

Initial evaluations of student responses and school progress has demonstrated the success of this method, while also highlighting particular advantages for students with learning disabilities. Participants who struggle with traditional learning methods benefit from the visual and tactile-oriented experiences and the immersive environments of archaeological fieldwork and display.

**Stephen Humphreys (American Veterans Archaeological Recovery), "Towards a Methodology for Rehabilitation Archaeology in the Near East"**

Since 2016, the 501c3 non-profit American Veterans Archaeological Recovery (AVAR) has been placing American military veterans and service members, many of them with disabilities, onto archaeological excavations and surveys for therapeutic benefit. AVAR began gathering quantitative data via survey in 2018 to assess the mental and physical



impact that archaeological excavation has on participants. This data has been used to develop the practice of “Rehabilitation Archaeology,” defined here as the enhancement of archaeological fieldwork in order to add measurably to the development and welfare of participants. In 2018 and 2019 teams of AVAR veterans took part in the excavation of Beth She‘arim, Israel led by the University of Haifa, and the Beit Lehi Regional Project led by the Israel Antiquities Authority working in partnership with the Beit Lehi Foundation and The Hebrew University of Jerusalem. This presentation will discuss the evolution and implementation of the “Rehabilitation Archaeology” concept in Israel, including the formation of a bespoke ethical standard, provisions for extended community engagement, and modification of fieldwork practices in order to accommodate physical disabilities. It will also include a summary of quantitative data gathered to date.

## **1G. Archaeology of the Near East: Bronze and Iron Ages I**

CHAIR: Eric L. Welch (University of Kentucky)

### **Sheila Gyllenberg (Israel College of the Bible), “Settlement History in the Jezreel and Jordan Valleys and the Adjacent Highlands in the Late Bronze and Iron Ages”**

In this research I tested the use of excavation data, rather than survey data, for studying settlement history. I focused on the Jezreel Valley, the central Jordan Valley, and the highland regions surrounding them. The period of study extended from the last part of the Middle Bronze Age until the end of Iron Age II. With excavation data from more than 60 sites, I was able to track settlement changes based on detailed stratigraphy. The chronologically-detailed settlement record available from excavation reports, but not found in survey data, gave a fuller and more reliable picture of settlement trends over a 900-year period.

I was able to quantify settlement trends such as the crisis in settlement during LB IA, and the stages of gradual recovery in various regions during LB IIA and LB IIB. The results also highlighted the variety of settlement trends in different regions during Iron Age I and the unprecedented settlement changes that occurred between Iron Age IB and early Iron Age IIA. In addition, the reduction of settlement in the ninth century following the Aramean incursions and dramatic changes following the Assyrian conquest can be clearly observed.

Between the Iron Age IB and the Iron Age IIA there was a combination of growth and renewal in more than half of the existing settlements, reduction or abandonment at almost a third of the sites, and a greater than average increase in new settlement. These changes could suggest the activities of a centralized state in the region.

### **Samantha Suppes (University of Chicago), “Functions of Ceramics with Serpent Decorations at Beth She’an”**

The ceramics decorated with serpents found during the University of Pennsylvania’s excavations of Beth She’an in the 1920s and 1930s have occasionally piqued the interest

of scholars seeking to understand serpent iconography in the southern Levant during the Bronze and Iron Ages. However, these objects have been studied little on their own and within their archaeological contexts. This presentation will analyze the functions these objects may have had in their contexts, to make sense of the prevalence of snake imagery on ceramics at this site. This paper does not seek to understand the significance of serpents and serpent iconography in the whole ancient Southern Levant as other researchers have attempted to do, but, rather, to show how this imagery was used on a single medium (pottery) at a single site. It is hoped that in the future this study may be used to shed light on the meaning of snake imagery not only at this site, but also at others.

**Chang-Ho Ji (La Sierra University) and Chaim Ben-David (Kinneret College on the Sea of Galilee), “I Made the Road across the Arnon’: The Moabite Road System in the Region of Wadi Mujib and Dhiban Plateau”**

Wadi Mujib is a deep gorge in central Jordan that presented problems in the construction of the north-south thoroughfares of ancient Moab. The Mesha Stele reveals that King Mesha made the roads across Wadi Mujib, which was known in the Iron Age as the Arnon. This paper presents the result of archaeological surveys and follows the physical remains of possible pre-Roman roads that crossed Wadi Mujib. Three roads, apart from the Via Nova route, were identified to have led from the Dhiban Plateau down to Wadi Mujib: the Aroer, Lehun, and Rama routes. These roads are perhaps the remains of King Mesha’s highways in the Arnon because they can be dated to the Iron Age based on road design and relation to the depot cities. The Aroer route presented a short route to Dhiban, whereas the Lehun route continued to Aliyan and Rumayl in the northern Dhiban Plateau. From Ramah, the road turned to the east to reach Saliya, while one branch veered westward to Jumayil. The Iron Age II road system probably extended all around the Dhiban Plateau, connecting key settlement centers like Dhiban, Jumayil, Saliya, and Aliyan. Three roads branched out from this ring road to the north to connect the region with Ataruz, Libb, and Madaba. This study shows that King Mesha developed a sophisticated road system that covered the heartland of his kingdom, and the Mesha Stele denotes his effort to connect this road system with the south across the Arnon.

**Eric Jensen (University of Arkansas) “I Settled Them in the Land of Hamath’: Deportation, Resettlement, and Demography in the Northern Ghab Basin during the Iron Age II”**

Regional survey data indicates the total number of actively occupied sites in the northern Ghab Basin rose from the Late Bronze Age to the Iron Age II. Within this survey area lies the site of Tell Qarqur, where the occupational history within this timeframe parallels the larger regional population trends. Settlement at Qarqur was confined to the southern mound during the LB II, with the inhabitants living as a diffuse community in transient structures for much of the Iron Age I. In the Iron Age II, however, excavated remains of newly founded dense domestic neighborhoods denote a settlement whose total size encompassed an area greater than any of its earlier occupational periods. Standard ancient population growth rates strain to account for the polity’s prodigious expansion, necessitating alternative explanations for Qarqur’s renewed vitality.

The Iron Age II construction of a defensive wall, gateway structure, and other monumental architecture represents the significant investment of material and labor, possibly provided by the kingdom of Hamath in order to upgrade the settlement to one of its fortified cities, or what the Neo-Assyrian king Shalmaneser III referred to as one of Urhilina the Hamathite's royal cities, if Tell Qarqur is indeed the site of ancient Qarqur. As the Assyrians gradually increased their control over the Land of Hamath in the ninth and eighth centuries B.C., their policies of deportation and resettlement resulted in changes to the demographic makeup of the northern Ghab Basin, and possibly to the population of Tell Qarqur as well.

**Gilad Itach (Israel Antiquities Authority; Bar-Ilan University) and Jenny Marcus (Israel Antiquities Authority) “The Excavations at Khallat es-Sihrij—A Local Administrative Center from the Neo-Assyrian Period near Aphek Pass?”**

The site of Khallat es-Sihrij is located 5 km southeast of Tel Aphek and 1 km north of Nahal Shilo. It was first surveyed in the 1970s by a team from Tel Aviv University and extensive excavations were conducted at the site in 2016 and 2017 undertaken on behalf of the Israel Antiquities Authority as part of the expansion of Rosh Ha-‘Ayin. The excavations uncovered a two-phase, late Iron Age structure and a large water reservoir, almost 20 m long. The small finds at the site were mostly of local types, although some finds typical of Neo-Assyrian material culture were also of note.

The site of Khallat es-Sihrij is part of a large-scale settlement phenomenon that includes dozens of farmhouses established most probably in the Neo-Assyrian period mostly between Tel Aphek and Tel Hadid, near the international road. However, a reservoir like the one discovered at Khallat es-Sihrij and small finds typical of Neo-Assyrian material culture have not been discovered in any of the farm-houses excavated and or surveyed in the vicinity. It seems that in the Neo-Assyrian period, the site of Khallat es-Sihrij was somewhat different from the other sites in the region and may have served as a local administrative center. In this paper we will present the excavation results and examine the nature of the site. We will then discuss the settlement pattern and the interests of the Neo-Assyrian empire in the region.

**Jeffrey R. Chadwick (Brigham Young University Jerusalem Center), “The 2019 Season at Tell es-Safi/Gath: Results of the 22nd Summer of Excavations”**

The Tell es-Safi/Gath Archaeological Project in Israel began operations in 1996 and conducted its first summer season of excavations in 1997. The expedition has explored more than a dozen areas in both the vast upper city and extensive lower city over two decades of digging at the ancient Bronze and Iron Age site, best known as Gath of the Philistines. Results from the 2019 summer season will be discussed. The director of the Tell es-Safi/Gath Archaeological Project is Professor Aren Maeir of Bar-Ilan University in Israel. He has delegated the discussion of the 2019 season in this session to senior supervisory staff member Professor Jeff Chadwick of Brigham Young University.

## **1H. Experimental and Experiential Archaeology in the Ancient Near East**

CHAIR: Tracy L. Spurrier (University of Toronto)

**Alexandre Pinto (Université Paris 1 Panthéon-Sorbonne), “Experimental Approach of the Cretan Clay Sistrum”**

My presentation deals with the study of the five Hagios Charalambos cave clay sistra. The sistrum is an idiophone, a rattle. This sound instrument is known in ancient Egypt and Near East where it is made from stone (alabaster) and bronze, but so far only early Cretan sistra are made from such an easily accessible material as clay. We already know that bronze sistra were used to produce sound during prehistory and antiquity, but what about the clay ones? In order to address that matter I will concentrate on the study of these 5 Cretan sistra, to try and understand their place in Bronze Age Crete as well as their presence in the Cretan soundscape.

For that purpose, I will focus my presentation on an experimental project brought to life in cooperation with the Laboratoire de Tribologie et Dynamique des Systèmes (Lyon, France). This project was set up in order to reproduce these objects and recreate their production methods and the way in which they could have been used. Through the experiments, we looked for the sound they might have produced. We adopted an approach of simulation models, with microscopic studies, in order to test and observe the use wear induced by the utilization. Combined with archaeological evidence, this study aims to highlight the place of the sistra in the ancient Aegean world, either as a sound instrument or as a symbolic object.

**Tiffany Okaluk (University of Manitoba), Haskel J. Greenfield (University of Manitoba), Tina L. Greenfield (The University of Saskatchewan), K. Ashlan Yener (New York University), and Aren M. Maeir (Bar-Ilan University), “Axe Technology in the Early Bronze Age Near East: An Experimental Study to Identify the Raw Material of Ancient Axes Used in the Butchering Process”**

The Early Bronze Age (ca. 3600–2000 B.C.E. in the southern Levant; ca. 3000–2000 B.C.E. in Anatolia) in the Near East saw a significant shift and decrease in stone tool types. In particular, Chalcolithic style chipped/ground stone axes and adzes almost completely disappear after the EB I. Explanations for this change in material culture assume the replacement of stone technology by metal axe technology. Axes would likely be used for processing of animal carcasses for food in domestic contexts. Recycling and reuse of metal inhibits a full understanding of the importance of metal tools, particularly in domestic/use contexts. Butchery marks on archaeological faunal assemblages provide indirect evidence for utilitarian tool use related to food processing and mitigate issues pertaining to reuse and recycling of metal tools.

In this paper, we will present the results of an experimental chopping study to define morphological criteria to distinguish between stone and metal axe chop marks on bone and wood. Tools include chipped stone, ground stone, copper, and tin bronze axes. The method enables the quantification of changes in the rate of adoption of metallurgy for butchering chopping practices and technology.

This method is applied to two Early Bronze Age assemblages from widely different regions: 1) Göltepe, the village site connected to the Kestel tin mine on the south-central

Anatolian plateau; and 2) Tell es-Safi/Gath, a large, fortified urban tell site in the central Shephelah of modern Israel. Both assemblages are from domestic contexts and were subject to detailed zooarchaeological and butchering mark analyses prior to chop mark analysis.

**Natalia Handziuk (University of Toronto) and Khaled Abu-Jayyab (University of Toronto), “Experimental Pottery Making as a Pedagogical Device for Understanding Chaîne Opératoires: Results from the Gadachrili Gora Regional Archaeological Project (Republic of Georgia)”**

Teaching students to make pottery is a pedagogical tool that aids in the development of their ceramic analysis skills. By actively engaging with pottery production, students are introduced to the concept of the chaîne opératoire in material studies. In our instruction we draw parallels between the various steps of pottery production that the students experience (e.g., clay sourcing and preparation, vessel shaping, smoothing, decorating and firing) and the attributes analyzed in ancient ceramics (e.g., fabric and form attributes). The act of making pottery anchors ceramic analysis in lived experience. Thus, students become acquainted with the archaeological record as a complex interplay of human agency and material affordances. Furthermore, by engaging in this instruction strategy we as researchers gain greater insight into ceramic chaînes opératoires in our assemblage.

Our archaeological case study is pottery recovered during our 2019 survey (Gadachrili Gora Regional Archaeological Survey) and excavation (Gadachrili Gora Regional Archaeological Project) seasons in the Republic of Georgia. The experimental archaeology was conducted May–June 2019 in Georgia and used local clays, tempers, and fuel.

**Tate Paulette (North Carolina State University), “In Defense of Underwater Basket Weaving: Experiential Archaeology in the Classroom”**

Every semester, the undergraduate students in my “Ancient Mediterranean World” class spend about 30 minutes of class time making their own cuneiform tablets, and every semester this one, brief activity dominates the feedback that I receive on end-of-semester course evaluations. In many cases, the feedback includes a suggestion of more, similar, hands-on activities in the future. Students clearly appreciate this experiential encounter with past ways of making/doing and the opportunity to engage in a different style of learning (while also escaping from the routine of lecture and discussion). Experiential archaeology, however, is not just a time-tested and effective means of grabbing students’ attention and keeping them engaged and excited. In this paper, I argue that active, embodied, multisensory, experimental, experiential learning belongs at the center of archaeological education. It is common knowledge that many basic techniques of archaeological data collection and analysis can only really be learned by doing, that is, by taking part in fieldwork or laboratory work. In the same vein, I argue that key dimensions of past materials, artifacts, architecture, foodways, etc., can only really be learned through direct bodily engagement. I discuss examples from some of my own courses (grinding grain, crushing grapes, pressing olives, cooking, brewing beer/wine/mead, knapping flint, carving soapstone, chiseling limestone reliefs, weaving textiles, spinning

wool, carving bone flutes, making ceramic vessels) in order to explore the possibilities and challenges of deploying experiential archaeology in a classroom setting.

## **II. Addressing the Practical and Symbolic Roles of Boats in Antiquity**

CHAIRS: Miroslav Barta (Charles University) and Douglas Inglis (Texas A&M University)

### **Miroslav Barta (Charles University), “Funerary Boats of Old Kingdom Egypt”**

Boats in general, and funerary boats in particular, represent a specific category of artifacts of Early Dynastic and Old Kingdom Egypt. Boats’ typologies and their different roles in the profane and symbolic world of ancient Egyptians were manifold. In this presentation, I shall address the specific role(s) of funerary boats in non-royal contexts and attempt their interpretation with the help of recent archaeological, epigraphic, and iconographic data. A case will be made that they were an integral part of complex burial arrangements and played an important role in status legitimization.

### **Douglas Inglis (Texas A&M University), “Egyptian Boats as Entangled Objects”**

This paper will explore how the design and use of Egyptian boats became entangled with the Nilotic environment, local resources, religious expression, and representations of power. Boats were essential to life along the Nile. As such, they became persistent symbols which were integrated into conceptualizations of the afterlife and the mortuary cult. The newly discovered Third Dynasty boat from Abusir and Khufu’s Royal ship are expressions of these religious ideas, as well as expressions of wealth, power, and status. Additionally, the construction these vessels reveals how locally available materials and the Nilotic environment influenced the early evolution of shipbuilding, and thus became entangled with the structural philosophy of Egyptian ships. The advent of large-scale seafaring expeditions, stone transport, and the use of cedar introduced new variables, which resulted in new ship designs, new shipbuilding techniques, and new entanglements.

### **Ayano Yamada (Waseda University), Eissa Zidan (Grand Egyptian Museum), Mamdouh Taha (Egyptian Ministry of Antiquities), Hiromasa Kurokochi (Higashi Nippon International University), and Sakuji Yoshimura (Higashi Nippon International University), “Discovery of the Real ‘Oarlock’ from the Second Boat of Khufu in Ancient Egypt”**

The two large wooden vessels belonging to Khufu found beside the great pyramid at Giza in Egypt are known as unique examples of papyri-form boats over 40 m long. While the first of the Khufu vessels is reconstructed and exhibited, the second boat has been undergoing reconstruction study. In 2016, our team discovered six large planks accompanied by many copper attachments. This paper will focus on identification of these items, which were not found from the first boat of Khufu.

These six planks (45 x 680–830 cm) are assigned to the port and starboard sides of the boat, three planks to a side. The attached copper objects are of two types: one type

consists of L-shaped sheet metal attachments (size less than 20 cm, 26 pieces to one side) which were placed on the top of planks as covering the edge cut in the same shape. Other type consists of angular U-shaped copper attachments which were penetrated through the plank, crossing at a right angle. In the boatbuilding scenes of the mastaba of Ti at Saqqara, similar L-shaped notches are depicted above the gunwale. Therefore, we conclude that L-shaped copper objects functioned as oarlocks, which are surmised to be secured using the angular U-shaped copper attachments. This discovery is significant as the first evidence of oarlocks installed in an ancient Egyptian vessel.

**Traci Lynn Andrews (University of Chicago), “Reexamination of the Abydos Nautical Tableau”**

This paper reexamines the Abydos nautical tableau excavated by the University of Pennsylvania between 2014 and 2016. A royal boat burial associated with Senwosret III’s mortuary complex was uncovered which had a collection of 120 Nilotic vessels graffitied on the walls. Wegner (2017) proposes that the tableau represents either secondary graffiti or perhaps a commemorative activity performed at the time the vessel was entombed. He suggests that the images were made over a short period of time and were representations of the interred funerary vessel. However, this paper reexamines these conclusions by comparing the collection of graffiti to additional iconographic evidence of boats from the Middle and New Kingdoms. Despite their schematic nature, the ship drawings can be dated approximately based on their form, rigging, deck structures, and steering arrangements. The ship graffiti appear to have been created by numerous individuals over an extended period of time. The creators recognized the significance of the building and did not need to see the funerary procession nor the interred barge for them to draw the graffiti on the walls. The tableau represents an important source of information on Nilotic vessels, as they were created by non-artisans working outside of the constraints of official commissioned works of iconography.

**Shelley Wachsmann (Texas A&M University) and Donald Sanders (Learning Sites, Inc.), “Reconstructing an Archaic-Period Dionysian Ship-Cart”**

Replicas of galleys fitted with waterline rams played a distinctive role in Dionysian cult from Archaic to Roman times. This practice may predate these times considerably, however. The appearance of Dionysos on Linear B tablets indicates that, contrary to previous belief, this deity had been revered already in Mycenaean times. Furthermore, two Helladic-style galley representations from Egypt contain symbology later associated with Dionysos and raise the likelihood that his cult arrived in Egypt at the time of the Sea Peoples’ migrations.

Archaic-period Dionysian ship-carts are best known from their appearance on four Athenian black-figure skyphoi, depicted in the midst of cultic processions: these “galleys” carry the boar-head waterline rams and screened forecastles typical of contemporaneous warships. Intended to represent the oar bank of the prototype galley, a row of closely fitted parallel vertical lines, perhaps painted on wooden panels, descend from below the sheerstrake on either side of the vessel/float. The Dionysian ship-cart was a relatively light affair, transported overland either on two pairs of spoked wheels or by porters who carried it. In this it differed markedly from other, more ponderous, ancient

cult ships also transported overland, such as the Athenian Panathenaic ship and the funerary ship-cart of the Egyptian Apis bull, both of which moved on four pairs of solid wooden wheels. Various iconographic representations and artifacts, when taken together, allow for a tentative three-dimensional reconstruction of a generic version of this cultic vessel.

## **2A. Archaeology of Jordan I**

CHAIRS: Marta D'Andrea (Sapienza Università di Roma) and M. Barbara Reeves (Queen's University)

### **Amer Alsouliman (University of Ferrara), “Neolithic Rubble Layers in Jordan”**

This contribution focuses on the Neolithic rubble layers at Tell Abu Suwwan/Jerash, and discusses these together with similar findings above the cultural layers of ‘Ain Ghazal, Basta, Ba‘ja, Wadi Shu‘eib, Jebel Abu Thawwab, and ‘Ain Rahub. These peculiar layers of mostly fist-sized and angular stone rubble were dated mostly to post-LPPNB, and so related to the Pottery Neolithic (Yarmoukian). Aside from their characteristic stone rubble, the layers are characterized by cultural debris (chipped and ground stone, bones, Yarmoukian pottery, in situ ash layers, etc.). Although considerable research has been devoted to the Neolithic rubble layers, their depositional forces, character, and chronological implications are still imperfectly understood. At Tell Abu Suwwan, for instance, the rubble layers occur above the LPPNB strata, under the PPNC layers, and sometimes under Yarmoukian levels. The latter two periods represent important shifts in the human occupation of this region. Our research tried to understand the components, depositional processes and geochemical features of the Tell Abu Suwwan rubble layers by geoarchaeological methods in the light of site formation processes while considering and reconstructing their palaeotopographical, paleoclimatological, and paleoenvironmental conditions. Both the intra- and off-site rubble layers became subjects of comparative study. Geophysical and geochemical methods were used to analyze the rubble layers for their soil and stone components, including petrographic thin sections and X-ray diffraction (XRD). Results indicate that interrelated natural (colluvial) and anthropogenic processes formed the rubble layer at Tell Abu Suwwan. This result is compared with the results on rubble layers from the sites mentioned above.

### **Suzanne Richard (Gannon University), Jesse C. Long, Jr. (Lubbock Christian University), and Marta D'Andrea (Sapienza Università di Roma), “Expedition 2019 to Khirbat Iskandar, Jordan”**

The 2019 campaign to Khirbat Iskandar was the 11th major excavation season at this key Early Bronze Age site in central Jordan, sponsored once again by Gannon University and Lubbock Christian University. The recovery of substantial and monumental architecture at the site—clearly an example of “rural complexity” in the EB IV period—has had a signature impact on scholarly perspectives given the data cumulatively supporting an alternative view of this so-called “pastoral-nomadic” period. A major goal of 2019 was to continue investigations renewed in 2016 into the EB III/EB IV transition in Area C. Published in 2010, Volume 1 in the Khirbat Iskandar Series revealed not only a multi-phase entryway in Area C, but also a three-phase EB IV stratigraphy, the earliest of



which appeared to be transitional EB III/IV. The specific 2019 objective was to concentrate on the preceding destruction layer and EB III occupation, about which this paper will report. A second major goal of this season was a final check of architectural plans and sections in view of the final report on the Area B EB IV settlements, which is in an advanced stage of preparation for publication. Moreover, as the expedition turns its focus more specifically to the EB II-III layers at Khirbat Iskandar, the third major goal of the 2019 season was to reveal more horizontal exposure of these settlements. The paper will conclude by contextualizing the results within the broader second half of the third millennium B.C.E. in the southern Levant.

**Randall Younker (Andrews University), “The Iron Age Ceramics from Tall Jalul, Jordan: An Update”**

Excavations at Tall Jalul (5 km east of Madaba in Jordan) since 1992 have revealed important Iron Age occupational levels with ceramics that date from the Iron Age I and II, including the transition from the Late Bronze Age IIB to the Iron Age I (13th–12th centuries B.C.E.), and an almost complete sequence from the tenth century to the Iron Age IIC/Persian period (sixth–fifth centuries B.C.E.). Combined with the results of sister Madaba Plains Project sites at Hesban and Tall al-Umayri, as well as nearby Madaba, the ceramic finds from Jalul are providing a fairly complete Iron Age ceramic sequence for central Transjordan. This illustrated presentation will show and discuss the ceramics from these key periods at Jalul, noting both the typical and unique forms and, where appropriate, parallels from neighboring sites.

**Chang-Ho Ji (La Sierra University) and Aaron Schade (Brigham Young University), “Khirbat Ataruz in Iron Age IIB-IIC: Ceramic and Architectural Finds and Their Implication for Moabite Archaeology”**

This paper reports on the Iron Age II ceramic and architectural finds from Khirbat Ataruz and synthesizes archaeological data related to the second half of the Iron Age settlement history at the site (ca. late ninth to seventh centuries B.C.E.). To this end, the study centers on the results of the 15-year excavations in Fields A, E, F, and G, giving special attention to the data from the 2014–2019 fieldwork. The results indicate that, in this period, Ataruz was a growing town or urban center with multiple residential buildings and a well-developed water channel system that collected rainwater from the surface for drinking and other purposes. The ceramic evidence may show many similarities in typology and decoration to that of other Iron Age II Moabite sites in the Dhiban Plateau and the Madaba Plains. A question remains as to when and why the Iron Age II settlement of Ataruz came to an end. There are some signs of violent destruction in Fields E and G. The finds from Ataruz may help us explore the Iron Age II chronology of the northern Moabite kingdom and its archaeological implications for the history of Moab.

**CANCELLED:**

**Margreet Steiner (Independent Scholar), “The ‘Moabite Cooking Pot’: Analysis and Dating”**

~~In Moab, neckless cooking pots with bag-shaped bodies and thickened vertical rims have been found in such abundance that some have dubbed these the “Moabite cooking pot.” They come mainly from the area south of the Wadi Wala and north of the Wadi Hasa. A~~

few are reported from Ammonite sites, while in the Jordan Valley at Deir Alla they are dominant in the later Iron Age phases. They are generally dated between 700–500 B.C. This paper analyzes in depth the possible origin of these vessels, their distribution area, and the wares and their production techniques, and tries to fine-tune the dating of this type. As C14 dates cannot be used for the period between ca. 800 and 400 B.C.E. because of the plateau in the calibration curve, this research may prove to be helpful for the dating of settlement phases in which these vessels have been found.

**P. M. Michele Daviau (Wilfrid Laurier University), “The Real Moabite Painted Ware: Recognizing a Local Tradition”**

The discovery of painted pottery at Khirbat al-Mudayna (Thamad) by Glueck and his publication of these sherds as “Moabite painted ware” set the stage for future research. Although several styles were apparent in his assemblage, it was not clear if all or only some of these sherds were locally produced. Excavation of Iron Age sites in northern Moab has now yielded a rich repertoire of pottery providing the basis for better recognizing locally produced pottery vs. imported wares. This paper presents a description of the dominant local wares and their painted motifs as well as the criteria for distinguishing this corpus from imported pottery, although the origins of these wares may not be clearly known at this time. A second task of this study is creating appropriate terminology that can be applied by scholars working in the region to clarify the differences between pottery found in Moab and pottery made in Moab.

**2B. Yerushalayim, Al Quds, Jerusalem: Recent Developments and Dilemmas in Archaeological and Historical Studies from the Bronze Age to Medieval Periods II**

CHAIR: Joe Uziel (Israel Antiquities Authority)

**Matthew Adams (W. F. Albright Institute of Archaeological Research), and Mark Letteney (Princeton University; American Academy in Rome), “Albright Institute Excavations at Solomon’s Pools and the Water Supply to Jerusalem”**

An archaeological assessment of the Lower Pool of Solomon’s Pools south of Bethlehem, Palestine, was carried out intermittently by the Albright Institute under the direction of the authors in 2018 and 2019. This preliminary assessment was conducted as part of a larger project to repair, conserve, and develop the site by the Solomon’s Pools Preservation and Development Center, funded by the United States Department of State Ambassador Fund for Cultural Preservation, and with the permission of the Palestinian Authority’s Ministry of Tourism and Antiquities. The purpose of the initial survey was to assess the state of the Lower Pool (henceforth LP) through visual inspection, test excavation, and three-dimensional photogrammetric modeling in order to determine the course of action for conservation works.

The three “Pools of Solomon” are at the heart of an elaborate water collection and distribution system which provided water to Jerusalem at various points over some 2000 years. The aqueduct systems have been the subject of much archaeological investigation, but the pools have been largely ignored. However, this has not deterred scholars from suggesting dates for the construction of the pools and surmising the role of the pools within the broader system. This paper summarizes new data from the current project and

provides a new framework for understanding the history of the pools and, consequently, the water supply to Jerusalem over the ages.

**Neria Sapir (Israel Antiquities Authority), and Oded Lipschits (Tel Aviv University), “A Late Iron Age Rujum Site on the Outskirts of Ramat Rahel and the Importance of the Stamped Jar Handles Discovered”**

Numerous sites have been unearthed in the vicinity of Jerusalem dating to the Iron Age II and culturally belonging to the kingdom of Judah. Whereas most of the sites can be defined as small villages or farm houses which formed the agricultural hinterland of Jerusalem, a unique phenomenon of massive stone heaps dating to this period has also been noted, with the heaps resembling well-known burial mounds, i.e. “tumuli,” such as those known from certain areas in Europe.

The following presentation will discuss the importance of a newly unearthed site, about 3 km south of the Old City of Jerusalem, and 700 m northeast of the important administrative center of Ramat Rahel. First, the findings of the excavations will be presented, beginning with analysis of the architectural elements, followed by a discussion of the small finds, emphasizing the outstanding amount of stamped jar handles exposed. These finds will be used to determine the site’s establishment and abandonment, as well as the ties with neighboring Iron Age sites, particularly Ramat Rahel. Furthermore, the large stone heap exposed will be compared to other tumuli and offer insights on understanding these unique structures and their function. Finally, the stamped jar handles will be discussed, focusing on their chronology, function, and importance in understanding the site in question and its relationship to Ramat Rahel.

**Nitsan Ben Melech (Tel Aviv University), Yuval Gadot (Tel-] Aviv University), Dafna Langgut (Tel Aviv University), Naomi Porat (Geological Survey of Israel), and Bethany Walker (University of Bonn), “Human Impact on the Landscape surrounding Jerusalem: Macro- and Micro-Archaeological Perspectives”**

It is by now well established that the southern Levantine landscape is the product of a palimpsest of processes taking place over thousands of years. It is also accepted that land-use patterns both reflect and affect social, economic, and symbolic choices. This paper will present preliminary results from a study dealing with recognition of the impact of human involvement on the natural environment in the highlands surrounding Jerusalem.

Detailed surveys, focused on identifying and mapping agricultural and industrial installations, were conducted in selected locations. These were followed by excavations of agricultural systems composed of various types of installations, such as stone fences, terraces, stone piles, stone-built huts, winepresses, etc. The archaeological sediments were then analyzed using several techniques such as OSL (optically stimulated luminescence) for dating of the features and soil analysis for the identification of the type of cultivated crops.

Preliminary results show how dating landscape modifications in the highlands of Jerusalem can trace the gradual transformation of the natural wild-scape into a human-

designed landscape, and tie these changes with the known political, religious, and economic history of Jerusalem.

**Yuval Gadot (Tel Aviv University), Dafna Langgut (Tel Aviv University), and Israel Finkelstein (Tel Aviv University), “The Archaeology of Jerusalem in the Days of Manasseh”**

According to the biblical text, King Manasseh ruled from Jerusalem over Judah for more than half a century, at a time when Judah was part of the Assyrian order. Our knowledge of his deeds is however restricted to a few laconic lines in the Second Book of Kings.

Recent archaeological developments, mainly better control over the relative chronology of Jerusalem, allow us for the first time to identify the archaeological horizon of the first part of the seventh century B.C.E., the days of King Manasseh. In this lecture, we will explore Jerusalem’s rural hinterland and monumental construction that may have taken place under Manasseh. We will highlight how his cooperation with the Assyrian empire fostered large-scale economic specialization and urban development on a greater scale than before.

**Petra Vaiglova (Washington University in St. Louis), Gideon Hartman (University of Connecticut), Joe Uziel (Israel Antiquities Authority), Tehillah Lieberman (Israel Antiquities Authority), and Lee Perry Gal (Israel Antiquities Authority), “Isotopic Investigation of Meat Provisioning in Late Roman Jerusalem during Times of Political and Religious Transformation”**

This paper will present the preliminary results of an isotopic investigation into sources of animal resources traded and consumed in Jerusalem during the third and fourth centuries C.E. This period of time is witness to the transition that the city underwent from a pagan military settlement to a Christian civic settlement, accompanied by a rise in urban activity and an expansion in the city’s population. Tooth enamel carbon and oxygen isotopic values of animals (pigs, sheep, goats, and cattle) will be used to assess the geographical origins, diets, and seasonal mobility of animals uncovered in the faunal assemblage under Wilson’s Arch in the recent excavations. In combination with organic sulfur isotopic values of the same individuals, the results will shed light on whether the political and religious transformations, as well as the site’s growth, were accompanied by changes in resource exploitation and trade patterns, and what they may suggest about changing connectivity between people living in Jerusalem and the provinces of Palaestina. More broadly, the study will inform our understanding of the scale and intensity of animal management strategies and consumer vs. producer economies during the Late Roman period in the eastern Mediterranean.

**Dafna Langgut (Tel Aviv University), “Tracing Ancient Disease by the Identification of Parasite Remains: A Case Study from the Ancient Core of Jerusalem during the Abbasid Caliphate”**

A paleoparasitological investigation conducted in several cesspit deposits dated to the Abbasid Caliphate from the ancient core of Jerusalem sheds new light on the diseases which were prevalent at that time. The parasite remains (mainly eggs and cyst) were recovered based on a chemical process at the Laboratory of Archaeobotany and Ancient

Environments at Tel Aviv University. The assemblage included remains of several parasite taxa such as *Ascaris* sp., *Trichuris* sp., and *Taenia* sp. which probably led to malnutrition. The paleoparasitological analysis was accompanied by the extraction of fossil pollen. The latter provides information regarding the diet of the citizens of the ancient core of Jerusalem during the period under discussion. The palynological spectrum is mainly composed of edible plants such as cereals, *Olea europaea* (olive), *Vitis vinifera* (grape), Brassicaceae (cabbage family), *Mentha* type (mint) and various types belonging to the Fabaceae family (legume). The results indicate that the citizens consumed a typical Mediterranean diet and their sanitation conditions were in a relatively poor state.

## **2C. Digital Archaeology and History I**

CHAIR: Tiffany Earley-Spadoni (University of Central Florida)

### **Sara Mohr (Brown University) “Focus-Stacking and 3D Modeling for Enhanced Publication of Cuneiform Tablets”**

Cuneiform writing is inherently three-dimensional: the medium is usually a clay tablet, the wedges themselves are impressed into clay, and the writing streams often run over the tablets' edges and onto their sides. The 3D nature of cuneiform makes the conventional system of photographing tablets insufficient for visualizing them for either research or educational purposes. Further, the current method of photographing tablets often does not allow for careful examination and reading of individual cuneiform signs while still adequately documenting the object as a whole. Therefore, in this paper I illustrate and evaluate the merits of two methods of documentation: focus-stacking and 3D models visualized in a 3D environment. These techniques serve to enhance textual analysis, increase accessibility to archaeological objects, and supplement pedagogy in ancient Near Eastern history. The small collection of cuneiform tablets and cones in the John Hay Library at Brown University is an ideal collection with which to show the benefits of these techniques in scholarly publication. This paper explores the methods I am using to digitally record the tablets in the Hay Library as well as the ways in which I will make the information available alongside traditional publication methods. I will evaluate each step of the imaging and publication process: access to and careful handling of each object, the required equipment and how it is used, the creation of an online digital environment for displaying the results of these techniques, and ways in which others can recreate this process with other collections.

### **Lorenzo d'Alfonso (New York University) and Ryan Schnell (New York University), “The Use of Face Recognition Software in the Paleographical Analysis of Hieroglyphic Luwian Texts”**

In collaboration with the team at Metaliquid, our research project aims to use software developed for facial recognition to help build a comprehensive paleography of Hieroglyphic Luwian, a script that was in use from the 14th through the early 7th centuries B.C.E in the area of what is today modern Turkey and Syria. We have chosen to focus our current efforts on the recognition of 45 hieroglyphic signs, which form some of the most used signs in the corpus, the so-called standard syllabary. With a training based

on our own recognition and tagging of signs identified from inscriptions in the regions around Karkamış and Maraş, the software will be able to recognize signs from throughout the corpus. The results of this research project will greatly improve the speed and efficiency with which future texts may be collated and may suggest new insights into the paleography and orthography of the current corpus. Hopefully, this research will aid greatly in furthering our understanding of the history, linguistic and political trends, and scribal practices of the larger Syro-Anatolian cultural complex. In addition, the application of this technology to other text corpora has the possibility of creating a lasting impact on the methodology of text analysis in the study of scripts.

**Edward Stratford (Brigham Young University), “Plumbing the Depths: The Old Assyrian Research Environment and Critical Approaches to Data Modeling”**

Digital projects have proliferated over the past decade with increasing rapidity, and methods to analyze data available have also increased, though at a slower rate. However, most textual analysis methods continue to rely on relatively “flat” textual data. The Old Assyrian Research Environment (OARE) represents a radical push toward a contextualized and integrated data model that enables analysis of more complex problems by modeling texts-as-language and aggregating multiple levels of data. OARE ([oare.byu.edu](http://oare.byu.edu)) is operated within the Online Cultural and Historical Research Environment (OCHRE, [www.ochre.uchicago.edu](http://www.ochre.uchicago.edu)). At present, OARE has imported more than 630,000 words in more than 1.8 million signs over 9,000 texts, and is in the process of indexing those words to the dictionary (currently 26,000 word forms) and articulating the texts according to constituency structure (66,800 phrases, 14,395 sentences, 6,090 paragraphs to date). This process of modeling cuneiform documents engages critically ontologies of data, evidence, and historical entities and practices. In particular, the challenges of modeling historical reconstruction of densely witnessed but poorly articulated chronological series of economic events will be discussed. By articulating texts according to constituent structure, the interdependent act of philological and contextual analysis can be laid bare within the data model. Examples of such modeling and the relevant philosophical underpinnings of such choices will be accompanied by a status report on the publication of the Old Assyrian Research Environment.

**Christian Casey (Institute for the Study of the Ancient World, New York University), “Invisible Icons: The Role of Classifiers in the Automated Summarization of Demotic Texts”**

As “silent icons,” the classifiers of the Egyptian hieroglyphic script serve numerous purposes in their function as pictorial signifiers. However, the classifiers of Demotic inform and challenge this broader understanding of Egyptian. As the cursive scripts evolved from hieroglyphs and became more abstract, they ceased to depict physical objects. Hieratic classifiers are identifiable as hieroglyphs, but Demotic classifiers are unrecognizable shapes. They had lost all visual association with the categories that they represented. Demotic classifiers cannot be called “pictorial signifiers” in any obvious sense. Why then were they retained so consistently after seemingly losing all meta-linguistic function? At the same time, the classifiers of Demotic continued to serve as visual metaphors. How did they achieve this without being visually recognizable, and why was this role so essential to the Egyptian script?

In this paper, I will explore these questions in an effort to expand our current understanding of Egyptian classifiers. In addition, I will consider the unique qualities of Demotic classifiers in the context of that script and ask what value they offer to the study of Demotic texts. In particular, these distinctive glyphs readily lend themselves to machine recognition tasks, and their classificatory power implies that their frequency in a text could provide a glimpse into its content. Therefore, the study of Demotic classifiers may aid in the seemingly impossible task of accessing unstudied Demotic texts using computational techniques.

**Joseph Weinstein (BBN Technologies), “Experiments in Digital Petrography”**

The idea of employing digital image analysis to facilitate the interpretation of petrographic thin sections has often been suggested, but rarely applied. The principal advantage would lie in automated counting and measurement of inclusions, a very time-consuming process when performed by hand. Unfortunately, most of the potentially available tools and strategies for analysis of microscopic images are focused on the needs of the medical community and need adaptation for petrographic analysis. The presenter, a computer scientist, is currently engaged in that task. This paper will present an initial look at appropriate techniques and results, focused on petrographic analysis of southern Levantine pottery.

## **2D. Ancient Inscriptions I**

CHAIRS: Michael Langlois (University of Strasbourg; Centre de Recherche Français à Jérusalem; University of Helsinki) and Aren Wilson-Wright (Radboud University)

**Magnus Widell (University of Liverpool), “Ghee, Cheese, and other Cool Stuff: A Study of the Administration of the Dairy Industry in Ur III Umma”**

Based on unpublished and published cuneiform texts from the Ur III period, this paper attempts to shed new light on the administration of the state-controlled dairy industry in and around Umma in southern Mesopotamia in the late third millennium B.C.

**Aren Wilson-Wright (Radboud University), “Original *šîn* at Serabit el-Khadem: A Palaeographic and Linguistic Analysis of Tallet’s Document 27”**

In 2012, Pierre Tallet published four new early alphabetic inscriptions from Serabit el-Khadem, an Egyptian turquoise mining facility in the Sinai Peninsula. One of these inscriptions—Document 27—consists of three signs and contains a previously unattested letter. Shaped like a sunburst, this letter resembles the  $s^2$  from Thammudic D, an Ancient North Arabian script, and the *šîn* from the horizontal Wadi el-Ḥôl inscription. I argue therefore that the unknown letter from Document 27 represents the etymological voiceless lateral fricative *šîn*, which is otherwise unattested in the early alphabetic inscriptions from Serabit el-Khadem. The acrophonic principal offers additional support for this conclusion. Because the letter from Document 27 is shaped like a sunburst, the most plausible acrophone for this letter is the word for sun, which begins with a reflex of the Proto-Semitic voiceless lateral fricative in most Semitic languages (e.g., Arabic *šams*,

Sabaic  $s^2ms^1 < *tams$ ). Identifying this letter, in turn, allows us to read Document 27 as the hypocoristic personal name  $\acute{s}wp$ , which is attested in Sabaic (Ja 584) and is cognate with Sabaic  $s^2wf$  (“to look after, protect, defend”), Mehri  $m\acute{s}\acute{a}f\acute{a}t$  (“protected person, thing; protection”), and Colloquial Arabic  $\acute{s}\acute{a}f\acute{a}$  (“to see”). Document 27 thus represents a name-graffito.

**Kaz Hayashi (Baylor University), “The Birth of the Pleasant Gods: A Structural Analysis of Lines 49b-67a of KTU/CAT 1.23 (UT 52)”**

During the second campaign at Ras Shamra, excavators unearthed an inscribed tablet (UT 52; KTU/CAT 1.23) that narrates the birth of the double deity Šaḥru-wa-Šalimu. Dennis Pardee regards this tablet as one of the most important inscriptions outside the principal cycle of texts. Despite the text’s clear import, the only consensus concerning the text’s literary structure is its two-fold division into lines 1–29 and 30–72. Particularly, scholars disagree over the outline of the second half of the inscription. Charles Virolleaud’s *editio princeps* and subsequent studies by Theodore Lewis, Dennis Pardee, and Mark Smith only agree in identifying line 64b as marking the transition to the inscription’s conclusion (Virolleaud 1933, Lewis 1997, Pardee 2003, Smith 2006).

In contrast to previous studies, I argue that lines 49b–67a form a literary unit that consists of two sub-units: 49b–54 and 55–67a. A previously overlooked parallel structure marks its unity, where key phrases in 49b–54 are repeated and expounded in 55–67a. The expanded materials further form an A–B–B’–A’ chiastic structure, demonstrating the coherence of lines 55–67a. I conclude by highlighting how this literary division influences the reading of the text. For instance, the repetition of  $\acute{s}'u$ .  $\acute{d}b$  (54; 65) undermines the argument of scholars who move the word divider to read line 65 as  $\acute{s}'u$ .  $\acute{d} <.> btk$ .  $m\acute{d}br$ .  $q\acute{d}\acute{s}$  “Raise a dais/sanctuary in the midst of the holy desert” (De Moor 1987; Wyatt 2002).

**J. Caleb Howard (Tyndale House; University of Cambridge), “Three Obscure Assyrian Reliefs and Their Inscription”**

A set of three little-known Assyrian reliefs from the city of Kalḥu, modern Nimrud, are presented. These stone reliefs are inscribed with the same composition, a royal inscription of Ashurnasirpal II (883–859 B.C.E.), which is distinct from the composition called the Standard Inscription that usually appears on the wall-panels from the Northwest Palace. Other features of these reliefs, including the distribution of the text across them, as well as their dimensions, further set them apart from the well-known Northwest Palace reliefs. These three reliefs and their unique composition have been given only piecemeal treatment by scholars and they are not discussed in A. Kirk Grayson’s editions of Ashurnasirpal II’s royal inscriptions. Thus, a thorough study of these artifacts, with an edition of the text and an investigation of their primary context, is a desideratum. Attention is given to the compositional features of the text that distinguish it from other royal inscriptions of Ashurnasirpal II. In particular, the phenomenon of the repeated reuse of extended pericopes from royal inscriptions in different combinations to produce new compositions is discussed, with the hope of clarifying the compositional contours of the corpus of Ashurnasirpal II’s royal inscriptions and, by extension, of Neo-Assyrian royal inscriptions in general.



**Talia Prussin (University of California, Berkeley), “The Lehmann Text Revisited: Royal Land Grants and Land Distribution in Seleucid Mesopotamia”**

The Lehmann text, only fully published in 2014 but known for over 100 years to scholars of Seleucid Mesopotamia, conceals a wealth of information about the Seleucid economy and how the Seleucids dealt with the long-established temples of Mesopotamia. Both surviving copies are clay tablets copied from a stone stele erected in the Ekisalbanda. The Lehmann text details a gift of land from Laodike, Seleucus II, and Antiochus Hierax to the cities of Babylon, Borsippa, and Cutha. This land had originally been granted to these royal family members by Antiochus II, but the text does not clearly date either that initial grant or the one to the Mesopotamian cities. This document does, however, make detailed provisions for the allotment of revenue from the land as well as for the waiving of numerous tax levies for the Babylonians.

Because the Lehmann text was published so recently, there is very little extensive discussion of the inscription. This paper nevertheless seeks to challenge some of the assumptions that have been made about the land tenure of allotments from these land grants and to provide a possible explanation for their initial distribution after the grant. With this explanation in mind, I will resituate the Lehmann text within the Seleucid economy, confirming the key role of the Mesopotamian temples in maintaining Seleucid control of Mesopotamia.

**2E. Between Cities: Exchange and Urban Networks II**

CHAIR: Shana Zaia (University of Vienna)

**Haskel J. Greenfield (University of Manitoba), Tina L. Greenfield (University of Saskatchewan), Elizabeth Arnold (Grand Valley State University), Itzick Shai (Ariel University), Shira Albaze (Bar-Ilan University), Jeremy Beller (University of Victoria), and Aren M. Maeir (Bar-Ilan University) “Exchange and Urban Networks in the Southern Levantine Early Bronze Age: Artifactual and Ecofactual Evidence for Exchange Networks at Tell es-Safi/Gath, Israel”**

During the early third millennium B.C.E., urban centers emerged on the southern Levantine landscape. Yet, we know relatively little about how they were provisioned. In this paper, we will address the movement of goods (organic and inorganic) and by implication people across the landscape. We present evidence for networks of movement that reflects the extent of the catchment area necessary to support early urban centers in the region. We demonstrate that urban populations relied upon a supply network of goods that extended across the region for both organic and inorganic materials. Artifactual, zooarchaeological and isotopic data from the EB III domestic neighborhood excavations at Tell es-Safi/Gath are used to demonstrate the extent and nature of provisioning and consumption at this early urban center.

**Catherine Kearns (University of Chicago), Georgia Andreou (Brown University), Kevin Fisher (University of British Columbia), Carrie Fulton (University of**

**Toronto), and Sturt Manning (Cornell University) “Cityscape Interfaces: Comparative Studies of Long-Term Urban Complexes in South-Central Cyprus**

This paper utilizes recent findings from the interdisciplinary Kalavassos and Maroni Built Environments (KAMBE) project to examine and compare long-term patterns of emergence, disintegration, and re-occupation at two urban complexes in south-central Cyprus, Kalavassos-*Ayios Dhimitrios* and Maroni-*Vournes*, situated roughly 4 km apart. While prevailing understandings of emergent urbanism on Cyprus have largely focused on the excavated confines of site architecture, since 2008 KAMBE has conducted intensive geophysical survey, surface collection, and excavation in the surrounding landscapes of these two cities to explore different spatial practices of urbanism and land use associated with the novel politics of the Late Bronze Age (ca. 1700–1050 B.C.E.). These analyses have revealed divergences in planned built environments, dispersed urban spaces, and nearby coastal exchange points that suggest locally-situated yet interconnected place-making practices. As a result, KAMBE’s work has raised new questions about the economic and social interrelationships between these complexes as they developed regional control over agrarian and copper production and access to maritime trade, as well as their comparable histories of foundation and abandonment around 1200 B.C.E. The paper explores two sets of concerns that arise out of these new findings and that contribute to our understandings of historical processes tied to urban formations: how the Kalavassos and Maroni urban interface created local networks of difference while tied to broader interregional economies, and what kinds of political economy surfaced in and between these remnant cityscapes after their Late Bronze Age abandonments, during the early first millennium B.C.E.

**Shigeo Yamada (University of Tsukuba) “Names of Walls, Gates, and Palatial Structures in Assyrian Royal Cities: Their Contents, Styles, and Ideology”**

The capital cities of the Assyrian kingdom, which had the royal palace(s) as their political-administrative cores, were surrounded by strong walls that had a number of gates. This paper investigates the names given to the city walls, city gates, and palatial structures of the Assyrian capitals Assur, Kalhu, Dur-Šarrukin, and Nineveh, found in the Neo-Assyrian sources. Those names included “common names” for daily use, as well as longer and explanatory “ceremonial names.” For instance, Assur’s “Tabira Gate” had a ceremonial name that meant “Entrance of All Lands.” A series of such names suggest that the city was either the power-base of the kingdom or a place of cultic-theological significance. I will analyze the nature, structure, and ideology of the names, as well as their changes alongside the transfer of Assyrian capitals from one to another. Thus, I will examine how the monarchical elite named the royal architectural structures and expressed through them the relations between the cities and the gods, and between the kings and the world. I will demonstrate how those names differed in different capital cities, reflecting the changing political-theological ideologies over time, before the complexity of name-giving reached its zenith in both structure and message with Sennacherib’s Nineveh. To sum up, the names reflected the progress of Assyrian state formation and dominion over a vast territory, including Babylon.

**Adrienne Spunaugle (University of Michigan), “The Wild, Wild West of Mesopotamia: Nippur in the First Millennium B.C.E.”**

During the height of the Neo-Assyrian and Neo-Babylonian empires, the city of Nippur occupied a liminal space between the tribal polities of the Sealand to the south and the administrations centered at Babylon to the north. Through an interdisciplinary approach that reads texts in light of their material cultural and paleo-climatological environs, I illustrate how the city of Nippur displayed more diversity than other, larger metropolitan areas. Due to its location in the frontier zone between the states of Babylon and Elam, the Sealand, and tribal factions to the west, and as an eventual hub for the “sister cities” of deportee communities, the study of Nippur provides access to rural and urban populations of southern Mesopotamia that often elude discovery. In this paper I present the highlights of Nippur’s engagement with other cities and locales as a frontier city with memories of glory.

**Melanie Gross (Leiden University), “At the Harbor of Sippar: The Activities of Merchant Families in Babylonia during Persian Rule”**

Located between the Euphrates and Tigris in northern Babylonia, Sippar was a traditional transit point for people and goods on land and water. At times of Persian rule a cluster of families living in Sippar engaged in trading activities. One purpose of this paper is to discuss the possible trading goods, their origin, and their nearer or more distant destinations. Another is to discuss the mentality and integration into society of the traders and their families. How were they connected among each other and with whom did they interact beyond this circle, be it men from Sippar or men from outside the city? How did their involvement in trade influence their social standing, especially in view of the disparity between long-established families living in the city and newcomers who migrated from other cities or even other countries? To what extent was their daily life characterized by encounters with people passing through the city’s harbor rather than with inhabitants of the city? Considering the possibility of regional but also trans-regional trade, what social and economic impact did these trading activities have on the city, on the province of Babylonia, and even on the Persian Empire as a whole? The paper is based on the on-going full edition of the so-called “Maštuk group,” comprising three private archives. It aims to shed more light on the socio-economic realities of Babylonian citizens who engaged in trading and to provide a better understanding of Sippar and its role as a trading center during Persian rule.

**Odette Boivin (New York University) “Neo-Babylonian Larsa in Semi-Dependency”**

The southern Babylonian town of Larsa, an ancient Sumerian cult center, reached its political apex in the early second millennium when it became a royal capital. This was not to last, however; after its incorporation into Hammurapi’s kingdom, the city was hit by the widespread de-urbanization that marked the late Old Babylonian and early Kassite periods. Revived in the 14th century, Larsa went through ups and downs before reaching urban proportions again in the seventh or sixth century. Private archival documents written in sixth-century Larsa, the archive of the businessman Itti-Šamaš-balāṭu, suggest that Neo-Babylonian Larsa was dependent administratively on Uruk, and perhaps to a lesser extent on Sippar. The archives of the Eanna, the main temple of Uruk, had already revealed an economic connection with the Ebabbar temple of Larsa. This view is confirmed by the Larsa texts, which reveal other ties between the cities, in and outside temple affairs. In addition, there are some indications of connections between Sippar and

Larsa, the main cultic centers of the sun god Šamaš in Babylonia. Babylon's presence is also discernible in the texts in fiscal, judicial, and economic matters. This paper will show that the re-urbanized Larsa and its main temple were part of a network of Babylonian cities, contributing to it and, through it, to the Crown, in a state of administrative and economic semi-dependency.

## **2F. Archaeology as a Tool for Enhancing Participant Welfare, Social Cohesion, and Education II**

CHAIR: Rona S. Evyasaf (Technion-Israel Institute of Technology) and Stephen Humphreys (American Veterans Archaeological Recovery).

### **Erin Darby (University of Tennessee, Knoxville) and Eric L. Welch (University of Kentucky), “To Boldly Go: Integrating Intercultural Engagement and the Responsible Conduct of Research in Field School Learning Outcomes”**

Many students participating in field research value their cultural engagement with the host country equal to or more highly than their exposure to research. Nevertheless, for many field schools, these outcomes occur as by-products and are rarely integrated into the training program. The limited scope of intercultural learning outcomes can lead to problems in the field, including threats to student safety and missed opportunities for students to interrogate their own cultural biases. Weak intercultural learning outcomes also impact the host community, owing to the history of research in the target region and the existence of multiple stakeholders affected by archaeological research at various levels of national government, regional politics, and local communities. When research programs ignore these aspects of cultural engagement, they create an infrastructure that may replicate deeply problematic attitudes toward local communities and exacerbate divisions between local communities and their own government.

Archaeological field school programs can improve international field experiences by acknowledging best practices for community engagement, including increasing attention to cultural orientation, guided self-reflection, and evaluation. These cultural aspects should not be treated as separate from or secondary to the research process. Rather, they affect every aspect of how data is accessed, how research teams engage governmental agencies, practices related to data sharing with local academics, policies that affect local workers, the politics of preserving and curating data in-country, and the way various stakeholders in the host country may react to foreign research teams.

### **Achia Kohn-Tavor (Ariel University), “The Finder, Not the Find: Educational and Tourist Excavations”**

In view of the positive values that archaeology and excavations hold, the opportunity should also be given to those engaged in short-term experiences: school and kindergarten programs, tourist attractions, and community activities.

Usually, these experiences and attractions are about 1.5 hours long, plus a guided tour at the site. The message and content are tailored to the specific tour group: catering to all ages, schools, and communities. Unlike academic excavations—which might incorporate

some element of community involvement, but which remain focused on the more painstaking research goal—educational excavations concentrate on the finder’s experience, not on the find itself.

For tourists from abroad, such an excavation is a very important part of discovering a different land and culture. For example, excavating in ancient Korazim in the Holy Land holds great significance for Christians and Jews alike. For a short while, they touch first-hand the people mentioned in the Bible. Domestic tourists, meanwhile, are mostly retired people, who will be more interested in the content than in the physical work. For children of all ages, a program is prepared which includes class-based teaching about the site background and larger knowledge context, and encouragement toward independent research about the excavation subjects (e.g., everyday life in the Byzantine period).

Taking part in an archaeological excavation is a powerful means of fostering important values in the participants: their sense of discovery; sense of belonging; historical and scientific knowledge; and heritage. This is a short and powerful experience that can be cherished for years.

**Avraham Mashiah (Israel Antiquities Authority), “Community-Led Heritage Preservation—An Innovative Solution for Mutual Long-Term Success”**

One assumes that community involvement with conservation processes at ancient sites will enable the community to learn about the site’s value and develop a sense of local pride in the site. Over the years, many attempts have been made to develop an affinity between communities and sites in their vicinity. Local communities, in which small archaeological sites are located, held the responsibility for the future of these sites. Unfortunately, without a strategy for the site’s preservation and maintenance most of them were left neglected.

In 2017 the Conservation Department of the Israel Antiquities Authority launched a program based on a new approach for developing mutual relationships between communities and their neighboring antiquities. The new approach reverses the common order of first preserving a site and afterwards delivering it to the local community. Instead, we now locate suitable communities that themselves choose the archeological sites they would like to adopt. Participating in the project also creates new meeting place for the communities and generate continuous commitment to the site’s preservation. As part of the plan we issued a call for “Antiquities Close to Home,” which received high interest from a variety of social sectors and communities. Several successful pilot programs were conducted, where a local community fused around the site and now uses it for its needs and sees it as a common goal. We also learned that success depends on customizing the project to the specific community and site as well as maintaining ongoing multi-aged activities.

**Shay Bar (University of Haifa), “Tel Esur Excavations: Participant-Oriented Archaeology for High School Students”**

Tel Esur is situated in the north of Israel's central coastal plain, 10 km southwest of Megiddo. Since 2010 a unique community project has been held at the site annually, in memory of Itzik Dori, a teacher and educator from the local high school.

The excavation at the site is sponsored entirely by the community, using unorthodox fundraising methods, such as collecting and selling scrap metal and producing and selling our unique brand of Tel Esur olive oil. Our work force is composed almost entirely of students from the local high schools: every season, 500 15-year-olds from different backgrounds work side by side to explore the past in their own backyard. The project promotes cooperation between Jews and Muslims, coming from both religious and non-religious backgrounds. It brings together students that live in the region but would otherwise have little or no contact, using the mutual affinity to their geographical environment as a common ground. Classes of children with special needs, who sometimes find themselves excluded from school activities, also participate. Over the last nine years, more than 4,000 children have worked with us.

In this paper, I will present the project, focusing on the relations with the community, the methodological dilemmas, and lessons learned.

**Rona S. Evyasaf (Technion-Israel Institute of Technology), “Experiential Archaeology as a Base for Creating a Multi-Ethnic Community and as a Grounds for Educational Academic Projects: Beth She‘arim as a Case Study”**

Most excavations rely on three main groups of workers: payed laborers, volunteers, and students. Each group brings different interests, religious beliefs, political views, and age differences. What unites them are the excavation goals, excitement in discovering finds, and a feeling of satisfaction at the end of a hard day's work.

Working alongside these different groups for many years, and especially in the last six seasons at Beth She‘arim, has led to observations about the social benefits that the excavation's participants experience. What started for some of our volunteers as a personal archaeological experience turned into a familial/communal affiliation. New friendships were created between young and old, among Jews, Muslims, Druse and Christians, and between locals and foreigners. It is a unique community that meets once a year for a short time yet has developed a sense of belonging to the site and its artifacts and above all to their colleagues.

Among the participants in our excavations are also students. The University of Haifa students come from different faculties and for many it is a first visit to an active archaeological site. This experience connects them to their country's history and to other students and tests their physical and mental abilities. The Technion students, from the Faculty of Architecture, experience field archaeology and are exposed to issues dealing with conservation and site management, useful knowledge in their professional life. What started as a need to find “working hands” to uncover the site has become a tool to enhance unity, community, friendship and knowledge.

**2G. Archaeology of the Near East: Bronze and Iron Ages II**

CHAIR: Eric L. Welch (University of Kentucky)

**Steven Collins (Veritas International University) “The Remarkable Pottery of Tall al-Hammam’s Middle Bronze Age Palace Complex”**

In many ways, Tall al-Hammam (TaH) in the southern Jordan Valley is an extraordinary site. Its sheer size (26 ha surrounded by massive fortifications; 100+ ha overall settlement area) is notable. The fact that its Early to Middle Bronze Age urban core was surrounded by numerous towns, villages, and megalithic elements spreading across a discrete and visually-connected landscape suggests a city-state of substantial import. TaH’s influence on regional socio-politics must have been considerable. Its ca. 1700 B.C.E. violent destruction marked the end of a lengthy city-state era in the Middle Ghor that had begun in EB II. This paper focuses on the ceramic assemblage of TaH’s MB II palace complex, located on the southwest acropolis of the upper tell, as indicative of the city’s social stratification, inter-regional and international connections, and the sophisticated artistic tastes of its ruling elite. Within the ca. 250 m<sup>2</sup> of the MB II palace complex excavated thus far, fragments of over 2,000 vessels reveal a remarkable range of ceramic forms. Within the palace pottery repertoire, fineware vessels—such as burnished and painted carinated bowls, chalices, kraters, and juglets—abound. A unique class of vessels consisting of multi-slipped/cross-wiped forms—including everything from large jars to bowls to lamps—demonstrates a conscious effort to transform what would otherwise be called “common ware” into a distinctive “Hammam Palace Ware” (HPW) not found in other areas of the city. Design motifs on some vessels also suggest that an Aegean artistic influence found its way into Tall al-Hammam’s MB II palace.

**Holly Winter (The University of Sydney) “Reassessing Middle Bronze Age Courtyard Palaces in the Southern Levant”**

In my previous presentation at the 2017 ASOR Annual Meeting, I presented a reassessment of the function of Middle Bronze Age courtyard palaces in the southern Levant and suggested that these structures be viewed with a funerary function, instead of the more traditional administrative/redistributive role allocated to these buildings. This talk will follow on from this and focus more directly on two sites and their “courtyard palaces”: the Shechem courtyard complexes and the palatial structure at Jericho.

A reassessment of the architectural and material finds from the highly debated Field VI Shechem palace and the Jericho Middle Bronze Age palace blur the lines between secular and religious monumental architecture. A consistent association with funerary practices is far more prevalent for these structures than any alleged administrative/redistributive role, which is so often stressed. Similarities in architectural style, lack of material finds, and a funerary association can be drawn among the courtyard palaces at Shechem, Jericho and other similar structures such as at Lachish, Tell Sera, Tell el’-Ajjul and Megiddo. Based on a consideration of the rich burial assemblages associated with the structures and other archaeological material, a reassessment of the function of these commonly understudied (until recently) and complicated structures, help support the existence of palatial funerary complexes in the southern Levant during the Middle Bronze Age.

**James Weinstein (Cornell University) “Seal-Amulets and the Chronology of Palestine in the Early Second Millennium B.C.”**

Calibrated radiocarbon dates from Tell el-Dab‘a in Egypt as well as from several sites in the northern Levant (Tell el-Burak) and southern Levant (Tel Kabri, Tel Ifshar, Tell el-Hayyat, and Ashkelon) are in conflict with the traditional archaeological chronologies for Palestine in the Middle Bronze Age. The greatest impact of these new radiocarbon data has been on the MB IIA and transitional MB IIA/B periods—where advocates of the new chronology are quickly rewriting the archaeology and history of the region. This is especially disquieting to those who have relied on the numerous archaeological linkages between Egypt and Palestine to create the lower chronologies that have dominated archaeological thinking for a number of decades.

This paper examines the seal-amulets and sealings found in MB IIA and transitional MB IIA/B deposits in the southern Levant. The vast majority of these artifacts date to the late Middle Kingdom, and more than a few can be specifically placed in the first half of the 13th Dynasty. The paper contends that the calibrated radiocarbon dates, which set the end of the MB IIA and transition to MB IIB at ca. 1850–1800 B.C., are much too early based on the evidence of the seals. Scarabs and sealings do not allow us to date the MB IIA/B transition during the 12th Dynasty; rather, the transition took place in the mid-13th Dynasty. The current haste to rewrite the archaeological history of Palestine to accord with the radiocarbon data is thus premature.

**Daniel Griswold (University at Buffalo) “The Elite Estate of Tel Ifshar and its Implications for the Socio-Political Organization of Southern Canaan in the Late 15th Century B.C.E.”**

While the Late Bronze Age of southern Canaan is seen generally as a recession from the great city-states of the MB II, the late 15th century B.C.E. is seen as particularly desolate. The general narrative is of small, rural, impoverished towns struggling under local rule from capital cities. Newly analyzed evidence from Tel Ifshar on the Sharon coastal plain of Israel shows that this assumption needs adjustment.

Tel Ifshar Stratum X contained a large pottery concentration sealed by a destruction layer and represents the only well-stratified LB I domestic remains in the Sharon. The ceramics in the Tel Ifshar collection and the faunal evidence of hunting show a distinct characteristic of the behavior of elite feasting. These remains, when analyzed alongside other late 15th-century remains across southern Canaan, display more of a horizontal power structure than had previously been assumed. It seems that Tel Ifshar as well as many of the sites previously taken to be small towns and villages would be better understood as elite estates. This new perspective has implications for how power was negotiated in Canaan, as many of the models that have been used to reconstruct Canaanite socio-political structure in the late 15th century do not match the available evidence.

**Florencia Fustinoni (University of British Columbia) “The Egyptian Empire in the Levant through a Study of Space”**



The ancient Egyptian empire offers an example of early attempts by an imperial power to interact between different cultural norms. During the New Kingdom (1550–1070 B.C.E.), Egypt sought to establish control over the Levant with different strategies. Based on Egypt's approaches to foreign policy in the area, I chose Egyptian governor's residences to conduct an in-depth spatial study. This thesis was carried out to deepen our understanding of the Egyptians' imperial strategies in the Levant by taking the innovative approach of spatial analysis using Hillier and Hanson's access analysis method. Used in conjunction with excavation data and visual analysis, this method revealed tightly controlled buildings and a change in how they were conceived depending on the reigning pharaoh. The Egyptians built these residences to control and monitor the region. The thesis proposes a reasonable rationale for the use of the spaces constituting those buildings, and provides evidence supporting an Egyptian imperial approach to their distribution and organization. It also bolsters arguments regarding the dating of the buildings and their relationship to Egyptian foreign policy, and suggests possible roles for the inhabitants. In so doing, this study falls in line with recent work regarding the archaeology of empire, and with research conducted to reach a greater understanding of how imperial strategy actually played out on the ground, moving away from top-down approaches. This new outlook has revealed a closer, entangled relationship between imperial power and subjugated area, and helps to disentangle the threads of how these cultural exchanges were actually functioning.

**Jesse Millek (Deutsche Forschungsgemeinschaft; University of Michigan) “Warfare and Destruction at the End of the Late Bronze Age”**

Warfare is one of the most prominent assumed causes for the destruction witnessed at many sites in the Levant and Cyprus at the end of the Late Bronze Age ca. 1200 B.C. Who or what the destroyers might have been range from the Sea Peoples, to peasants rising up against the ruling class, punitive raids by the Egyptians, or local skirmishes between competing sites. But how do we know if warfare was the probable cause for the destruction witnessed at many sites from this period? The purpose of this paper is to examine three sites from the Levant and Cyprus considered likely to have been destroyed in an act of war, to gain a better understanding of how warfare might be preserved in the archaeological record. These sites are Tell Kazel, Ras Shamra, and *Maa-Palaiokastro*. Based on this analysis, I will demonstrate that there are few instances where warfare is the most likely candidate for the cause of a destruction at the end of the Late Bronze Age in the Levant and Cyprus. This is due in part to the general misrepresentation of how much destruction actually took place at this time, the conglomeration of chronologically disparate events which are not in association with the end of the Late Bronze Age, as well as the inability to rule out all other possible causes for the fires and destruction as is standard practice in modern forensic fire investigations.

**2H. Early Bronze Age Urban Society: A View from Titriş Höyük, Turkey I**

CHAIRS: Timothy Matney (University of Akron) and Guillermo Algaze (University of California, San Diego)

**Guillermo Algaze (University of California, San Diego), “Titriş Höyük: Historical Context and Discussion”**

Patterns of urban and regional growth across greater Mesopotamia were quite dissimilar throughout much of the Early Bronze Age. While accelerated growth and continuity (in the aggregate) in urban processes are the norm across the Mesopotamian alluvium, the reverse appears to be the case in the rolling plains of Upper Mesopotamia, where urban agglomeration was instead characterized by periodic collapse. At the onset of the Early Bronze Age in Upper Mesopotamia, the indigenous polities that had characterized the area in the Late Chalcolithic gave way to a widespread pattern of ruralization. After a hiatus of almost half a millennium in which human settlement across Upper Mesopotamia consisted largely of villages and—at most—a handful of small regional towns, larger settlements again emerged in the area starting about 2700–2600 B.C. This re-emergence constituted, in effect, the second efflorescence of indigenous urbanism in the region. This efflorescence is relatively well understood through both archaeological and historical evidence. It resulted in the creation of a number of independent regional polities, each centered at a capital of considerable size, whose power on occasion rivaled that of their contemporary southern competitors. These northern capitals are found evenly spread across the well-watered plains of Upper Mesopotamia directly south and southwest of the Taurus/Zagros foothills in the middle of the third millennium B.C. Titriş Höyük, situated on a small tributary of the Upper Euphrates some 45 km north of modern Şanlıurfa and controlling the overland route to and from the historical river-crossing point at Samsat, is a case in point.

**Timothy Matney (University of Akron), “Early Bronze Age Architecture at Titriş Höyük”**

The excavations at Titriş Höyük uncovered over 2700 m<sup>2</sup> of domestic architecture dating to the Early Bronze Age, comprising at least 140 rooms within 15 coherent whole or partial structures. Published plans of the buildings have focused on the original footprints of houses from two areas—the Lower and Outer Towns. This paper expands considerably upon these published reports by summarizing the diachronic use-lives of the houses as changes in layout, circulation patterns, features, and room function transformed the manner in which domestic spaces at Titriş Höyük were organized. Clear evidence of city planning in the domestic architecture of the late Early Bronze Age at Titriş Höyük has been well documented and published already. This paper examines subsequent movement away from the regularity of much of the late Early Bronze Age city plan as generations of inhabitants adapted these spaces to their needs. The resulting detailed architectural plans have significant implications for the specialist studies of materials recovered from the domestic residences as part of ongoing analysis of the site.

**Britt Hartenberger (Western Michigan University) and Steven A. Rosen (Ben-Gurion University of the Negev), “Revisiting the Canaanite Blade Workshop at Titriş Höyük”**

Since the discovery of the Canaanite blade workshop at Titriş Höyük, only a few additional sites have been documented with evidence for the production of Canaanite blades, and the Titriş workshop remains unique as an excavated context with evidence of each stage of production from raw material reduction to final blade removal. Re-

examination of the cores and debris and their spatial interrelations sheds light on the structure of activities in the workshop and the lives of the specialists who lived there. The large quantity of chipped stone recovered from elsewhere at the site shows the diverse end uses of the blades in domestic settings. Recent studies of Canaanite blades have focused on their manufacture via pressure with a lever, their position at a developmental peak in blade production, and their role in the larger socioeconomic context of trade and exchange in the third millennium B.C. At Titriş Höyük, the value and uses of the blades, the efficiency of their production at the site, and the role of the lithic specialist in the wider context of the Early Bronze Age in urban northern Mesopotamia can be examined in detail.

### **Yoko Nishimura (Gettysburg College), “Small Artifacts and Pottery from Two Residential Neighborhoods at Titriş Höyük”**

At Titriş Höyük, a total of 15 late Early Bronze Age residential structures were completely or partially excavated in the Lower Town and the Outer Town areas. These two excavation areas are located at opposite ends of the site, about 900 m apart, but they contained houses with similar architectural structures and features. In this paper, I will compare and contrast, between these areas, the small finds and pottery that were found within the houses. The findings include that many of the artifacts were functional tools and implements for daily household chores and were stored collectively in courtyards or in small rooms located in the inner part of the houses. I will discuss what these artifacts represent in terms of the house occupants’ material wealth and their everyday activities from about 2300 to 2100 B.C.

## **2I. History of Archaeology**

CHAIR: Kevin M. McGeough (University of Lethbridge)

### **Eric H. Cline (The George Washington University), “Excavating Armageddon: Chicago’s Quest to Uncover Biblical Megiddo”**

The numerous publications produced by the Chicago excavators who dug at Megiddo from 1925–1939 are still used, and debated, by archaeologists working in the region today. However, these provide only a small window into the daily activities of the team members and the stories behind their discoveries. Fortunately, they also left behind a treasure trove of other writings—more than three decades worth of letters, cablegrams, cards, and notes exchanged by the participants, as well as their diaries, which provide us with a glimpse behind the scenes. Their story includes intrigues, infighting, and dogged perseverance before the digging ended abruptly because of World War II. It frequently reads more like the script for a daytime soap opera, for the improbable cast of characters included a field director who was one of the best excavators in the Middle East but could not manage a team of diggers; his successor who had no college degree and no formal training in archaeology; a surveyor who sued for wrongful termination, but who may have also been spying for the Haganah while at the site; a staff member who was fined for smuggling antiquities but went on to a successful academic career nevertheless; and a high school dropout without a degree in archaeology and a geology student initially without an undergraduate degree, who together published as much as the three field

directors combined, including co-authoring *Megiddo I*, the final publication documenting the first ten seasons at the site. That story can now be told.

**Beth Alpert Nakhai (University of Arizona), “*Ecce Feminae: The Rediscovery of Sr. Marie-Godeleine and Sr. Marie-Aline de Sion, Two French Archaeologists on Jerusalem’s Via Dolorosa*”**

Sister Marie-Godeleine (1879–1960), a member of the French Order of the Sisters of Notre Dame of Sion, lived in the Convent of the Sisters of Sion by the Arch of Ecce Homo on Jerusalem’s Via Dolorosa. The story of her exploration of the Hasmonean and Roman-era remains underneath and in the vicinity of the convent is virtually unknown in the larger archaeological world. Sister Marie-Aline de Sion (1911–1971), her younger colleague, also lived at the Convent. In 1955, she completed her doctorate at the Sorbonne, further developing the research that had been undertaken by Sr. Marie-Godeleine. Despite the 1956 publication of her dissertation, she, too, never gained stature in the larger community of Jerusalem’s archaeologists. My “rediscovery” of these exceptional women was fortuitous. Members of the Sisters of Notre Dame of Sion and others generously shared archival materials which, together with published reports and ephemera, have enabled me to reconstruct something of the rich story of these two fascinating women, whose contributions to the field of archaeology have been, until now, virtually unknown.

**Izaak de Hulster (University of Helsinki), “*Female Contributions to Biblical Archaeology During the Long 19th Century*”**

The 19th century was marked by significant changes in science, technology (including photography and steamers), archaeology and biblical studies, as well as society and politics (including Orientalism); all these have marked the attitude towards and the exploration and description of Egypt and the Near East, for many with a special interest in “the Bible.” This paper investigates the role of women in this development during the long 19th century, with a special focus on Palestine. Although there seem to have been no women directing excavations in Palestine (although some might include Hester Stanhope’s dig at Ashkelon, 1815), many women were involved in “opening up” this area by composing travel reports, contributing more specifically to botanics or ethnography, or through leading roles in fundraising, collecting (e.g., biblical manuscripts), and even by participating in excavations—surprisingly many local women were active in larger projects (e.g., under Bliss at Tell el-Hesi). These examples of female contributions will be considered against the background of the 19th century, the image of women, and developments in archaeology, especially in Egypt (also a “Bible land”) and “Mesopotamia,” and the women active in these regions, such as Jean Dieulafoy and Amelia Edwards, as they also contributed—partly or fully beyond their intentions—to the study of the historical context of the Bible.

**John Green (American Center of Oriental Research), “*An Archaeologist in Context: Insights from the Letters and Photographs of Olga Tufnell*”**

British archaeologist Olga Tufnell (1905-1985) is best known for her role in bringing the publication of the volumes on the site of Lachish (Tell ed-Duweir) to fruition, and her subsequent research on scarab seals of the second millennium B.C. in the Eastern

Mediterranean. Tufnell's legacy and contributions to archaeology are viewed positively due to her systematic and pragmatic approach to documentation, material culture, and chronology, particularly for the Lachish expedition (1932–1938), which remains an important “type site” for the southern Levant that continues to be excavated to this day.

This paper draws upon Olga Tufnell's archive of letters and photographs housed at the Palestine Exploration Fund (London), which are currently being prepared for publication. The paper explores the social relationships and professional opportunities that contributed to her career within Syro-Palestinian archaeology. Flinders Petrie and J. L. Starkey were among those who influenced her career trajectory, which spanned the generations (in contrast to her role as a self-trained archaeologist) when the discipline was becoming increasingly professionalized. The letters provide insights into dig life and the wider cultural, political, and gendered context of conducting archaeological fieldwork within the British Mandate of Palestine during the 1920s and 1930s, including a rare look at the attitudes and concerns of archaeologists working in this often idealized yet turbulent era, as well as their relationships with local community members.

### **Steven Edwards (University of Toronto), “Big Ideas and Big ‘Egos’: Citation and Co-Authorship Networks of *BASOR* Contributors”**

In this paper, I present the results of a bibliometric analysis of recent research published in the *Bulletin of the American Schools of Oriental Research (BASOR)*. First, I describe the structure of the underlying social network of contributors as expressed through article co-authorship. Using a variety of centrality measures, I examine who collaborates with whom in an attempt to identify the most central nodes in the network of *BASOR* contributors. Such an approach allows for the identification of focal nodes—or egos—in the production of research. But how impactful is the research that results from collaborative teams, or indeed from individual authors? Co-authorship trends alone do not account for research impact. Rather, to determine research impact, it is necessary to examine the network of citations associated with published research. That is, understanding who the key nodes are in the production of knowledge is not limited to identifying who collaborates with whom, but rather must include an assessment of who is citing whom. To determine this, I analyze the network of citations of recent research published in *BASOR* and identify the most influential articles in the sample. Combining statistics concerning both co-authorship and article centrality permits a more robust assessment of the most important research and influential research that make up the *BASOR* community.

### **3A. Archaeology of Jordan II**

CHAIRS: Marta D'Andrea (Sapienza Università di Roma) and M. Barbara Reeves (Queen's University)

**Kent Bramlett (La Sierra University), Monique Vincent (Walla Walla University; La Sierra University), and Friedbert Ninow (La Sierra University), “The 2019 Season of Excavation at Khirbat al-Balu‘a in Central Jordan”**

The Balu‘a Regional Archaeological Project (BRAP) returned to Khirbat al-Balu‘a for a second season in 2019. Balu‘a is a large, 16 ha basalt site located south of the Wadi Mujib, with occupational remains from the Bronze and Iron Ages to the Hellenistic, Roman, and Islamic periods. Long-term project goals include: 1) building a ceramic typology of the Balu‘a region; 2) understanding the political, economic, and environmental history of this major site that controlled access to the Central Karak Plateau; 3) establishing the sequence and expanse of settlements at Balu‘a; and 4) surveying and excavating test squares at regional survey sites from multiple periods. In 2019 work continued in the Iron Age II period domestic structure and defense system to gather data on the Iron Age phasing of the site and to contextualize society and economy of a major Moabite settlement. Work also continued at the *qasr*, the monumental structure at Balu‘a, to determine its founding date. New work started in the Middle Islamic village and in environmental research at the site.

**Joseph Greene (Harvard University), “Nelson Glueck’s 1938–1940 Excavations at Tell el-Kheleifeh, Jordan: A Further Reappraisal”**

Nelson Glueck excavated Tell el-Kheleifeh from 1938 to 1940 but died in 1971 before completing a final report. After Glueck’s death, the Kheleifeh archive was returned to ASOR, which deposited it at the Semitic Museum at Harvard. In the 1980s, Harvard graduate student Gary Pratico studied selected material—architecture, pottery, metal, and inscriptions—for a dissertation. This was published in 1993 as *Nelson Glueck’s 1938–1940 Excavations at Tell el-Kheleifeh: A Reappraisal*. Other finds from the site—bone, shell, botanical remains, geological specimens—were omitted; nor was any of the Kheleifeh collection then on display at the Smithsonian made part of Pratico’s *Reappraisal*.

The time has come for a further reappraisal of Kheleifeh. The ceramic chronology and settlement history in the Arabah, especially at Feinan and Timna, and in the Hijaz at Quraya are now much better known, with important implications for Kheleifeh’s dating and regional connections. Advances in archaeometry offer a host of new approaches to the ceramic, metal, stone, paleobotanical, and archaeozoological samples Glueck collected at the site. Finally, the Smithsonian Kheleifeh collection is no longer on exhibit and is now available for study.

The Semitic Museum has therefore organized a collaborative, multi-disciplinary project to restudy Glueck’s Kheleifeh excavations. Participants include the University of Vienna (ceramics), University College London (metallurgy), KU Leuven (geology), the Harvard Botanical Museum (paleobotany), and the Jordanian Department of Antiquities. This paper gives an overview of the project and its research objectives along with an interim report on results to date.

**Debra Foran (Wilfrid Laurier University), “The 2019 Excavations at the Ancient Town of Nebo (Khirbat al-Mukhayyat, Jordan)”**

Khirbat al-Mukhayyat is located approximately 6 km northwest of the city of Madaba and has long been associated with the ancient town of Nebo. The Khirbat al-Mukhayyat Archaeological Project (KMAP) was established in 2012 to investigate the sacred aspect

of the landscape around the site and explore the economic and ritual importance of Mukhayyat across multiple cultural and historical periods. This paper will present the results of KMAP's fourth season of excavation, which was concentrated on the site's Iron Age and Hellenistic remains.

Three fields of excavation were opened during KMAP's inaugural season of excavation in 2014. Two of these fields formed the focus of efforts during the 2016 and 2017 seasons. In Field C West, the discovery of a *miqveh* prompted further work, uncovering a number of plaster and bedrock installations, which may support the hypothesis that, during the Hellenistic period, the site was used primarily for agricultural and ritual purposes. In Field B, excavations allowed us to determine an Iron Age foundation date for the defensive architecture in this area. This fortification system was reused briefly in the Hellenistic period; however, during this period, Field B was used primarily for ritual activities that involved the placing and subsequent burying of a number of cooking vessels.

Efforts during the 2019 field season will be concentrated in Field B in the hopes of exposing more of the Iron Age occupation at Mukhayyat and elucidating the nature of the Late Hellenistic cooking pot deposits.

**Josie Newbold (Brigham Young University), "The Potential Impact of Geology as a Nabataean Architectural Medium and the Rock-Cut Façades of Petra, Jordan"**

There are over 600 identified Nabataean monumental façades carved into the sandstone cliffs around Petra, Jordan. These incredible monuments were likely carved between 100 B.C.E. and 100 C.E. and were utilized as tombs, symposium halls, and possibly even residences. Previous scholarly studies have focused on creating a tomb chronology for some of the more iconic façades (McKenzie 1990; Wadson 2011). Other studies have focused on the erosion characteristics of the sandstone cliffs of Petra (Paradise 2002). Unfortunately, other aspects of the local geology, such as faults, iron deposits, and the size and shape of the bedrock outcrops available to artisans, have never been studied with relationship to the potential Nabataean use of these geological aspects in façade and interior design. My study demonstrates that each of these geological factors had a significant impact on the creation of Nabataean rock-cut structures. The size and shape of the bedrock outcroppings and cliffs dictated the size and shape of the façades that could be carved while faults and fractures influenced tomb stability. This paper will discuss some of my findings from a survey of over 300 Nabataean rock-cut buildings that I conducted in Petra that focused on the potential relationships of rock-cut façades with the geological landscape. This study also presents a new and more comprehensive cataloguing of Nabataean façade types that updates and corrects McKenzie's previous publication.

**Cynthia Finlayson (Brigham Young University), "Dating the Great Circle on the Ad-Deir Plateau in Petra, Jordan"**

The mysterious Great Circle on the Ad-Deir Plateau in Petra, Jordan has long presented Nabataean scholars with questions concerning its functions, its relationship to the Ad-Deir Monument, its historic date, and its overall cultural associations. Recent excavation

and restoration efforts of the Great Circle by BYU-AMPP (Brigham Young University-Ad-Deir Monument and Plateau Project) have cleared one half of this massive 60 m in-diameter water catchment and possible performance structure of erosion fill, and restored its exposed inner and outer ring walls. During this process, recently discovered geological and archaeological evidence has allowed AMPP to now propose a dating sequence for this enigmatic structure, as well as study its structural engineering and thus propose its possible multiple functions over time. This paper will discuss these new findings, which are critical to understanding not only the Great Circle and its place within Nabataean engineering paradigms, but also the entire complex of buildings on the Ad-Deir Plateau within a fuller cultural and historical context. This building complex consists of the Ad-Deir Monument, the Burgberge Monument, massive cistern structures, and at least two major temples in addition to the Great Circle itself.

**Craig A. Harvey (University of Michigan), “The Nabataean Ceramic Building Materials from Petra’s North Ridge: The Effect of Roman Imperial Domination on a Local Industry”**

Archaeological investigation by the Petra North Ridge Project has brought to light new information on the habitation and burial practices of Petra’s ancient inhabitants. This project has also unearthed a large amount of ceramic building material (CBM) from the North Ridge’s structures, particularly from a small bath dating to the first century C.E. This corpus of brick, tile, and pipe provides an important opportunity to study the poorly understood Nabataean CBM industry before the Roman annexation in 106 C.E. and the effects Roman rule had on this industry. This paper will present the CBM from the Petra North Ridge and the results of its initial analysis. By comparing this material to that from other first century C.E. baths in the region, such as those in Wadi Musa and Wadi Ramm, this paper will also place the North Ridge CBM into its regional context. Emphasis will be placed on identifying standardized types based on form and fabric. One such brick type that is characteristic of, but not exclusive to, the Nabataean period is the small rectangular brick that was used in hypocausts. The Roman annexation of Nabataea does not seem to have affected this local industry, but rather presented new contract opportunities for the supply of building materials to the Roman army. This continuation of production is exemplified in the continuity of some CBM forms, as this paper will show through a comparison of pre- to post-annexation CBM found on the North Ridge and at other sites in the region.

**3B. Archaeology and Biblical Studies I**

CHAIR: Jonathan Rosenbaum (Gratz College)

**Gerard Gertoux (Maison de l'Orient et de la Méditerranée Jean Pouilloux), “A Scientific Approach to an Absolute Chronology through Synchronisms Dated by Astronomy”**

The Mesopotamian royal lists give a complete chronology of kings dating back to King Sargon of Akkad (2243-2187 B.C.E.). The numerous synchronisms between the Assyrian and Babylonian reigns, as well as the presence during these reigns of several lunar eclipses precisely dated by astronomy, make it possible to reconstitute an absolute



chronology that serves as the backbone to anchor all the chronologies of the ancient kingdoms of the Near and Middle East.

**Quinn Daniels (New York University), “The Character of Early Religious Life at Bethel”**

Tell Beitin has not satisfied questions provoked by biblical material insisting on Bethel’s central role in Israel’s early religious life. Disambiguating this misalignment calls for a fresh consideration of biblical sources in light of other historical phenomena, which here will converge in an historical reconceptualization of Bethel’s religious character.

Sacred activity associated with Bethel is imagined in open-air space, outside of settlement walls, “between Bethel and Ai” (Gen 12:8; 13:3). In its foundation narrative (Genesis 28), Bethel is defined critically by a sacred stone—a “Bethel”—located out in the open; the place is “discovered” and given name by Jacob the herdsman, which is unlike accounts that have Bethel appearing as a pre-existing town named “Luz.” The separation of settlement and shrine can account for these problems, relieving Beitin of pressure to yield sanctuary remains.

As such, Bethel possibly represents the confluence of religious experiences for town inhabitants and pastoralists alike. Open shrines were accessible to herders, but could still maintain ties to towns through ritual processions, where comparable texts from Emar and Hattusa signal the role of festivals in mobilizing ritual activity outside town gates to sacred stones. Suiting this portrait is Bethel’s appearance as an old festival site (1 Sam 10:3; Amos 4–5) that was equally accessible as a gathering space for decision-making Israel (Judges 20). The longevity and symbolic significance of the site explains why any ruler of “Israel” would have interest in upgrading the site with a stylized image (1 Kings 12).

**Richard Hess (Denver Seminary), “Three Centuries of Names: The Evolution of Israelite Personal Names from the Ninth Century through the Sixth Century B.C.E.”**

This paper will argue that the personal names in Israel and Judah evolved during the Iron Age II, specifically the ninth century through the sixth century B.C.E., and that this change took place in an identifiable manner. Further, it will consider how such change is reflected both in the biblical record and in the epigraphic evidence. Building upon the work already done in collecting and analyzing personal names, this approach will study various aspects of the personal names attested from this period in both the northern kingdom of Israel and the southern kingdom of Judah, and how these underwent transformation. The increasing size of the collection of known Hebrew names, as well as those attested in surrounding nations, will provide a resource for observing consistent elements in the ninth, eighth, and seventh centuries, especially in areas of lexical and grammatical forms, that have altered by the time of the Babylonian destruction of Jerusalem and Judah in 587/586 B.C.E. It is hoped that this research will assist in the identification of patterns and those anomalies that may provide better insight into matters related to the formation of biblical books such as 2 Kings, as well as the appearance of personal names in the epigraphic sources.

**Meir Lubetski (Baruch College), “Terms of Endearment: Biblical and Extra-Biblical”**

Adoration by divinities is an integral part of the onomastic vocabulary found in literary masterpieces of the biblical world. Those distinctive turns of speech are not limited to pools of names given to children by parents expressing their aspiration for their progeny to be loved by a divinity. They also function as official designations representing a tribute to an individual by a specific deity. We find, for example, extra-biblical artifacts with inscriptions in Aramaic, *baalraaqy*, and in Phoenician, *baal yedid*. The Bible records the terms *yedidyah*, *mrybaal*, and *mrymwt*. The latter is also inscribed on a potsherd from Arad. Expressing the same idea in different vernaculars, the terminology emphasizes the unique love or friendship of the deity for the person. It reflects a borrowing among diverse groups and demonstrates an international trend that transcends ethnicity. The purpose of this paper is to highlight the special terms (or epithets) used and to indicate their diverse origins and clarify their meaning.

**Jeffrey Hudon (Andrews University), “A Royal Jar Handle from Tall Jalul, Jordan”**

The date and purpose of the *lmlk* royal seals and concentric circle markings used by the kingdom of Judah on storage jars have been the subject of a great deal of scholarly discussion and debate for 150 years. This paper reports on the recent discovery at Tall Jalul in Jordan of a pithos or jar handle incised with a concentric circle symbol. The find raises questions about the dating of the concentric circle symbol, the *lmlk* type jars, and the geo-political situation in the Madaba Plains during the mid- to late eighth century B.C., based upon biblical and archaeological evidence.

**3C. Digital Archaeology and History II**

CHAIR: Tiffany Earley-Spadoni (University of Central Florida)

**Joanna Dębowska-Ludwin (Jagiellonian University) and Karolina Rosińska-Balik (Polish Academy of Sciences), “Not Just a Visualization: The Role of 3D Modeling for Interpretation of Protodynastic Burial Practices in Egypt”**

Digital visualizations are usually seen as “pretty pictures,” good for popularization of archaeological finds and more effective fundraising, but not a part of “real” archaeological analyses. Basing on our field experience we will try to break the cliché.

The Polish Archaeological Expedition to the Nile Delta has excavated the site of Tell el-Farkha since 1998. Over more than 20 years, fieldwork has revealed the presence of—among many other discoveries—more than 150 graves dated to the Protodynastic, Early Dynastic, and the early Old Kingdom.

The latest season brought the discovery of two interesting burial structures dated to Naqada IIIB (late fourth millennium B.C.). Their elaborate form and diversified sets of objects have opened new possibilities of interpretation, especially when modern digital techniques come to help. In the presentation we will discuss the potential of 3D modeling used for reconstructions of archaeological material. We aim to show that digital modeling

is not simply a visualization, but a handy tool for better understanding ancient architecture. Thus, we will show the actual structures as they were found in contrast to their reconstructed original state, and trace the complete process of construction, filling, and closing of a Protodynastic tomb.

**Rita Lucarelli (University of California, Berkeley), “Visualizing Ancient Egyptian Landscapes and Material Culture: Cultural Contexts for Immersive Visualization and VR”**

In this presentation a new collaborative project will be introduced, one that aims at developing and integrating applications of visualization technologies in the fields of archaeology, epigraphy, history of art, and history of ancient Egypt into immersive visualizations and VR/AR applications. These applications will allow scholars, students, and the interested public to navigate from the large landscape to the monument and to the magically inscribed sarcophagus in its ancient Egyptian context. In particular, I will focus on the work carried out in cooperation with Elaine Sullivan (University of California, Santa Cruz) for a project sponsored by CITRIS.

Ancient Egyptian coffins are fascinating artifacts whose rich and complex iconographic and textual decoration provides a central source for the study of ancient Egyptian religion and funerary culture. Three-dimensional visualizations are extremely useful for studying the materiality of the magical texts copied on the coffins.

**Patrick Michel (University of Lausanne), “Digital Safeguarding of a Lost Monument: The UNIL Documentation of the Baalshamin Temple of Palmyra”**

The archive of the Swiss archaeologist Paul Collart, who worked in Syria in the 1950s–1960s, is held at the University of Lausanne. At present, it is the most complete resource for the understanding and restoration of the Baalshamin temple in Palmyra. This sanctuary was completely destroyed by ISIS in August 2015.

Our work aims to create a digital representation of the destroyed temple using photographs, plans and drawings produced by the archaeologist during the excavation (<http://wp.unil.ch/collart-palmyre/>). The model allows online users to discover the area of the sanctuary throughout its history using a timeline that gives access to different models from the first century B.C. to the twelfth century A.D. This virtual anastylosis makes it possible to consider the whole history of the monument without choosing arbitrarily a specific period of time to present to the viewer. Furthermore, archive documents are geolocalized on the virtual model to facilitate the search for specific information.

This scientific 3D model is presented above a photogrammetric picture of the destruction level of the temple taken by drones. This work is possible thanks to a collaboration with the French startup Iconem. The aim of this project is to provide a digital model that can be studied by researchers, but also to allow future generations to keep the memory of the monument alive.

**Mariana Castro (New York University) and Mi Wang (New York University),  
“Beyond Photogrammetry: Three-Dimensional Experiences of Monuments  
Destroyed in Modern Conflict”**

Three-dimensional technologies provide an array of visual experiences which allow us to engage with cultural heritage in an increasingly realistic and immersive manner. The devices and technologies to do this are numerous and currently are employed by experts and amateurs alike. Such technologies become even more relevant when they aim to represent monuments and sites that no longer exist or that have been severely damaged. In this paper, we focus on three ways of creating three-dimensional experiences of heritage sites that have been destroyed in modern conflict. We explore the particular set of questions raised by this proposition and how it is very different from that which emerges in the recreation of 3D models of buildings that are still standing. Some of these considerations are ethical and must be directly informed by international heritage policy, whereas others are purely practical and deal with the difficulties of technology and the problems that arise from engaging with something that no longer exists. The creative ways in which one can still experience and learn from destroyed monuments in 3D environs is exemplified by three case-studies, each directed by a particular technology: the Bosra theatre and photogrammetry; the Bamiyan Buddha and game engines; and motion tracking of videos of the Great Mosque of Aleppo (<https://monument-memorial.weebly.com/>).

**Ofer Sion (Israel Antiquities Authority) “Drones in the Service of Archaeology: Two Northwestern Negev Sites as Test Cases”**

Archaeological field work assisted by drones makes possible the creation of plans of much greater areas than has been possible until now. Over the past three years, extensive work has been carried out at two sites in the northwestern Negev: Ruhebeh (Rehovot in the Negev) by Uzi Dahari and the author; and Sa’adon by the author. With the help of drones, plans were compiled of both sites together with seven thousand dunums of surrounding farmland and ancient agricultural installations. This paper will elucidate the methods used in producing the plans and present the resulting urban/village layout of the two towns in the context of their agricultural settings.

**3D. Ancient Inscriptions II**

CHAIRS: Michael Langlois (University of Strasbourg; Centre de Recherche Français à Jérusalem; University of Helsinki) and Aren Wilson-Wright (Radboud University)

**Matthieu Richelle (Faculté Libre de Théologie Évangélique; UMR 7192), “A Re-Examination of the Reading BT DWD (“House of David”) on the Mesha Stele”**

The end of line 31 on the Mesha Stele is badly preserved, both on the stone and on the squeeze. André Lemaire (1994) proposed reading BT[D]WD, based on his examination of the squeeze. More precisely, he found traces of T, and while he found no trace of D, he suggested its reconstruction. Accordingly, the text would mention the “house of David.” This possible reference to Judah is important for historians. Lemaire connected it to the role played by Judah in 2 Kings 3. His reading has been accepted by a number of scholars. In this paper, I re-examine this issue in light of both his own direct examination

of the squeeze and new images of it. These include Reflectance Transformation Imaging (RTI) photos provided by Inscriptifact; new images made by the Louvre with an underlying light; and new, personal images made at the Louvre. The main conclusions I would like to submit are: 1) the reading of T in BT[D]WD does not seem to be supported by the data; 2) contrary to previous opinion, there seems to remain a stroke belonging to the next letter; however, it does not seem to allow for a reconstruction of D; and 3) as a result, the reading BT[D]WD is open to question. In addition, other reconstructions are explored.

**M. Isaac (Loyola Marymount University), “Reexamining Two Indecipherable Hebrew Inscriptions”**

This paper reexamines two eighth-century B.C.E. Hebrew inscriptions that have so far remained indecipherable: 1) an incised inscription from Gezer that was excavated by William Dever; 2) an incised storage jar from Cave 1 of Jerusalem that was excavated by Kathleen Kenyon. Several theories will be proposed and conclusions drawn about their meaning and social significance.

**Bezalel Porten (The Hebrew University of Jerusalem), “A Presentation of Land Description Texts from Idumea”**

In the last few decades, over 2,000 ostraca from Idumea have come to light. They are scattered in collections around the world; only some have been published in dozens of books and articles. A full 348 of these come from 34 archaeological digs; many more unprovenanced ostraca have been already published in *Textbook of Aramaic Ostraca vols. 1-3*, with volume 4 in production. These ostraca come from a time and place with little other written historical record and thus provide a better understanding about scribal practice, onomastics, daily life, economy, and politics of the fourth–third century B.C. Land of Israel.

The *TAO* volumes contain commodity chits (vols. 1-3), payment orders, accounts, workers texts, name lists, jar inscriptions, and letters (vol. 4, forthcoming). Yet, there remains a dossier of some 100 ostraca that are completely unique, describing boundaries, parcels, plots, lots, olive groves, fig and almond plantations, fields, vales, terraces—even gardens, springs, tombs, and temple ruins, including reference to ruins of the temple of *YHW*. The land description texts reflect the same milieu as the other provenanced and unprovenanced ostraca, containing similar personal and clan names and even reference to the storehouse of Makkedah.

Before her recent passing, Dr. Ada Yardeni, the co-author (with me) of *TAO*, published *The Jeselsohn Collection of Aramaic Ostraca from Idumea* (2016), bringing together 574 ostraca from the David and Jemima Jeselsohn Collection. Published among these are 32 land description texts, nearly a third of all such pieces. I will present a selection of the most provocative and illustrative of these texts. Using charts, drawings, and photos from these volumes, I will show how to analyze them

The land descriptions add to the witness of the Aramaic Ostraca, contributing to a better understanding about scribal practice, onomastics, daily life, economy, politics, and—crucially—land ownership during the fourth–third centuries in Idumea.

**Nathaniel Greene (Brandeis University), “The Fallout of Empire: Forged Palmyrene Antiquities from a Contemporary Perspective”**

The preponderance of epigraphic forgeries purporting to hail from or speak to ancient Near Eastern contexts is not a new problem. From the Jehoash Hoax to the James Ossuary Counterfeit, epigraphers are constantly wrestling with the ethical and moral complexities surrounding both new and old epigraphic finds. This problem is compounded by the looting of archaeological sites—a practice that has been ever-present and exacerbated by 19th- and 20th-century imperialist treatment of the Levant. This is particularly noticeable within the corpus of Palmyrene Aramaic inscriptions. The late 19th and 20th centuries saw countless objects of Syrian cultural heritage (Jewish, Roman, Greek, etc.) lifted from their original location to be sold to collections, private and public alike. Part and parcel of such trafficking in material culture objects is the problematization of such objects’ authenticity. As just one example, William Dever, while director of the Albright Institute in Jerusalem, claimed that the Palmyrene Aramaic bust held by the Institute was a forgery because it had come from the collection of Moses Shapira. Over the course of the past seven years, the Wisconsin Palmyrene Aramaic Inscription Project has endeavored to document as many Palmyrene Aramaic inscriptions as possible. In this process, we have also encountered a number of Palmyrene material culture objects bearing definitive and demonstrable epigraphic forgeries. This paper will discuss these forgeries, detailing the features that distinguish forgery from factual. Particular attention will be paid to the physical features that make forgery identification possible—especially palaeographic data and the treatment that some of these forgeries have received by past scholars—and will propose possible motives and *modi operandi* employed by looters and forgers.

**Jacob Ashkenazi (Kinneret College on the Sea of Galilee), “New Light on Family Life in the Late Antique Levant: Recently Discovered Inscriptions from Western Galilee”**

Little is known about family life in rural areas of the Levant in late antiquity. The literary sources from this period focus mainly on the place and function of the Holy Man in society, and their discussion of the lay individuals and families in villages is negligible. This negligence increases the importance of the data that emerge from archaeological excavations, and especially from the inscriptions found on mosaic floors of rural churches. The standardization of most of these inscriptions makes it difficult to draw out nuances regarding family life in the rural community. Though the names of donors and devotees are mentioned, family members appear almost always nameless and details that can indicate their status within the family or the village community are rare.

Yet, as a part of an extended research project dedicated to the building environment of Christian Galilee in late antiquity, granted by the ISF (Israel Science Foundation), we excavated seven rural churches dated to the fifth–sixth centuries C.E. The inscriptions that we uncovered on the mosaic floors of these churches offer a new and unique outlook

on Christian rural communities in northern Palestine. Reading these inscriptions may provoke an intriguing discussion regarding the relations between parents and children, the status of married and unmarried women within the extended family, and the relations between church and society in the late antique Levant.

### **3E. Ambiguity in the Ancient Near East: Gender and Identity I**

CHAIRS: Elizabeth Knott (New York University) and Lauren McCormick (Syracuse University)

#### **Katrien De Graef (Ghent University), “Honorary Males or Cultic Females? On the Ambiguous Gender Role of Old-Babylonian *Nadītum* Priestesses”**

Research on the role of women in Old Babylonian economy has shown that *nadītum* priestesses were particularly present in this domain, especially during the 18th century B.C. when their active participation in economy nearly equals that of men. Initially, these women, limited in their typically feminine role by a prohibition on child bearing, were predestined to be keepers and enlargers of the family estate. Some, however, clearly became first-rank economic players, developing their own estate alongside the family estate. As such, they filled typical male economic roles and gained an economically and socially independent status in society as honorary males.

At the same time, these women played a cultic role in Old Babylonian society. Although little is known about their cultic role thus far, it is clear that they functioned within the context of a religious institution, the *gagûm*, in close relationship with or as part of a city temple. By bequeathing their estate to colleague *nadītums* within their *gagûm* network, they enriched and thus empowered the social group of these women in Old Babylonian society.

This paper investigates the construction of gender of the *nadītums*, stressing the ambiguity of their gender role in Old Babylonian society. Their acting as honorary males in managing their family and personal estates and at the same time performing their cultic roles as priestesses shows a clear dichotomy between their “male” economical agency and their “female” cultic agency, which was clearly linked to the dual role of the *gagûm* as both religious and economic institution.

#### **Oya Topçuoğlu (Northwestern University), “All the King’s (Wo)Men: Seal Imagery and Royal Women in Northern Mesopotamia in the Early Second Millennium”**

This paper focuses on the ambiguous yet deliberate representation of royal women in the glyptic corpus of early second millennium Mesopotamia, where a carefully chosen composition emphasized the prominent place held by these women in public affairs, while rendering them almost invisible from a gender perspective.

Glyptic studies show that the figure-with-mace facing the interceding goddess emerged as the official motif of both Šamši-Adad’s Kingdom of Upper Mesopotamia and the independent kingdoms that succeeded it during the 19th–18th centuries B.C. Seal legends indicate that this motif was restricted to kings and male officials who occupied the

highest ranks of administration, and visually identified the seal owner as a royal servant. However, the same motif was also used on the seals of royal women, who, as texts show, were powerful, wealthy, and influential individuals with political, commercial, and administrative duties. Nonetheless, only the seal inscriptions communicated their identity as women, while the imagery emphasized their role in the affairs of the state and their position as royal servants.

By combining seal imagery, textual evidence, and archaeological information, this paper aims to show that royal women were not simply invisible in the visual record of Mesopotamia, but were hidden behind iconographic conventions typically reserved for men. Rather than using seals where the imagery reflected their gender identity, they communicated their prominent role and status in public affairs and administration by adopting the official iconography of the state, which renders them virtually unrecognizable from a visual perspective.

**Anastasia Amrhein (University of Pennsylvania), “Visualizing an Expanded, All-Encompassing Divine in the First Millennium B.C.E.: Intentional Gender/Sex Ambiguity in the Representation of Deities on Assyro-Babylonian Seals”**

In the first half of the first millennium B.C.E., a new iconographic convention for representing divinity was introduced in the glyptic of Assyria and Babylonia: a beardless deity surrounded by a nimbus, without any consistent identifying features. This imagery has thus far been either misidentified as Ishtar or discussed in terms of the confusion of iconography resulting from the syncretism of deities. This paper, however, critically examines the increased ambiguity of divine identities in Neo-Assyrian and Neo-Babylonian times as a theological innovation. Whereas third and second millennium B.C.E. iconography and texts clearly distinguished specific deities by means of gender/sex and salient identifying attributes representative of their domains, in the first millennium, this was no longer the case: the divine came to be conceptualized as more expanded and all-encompassing, and thus more abstract and ambiguous, rather than restricted to specific, concrete forms. Although this development may have been the product of increased intercultural interaction and the desire to make divinity translatable across cultures, it was not (necessarily) the product of syncretism.

**Ilona Zsolnay (University of Pennsylvania) “Divine Ancient Near Eastern Gender Ambiguity: Is It Us or Them?”**

Scholars of the ancient Near East often encounter deities in text and art whose depictions do not align either with ideal Western gender constructs or with those constructs scholars have assigned to the cultures they investigate. Traditionally, in these cases, an interpreter might rationalize away any seeming discrepancy between the constructs (described and assigned), as does George Barton, who famously envisioned martial Ištar as an Arab mother fighting in defense of her child king. Although Barton’s conjectures were made some time ago, analyses of texts continue to depend on editions that might translate descriptive terms and phrases differently depending on the sex of the deity. This imposition of modern social gender constructs might also happen with seemingly benign categorical terms, as in the case of *namkisikil*, regularly translated not as “young woman” (a life-cycle classification), as *namġuruš* is translated “young man,” but as “maiden,” an



archaism steeped with romantic social-sexual connotations. This paper will investigate potential points of forced gender construct conformity alongside the most recent tendency to impose construct discord, paying particular attention to the positions of the ancient authors themselves.

### **3F. Archaeology of Iran I**

CHAIR: Holly Pittman (University of Pennsylvania)

#### **Sima Yadollah (Independent Scholar) and Abbas Yalvae (University of Tehran), “Agent Persons and Cultural-Stylistic Change: A Cognitive-Neuropsychological Approach to Interpreting the Iranian Plateau’s Material Culture Characteristics of the Fifth Millennium B.C.”**

Around the fifth millennium B. C., many parts of the Iranian plateau (including Fars and Susa) were subject to considerable subsistence and extra-subsistence changes. These changes, reflected in the material culture of the period, are often explained by appealing to variables such as ecological and population changes or diffusion factors. Some more recent approaches have tended to give more attention to agency and individuals; however, the agents and individuals in these approaches are implicitly also context-based or environment-based. Because of the difficulty of interpreting long-term and large-scale changes using the concepts of agency and individual, individual differences have been almost totally neglected in the dominant archaeological theories. The variations and resemblances of the archaeological records in Fars and Susa may be well explained within the theoretical framework called the energetic perspective. Through this approach, using a detailed definition of “individual” and the conjunctive concept “motivational-instructive networks,” it is possible to present more effective methods for interpreting cultural-stylistic changes and variations vs. resemblances in the Iranian plateau during the fifth millennium B.C.

#### **Hassan Fazeli Nashli (University of Tehran), “A Mosaic of Cultural Complexity in Iran during the Last Quarter of the Fifth Millennium B.C.”**

The last quarter of the fifth millennium B.C. was a critical period of socio-economic interaction in many parts of Iran, from the Zagros to the central plateau, the Fars region, and southwestern Iran. Excavation of Qara Tepe on the Qom plain along with many new sites has changed our view on the nature of interaction of the north central plateau with the other societies of Iran (in the Fars region) during the fifth millennium B.C. Godin VII is a critical period in the central Zagros of Iran and chronologically refers to the last quarter of the fifth to the early fourth millennia B.C. Four important key sites that have been excavated recently—Gheshlagh Tepe, Tepe Karvansara, Soha Chai Tepe, and Tepe Kalanan—complete the picture of Godin VII and address how and when cultural contact was established between the communities of the central plateau and the central Zagros at the end of the fifth millennium B.C. This paper will focus diachronically on how large social transformation caused true social stratification during the fifth millennium B.C. in parts of Iran.

**Barbara Horejs (Austrian Academy of Sciences), Lily Niakan (Iranian Center for Archaeological Research), and Bogdana Milic (Austrian Academy of Sciences), “Prehistoric Landscapes in the Sirvan Valley, Zagros Mountains (Iran)”**

This contribution will present and discuss the first results from the field investigations of the Prehistoric Sirvan Project in the Ilam province in Iran. A survey campaign took place in 2018 within the framework of the cooperation of the Institute for Oriental and European Archaeology (OREA) of the Austrian Academy of Sciences with the Iranian Center for Archaeological Research (ICAR). The new archaeological investigations took place in a previously unexplored micro-region in the highlands of the central Zagros mountains with the focus on the prehistory of the Sirvan Valley. The outcomes of the extensive and intensive archaeological surveys, environmental studies, GIS analyses, and recording of finds and their further (inter-)regional comparisons let us assume several settlement patterns in the valley in prehistory, in particular during the Neolithic. Different environmental conditions in the neighboring Chardavol valley will be addressed, focusing on the tell site of Chogha Khaki, so far the only Neolithic site with long-term occupation in the broader survey area. Both valleys together offer a first glance of Neolithic settlement activities and resource management in this micro-region, which belongs to one of the core zones of Neolithisation. These first results will be discussed within a broader picture of the Neolithic formation in the Zagros mountains and potential Neolithic trajectories into and out of this region including lithic technologies and the use and procurement of raw materials.

**Narges Bayani (New York University), “Divider or Connector: The Central Deserts of Iran in the Fourth–Third Millennium B.C.”**

The central part of the Iranian plateau consists of two large deserts, Dasht-i Kavir and Dasht-i Lut. Seemingly prohibitive, unsupportive and barren, they often conjure up the image of a divider between the regions that border these deserts. The connecting aspect of these eco-zones, however, and their role in bridging far-fledged communities across their fringes, has not received much attention. This paper explores the impact of Iran’s central deserts on the formation of the cultural mosaic that characterized the Chalcolithic and Bronze Ages in Iran, and the associated archaeological remains.

**Kyle Olson (University of Pennsylvania), “Reconsidering the ‘Secondary States East of Sumer’”**

Exchange and cultural interaction between Mesopotamia and the lands to the east, including the Gulf, the Iranian plateau, Central Asia, and the Indus, are well attested from archaeological and textual sources dating to the third millennium B.C.E. The emergence and nature of social and political complexity in these regions are still matters of some controversy, however. Whether scholars see the emergence of complexity as stimulated by contact with Mesopotamia or as autochthonous, the question of whether these regions were home to proto-state structures, secondary states, or archaic complex polities has never been conclusively demonstrated. Clearly, social complexity was not only uneven across this broad region, but also differed qualitatively and quantitatively from that of Mesopotamia in terms of scale, nucleation, and density. Nevertheless, some key common features—including traditions of monumental architecture, specialized craft production, well-developed administrative structures, and the emergence of social stratification

manifest both within and between settlements—have been used to argue for and against the different models of complexity. While this debate is unlikely to be put to rest any time soon, one contribution that can be made is in expanding the empirical base of the discussion. This paper, therefore, presents the results of a recent study of settlement patterns in one region of “the lands east of Sumer” to demonstrate how, even when new fieldwork is impossible, legacy data can be used to advance the discussion of social and political complexity during the Bronze Age.

**Nasir Eskandari (University of Jiroft), “The Jiroft Archaeological Project 2019: Surface Survey and Excavations at the Site of Varamin, Southeastern Iran”**

Over the last two decades, archaeological discoveries in the valley of Halil Rud (southern Kerman, Iran) have brought to light a hitherto unknown Early Bronze Age culture, the Jiroft civilization. Its discovery is of particular importance since little is known about the past of the Indo-Iranian borderlands on the eve of proto-historical times. Here, we will report on the second season of excavation and systematic surface survey of the site of Varamin, near the archaeological complex of Konar Sandal in the Halil Rud valley. The site was excavated in early 2019 by the University of Jiroft under the supervision of the author. The main purpose of this fieldwork was to determine the cultural sequence of the site. Five trenches were opened in different areas of the site, uncovering occupation from the late fifth to third millennia B.C. In addition, to determine the extent of the site a dozen test trenches were opened all around the outer periphery of the site. Furthermore, a systematic surface survey was carried out to determine site formation processes. The discoveries at Varamin will fill a crucial gap in our knowledge of the socio-economic evolution of Bronze Age southeastern Iran.

**3G. Meeting the Expenses: Ancient Near Eastern Economies I**

CHAIR: Peter Altmann (University of Zurich)

**Raz Kletter (University of Helsinki), “The Myth of ‘the Myth of Barter’ and the Origins of Money”**

The classical economic view (e.g., Adam Smith) projected the development of money from an earlier stage of barter. Money was invented as a solution to the alleged inefficiency of barter. This view has old roots: for Aristotle (fourth century B.C.) barter was a natural mode of exchange before money (though he was critical of money and saw its uses for trade and usury as “unnatural”).

Scholars now claim that this is a myth. A statement by anthropologist Caroline Humphries (1985) is often cited as proof: “no example of a barter economy, pure and simple, has ever been described, let alone the emergence from it of money; all available ethnography suggests that there never has been such a thing”.

Following Humphries, David Graeber (2011) calls barter economy a “phantasy” and “the founding myth of our system of economic relations,” mocking the never found “fabled land of barter.” He presents barter in negative terms and claims: “there is good reason to

believe that barter is not a particularly ancient phenomenon at all, but has only really become widespread in modern times.”

It is time to challenge the myth about “the myth of barter,” because it confuses cause and effect and projects money back to times before its invention. A “simple” or “pure” barter is itself a myth. Barter was a sophisticated system, and money did not develop from “primitive money”, but from bullion (hacksilber) measured by weight.

**Robert Middeke-Conlin (Max Planck Institute for the History of Science),  
“Merchant Numeracy: How Well Did Professional Practice Mirror Mathematical  
Ideals in the Old Babylonian Period?”**

What mathematical knowledge was important to ancient merchants? We might assume an answer based on mathematical texts like YBC 4698, a problem text dealing with interest, price, and profit. However, texts like YBC 4698 were composed in a mathematical environment and do not necessarily present professional practice. Merchants, as well as other notables, may have acted differently than is witnessed in the mathematical traditions. This lecture will explore professional mathematical-economic practice as exhibited in economic texts from the Old Babylonian kingdom of Larsa: What mathematical practices are witnessed or eluded to in economic texts? Are they represented in the mathematical tradition? If so, is there any deviation from this tradition? What practices are not found in the mathematical tradition? Both mathematical texts, like YBC 4698 mentioned above, as well as economic texts, like YOS 05, 207, TCL 10, 107, and JCS 34, 171, 218, no. 29, will be analyzed to answer these questions. In the end, this lecture will examine how numerically literate an ancient merchant had to be in order to interact with their communities.

**Jason Silverman (University of Helsinki), “Economics without Society or Politics?  
The Interrelation of Assumptions and Values in Economic Model-Building in the  
Ancient Near East”**

It is fairly clear that there is a stark divide in scholarship between those with broadly neoliberal and those with Marxist understandings of economic principles that color discussions of the ancient economy. But it appears to me that it is impossible to study the ancient economy without assuming social and political structures that are themselves interrelated with economics—such as land tenure and forced labor. How can we interrogate these topics without importing unjustified assumptions? This paper will try to sketch a way forward for dealing with the economy of the ancient Levant that is not restricted to either “New Institutional Economics” or Marxism. This paper will use a few test cases to try to begin to find a way into the morass. Some topics I expect to address include Nehemiah 5, the likelihood of the Jerusalem temple’s use of forced labor, and the implications of the terms we use for social hierarchy in Yehud and Samerina.

**Naseem Raad (University of Southampton), “Production and Distribution Networks  
of Oil and Wine in the Roman Levant: The Case Study of the Port City of Berytus”**

For more than a century, scholars have debated the economic characterization of the Roman world. While past debates revolved around the dichotomy of modernism and primitivism, the wealth of archaeological data uncovered has shifted the discussion to

determining causation in economic growth. However, economic analyses still largely utilize deductive methods to trace long-term trends around the Mediterranean by constructing empire-wide macro-models. This approach maintains underlying assumptions that revolve around proving or disproving the comparability of the ancient economy to processes that occur in the modern world.

In this paper, a different methodological approach is suggested for more regional examinations of Roman provinces. The author presents preliminary results of his doctoral research: network analysis on the olive oil and wine industries within which Beirut was involved from the second century B.C. until the fourth century A.D. It is argued that terms such as “public” and “private” lead to the characterization of intricate and multi-faceted processes as homogeneous entities. Rather, the proposed methodology strives to establish distinct links in the chain of supply and assess them independently. These include agriculture, processing, packaging, transporting, and final purchase, the combination of which form a complex economic network. The results are then contextualized within the political geography and the environment of the region to better understand the distribution of Beirut olive oil and wine in the Roman Levant.

### **Benjamin Gordon (University of Pittsburgh), “Prices in the Property Valuations of Leviticus 27: Fiction or Reality?”**

The rather technical final chapter of Leviticus deals with the commutation into silver of land and some basic commodities of a Levantine farm. According to the laws of the chapter, a dedicant could consecrate the silver valuation of real or movable property to Yahweh, then redeem the property at a 20% markup. Since Leviticus 27, like the Holiness Code to which it was appended, fully embraces the Jubilee release, it is typically seen as utopian in nature. Here I argue that it reflects a thoroughly sensible and practicable pricing system, which was rooted in Judahite economic realities. The 50-shekel valuation benchmark that the chapter gives for a field with a seed capacity of 1 homer probably relates to a single harvest rather than to the full Jubilee cycle. The chapter’s close attention to valuation and redemption, along with the term of the consecration and the weight standard for payment, strongly suggests that it regulates a secured lending operation run by the priests of Yahweh, as I argue in a forthcoming article co-authored with Joshua Sosin. The theory has important ramifications for our understanding of Judahite commodity pricing around the sixth century B.C.E. The 50-shekel benchmark regulates a system of loan issues and repayments in whole integers according to the known units of Judahite mensuration. One finds an easy workability with the prices given for human dedications as well.

### **3H. Early Bronze Age Urban Society: A View from Titriş Höyük, Turkey II**

CHAIRS: Timothy Matney (University of Akron) and Guillermo Algaze (University of California, San Diego)

**Haskel J. Greenfield (University of Manitoba), “Feeding Households: Variation in Animal Exploitation and Consumption at Early Bronze Age Titriş Höyük, Southeastern Turkey”**

Large-scale spatially oriented excavations at the Early Bronze Age (ca. 2700–2200 B.C.E.) urban center of Titriş Höyük (Turkey) from 1991–1999 directed by Guillermo Algaze (University of California, San Diego) documented the presence of a variety of domestic residences in two spatially segregated neighborhoods. Previous studies demonstrated that the zooarchaeological remains between the two neighborhoods were subtly different and reflective of socio-economic organization differences between the neighborhoods. In this paper, the zooarchaeological remains will be used to investigate the nature of social and economic relations between different households at the site within and between these neighborhoods.

**Nicola Laneri (University of Catania), “The Socio-Cultural Value of Residential Graves: A Relational Approach to the Case of Titriş Höyük at the End of the Third Millennium B.C.E.”**

When dealing with residential graves that are embedded in the urban fabric of a settlement, scholars should investigate the types of relationships that these particular graves have with the built environment, with aspects of subsistence economy, or with elements associated with the religious dimensions of the society. In order to succeed in such an effort, important research questions must be posed, for example: Are the pots found buried in graves similar to those found throughout the site? What kind of products are used for acts of libation that occurred after the deposition of the bodies? Were the graves visible through the means of a stele or a tombstone? Do they have steps to go down into the funerary chamber? Are they engraved or built? Is there any element that can suggest a cult of the ancestor? In this paper I will attempt to answer these questions in order to establish a general model to be used in defining forms of relationships between residential graves and other elements of urban life. Relationality will become the pivotal element for defining the role played by residential graves in constructing the socio-cultural value of a given urban environment. More specifically, I will use the residential graves brought to light at the southeastern Anatolian site of Titriş Höyük and dating to the last quarter of the third millennium B.C.E. as the case-study to demonstrate the importance of a relational approach to the interpretation of material culture in framing the cognitive schemata of societies.

**Ömür Dilek Erdal (Hacettepe University), Meliha Melis Koruyucul (Hacettepe University), Benjamin Irvine (British Institute at Ankara), and Yılmaz Selim Erdal (Hacettepe University), “The Bioarchaeology of Titriş Höyük”**

One hundred and eighty-one human skeletal remains including 114 adults and 67 subadults dated to the Early Bronze Age from Titriş Höyük have been analyzed within the scope of this study. The plaster basin burials are remarkable in terms of having a distinctive context than the other intramural burials. In these burials, 81.3% of 16 adults had perimortem traumas, which resulted in death of the individuals. These injuries indicate the presence of violence during late EBA. This study is aimed to investigate the possible effects of climatic, ecological, and economic changes towards the end of the late Early Bronze Age. In this context, paleopathological analysis together with dental

pathology and isotope analysis will be evaluated together to understand how these possible changes affected the population of Tıtrıř Hyk.

**Jennifer Pournelle (University of South Carolina), “Tıtrıř Hyk and the ‘4.2ky Event’ Fallacy: A Study in Disciplinary Usurpation of Evidence”**

According to Wikipedia, “The 4.2-kiloyear BP aridification event was one of the most severe climatic events of the Holocene epoch... Starting in about 2200 BC, [the drought] ... has been hypothesised to have caused the collapse of the Old Kingdom in Egypt as well as the Akkadian Empire in Mesopotamia, the Liangzhu culture in the lower Yangtze River area, and the Indus Valley Civilisation...” Strong stuff, for an event first documented by the environs of one site (Tell Leilan) and *80-year* proxy slices from one lake (Van). Errors of timing and substance notwithstanding, that such an event existed, with global social repercussions, is now stock-in-trade among geological and climatic sciences. Building on updates to the climatic evidence, I seek to show how Tıtrıř Hyk fits into the greater Mesopotamian landscape, challenges the evidentiary basis for a “4.2ky event” social “collapse,” and yet nevertheless was buried by other disciplinary agendas across the research landscape.

**3I. Thinking, Speaking, and Representing Animals in the Ancient Near East: New Perspectives from Texts and Images**

CHAIR: Laura Battini (French National Center for Scientific Research [CNRS]; Collge de France)

**David Ben-Shlomo (Ariel University), “Animal Depictions in Philistia and Judah during the Iron Age”.**

The iconographic representations of animals in Iron Age Philistia and Judah will be discussed and compared. These representations include terracottas, decoration on pottery, ivories, seals and sealings, and other media. Certain regional differences can be detected easily, both in terms of style and symbolism. In particular, the style of the figurines from Judah is more schematic and the main theme is the horse, while in Philistia bovines and birds are more popular. The bovine is a well-known and popular motif in Canaanite, Egyptian, and Aegean cultures, while the popularity of birds seems to be a Philistine innovation. At the same time, certain connections also appear, as several “Philistine” types or influences appear in Judah and vice versa. Recent archaeological evidence from the Iron Age IIA temple at Moza, the City of David, and the Ophel at Jerusalem, as well as from Khirbet Qeiyafa, may indicate connections between the Judean and Philistine material cultures. The paper will discuss and compare the possible significance of animal representations in Philistia and Judah with a focus on the depictions of birds.

**Gina Konstantopoulos (University of Tsukuba), “The Raven, the Falcon, and the Dove: Birds and the Mesopotamian Exorcist”**

Birds had a close connection to many Mesopotamian deities: in one Sumerian text, the god Enlil transforms into a raven, while the goddess Nane creates a vast multitude of different birds in another. Some supernatural figures may take the shapes of birds, as with the mighty Anzu-bird, who may help or hinder the action of texts and is seen in a number

of artistic representations. This paper examines the specific roles birds had in connection with the craft of the *āšipu*, or the Mesopotamian exorcist. Though birds are perhaps most closely associated with augury, the craft of divining the future through the patterns of their flight, birds also appear in incantations in a number of different ways. They may be part of the magical infrastructure underlying an apotropaic ritual, such as the Old Babylonian incantation BM 92669, where antagonistic magic is removed from the king by binding it to a dove. The *āšipu* himself had a connection to birds, claiming in one incantation to be flanked on his right and left by the raven and the falcon, both of which work with him to drive away evil demons. This paper examines these and other references to birds within incantations, placing them within the larger context of birds' connections to divine figures in Mesopotamia, many of which the exorcist could also invoke to aid him. In doing so, it identifies the key but shifting roles birds held in magical texts.

**Laura Battini (French National Center for Scientific Research [CNRS]; Collège de France), “Birds in the Neo-Assyrian Period from Textual and Iconographical Data”**  
Birds are special animals in Mesopotamia, belonging to at least two or three natural elements (air, earth and sometimes water, especially in the southern marshes). The fact that they belong to the air brought them closer to the gods who actually took up their wings. Often represented mainly in glyptic since the end of the fourth millennium B.C.E., they were quickly associated with gods, from Imdugud/Anzu to the “goose goddess” to Papsukkal.

Birds are often represented in glyptic, though rarely in official representations. Texts, especially administrative ones, provide other information, while archaeozoological data are very scanty because of the fragility of birds' skeleton. From these various sources, this paper analyzes human-bird relations in the first millennium B.C.E. in both daily and religious life.

**Alison Gruseke (Yale University), “How the *Apkallu* Got Its Wings: Bird-Headed and Winged Human *Apkallus* in Assurnasirpal II's Northwest Palace at Kalhu/Nimrud”**

Geographers, architects, and art historians apprehend the power of space and its decoration to express and shape human identity. Winter and, more recently, Van Leeuwen, Lumsden, and Kertai alert us to the spatial-ideological dynamics of Neo-Assyrian palaces, even as some details and their underlying principles remain elusive. What, for example, explains the presence of *winged apkallus* among the ca. 200 such figures in Assurnasirpal II's Northwest Palace? The Banquet Stele celebrates the palace “full of wisdom,” and the monarch as “sage, expert, intelligent”— gifts directly from Ea, “king of the Apsu.” The myths of Adapa, Gilgamesh, Atra-Hasis and the late Babylonian Oannes all feature wise men connected to or emerging directly from water, as well as the fragments detailed by Reiner (1961), in which *apkallus/purādu*-fish are “created” in water. Reiner's remark that their function is apotropaic and the term a catch-all for human-, bird-, and fish-headed figures withholds clarification as to how some *apkallus* left the water and gained their wings. Atac (2010) musters the tradition of *apkallus* associated with ancient kings to propose the Nimrud *apkallus* as a feat of self-reference



by palace intellectuals, the guardians of antediluvian wisdom. Yet neither the *apkallus*' wings nor the palace's *absence* of fish-*apkallus*— with their more obvious links to surviving written tradition— is addressed. The present proposal explores the contexts in which Mesopotamians perceived birds as connected to the broad and slippery category of “wisdom” (Lambert, Buccellati), attempting thereby to suggest how the *apkallu* got its wings.

**Arvin Maghsoudlou (Southern Methodist University), “The King and the Sacred Doe: A New Interpretation of the Deer Hunt Relief at Taq-i Bustan”**

Inside the larger grotto at the site of Taq-i Bustan in northwestern Iran, there are two reliefs representing scenes of royal hunt. On the left-hand side, the central figure, widely recognized as the Sasanian king, is hunting wild boars, and on the right he is shown hunting deer. Unlike the boar hunt panel, the deer hunt relief is unfinished. Some figures are incomplete, and some are only outlined. This probably explains the disproportionate scholarly attention that these two panels have received. For the most part, the significance of the deer hunt relief has often been overshadowed by other reliefs inside the grotto, or even disregarded due to its unfinished condition.

The royal hunt has often been interpreted as a more secular subject matter of Sasanian art. The aim of this paper is to offer a new approach in understanding of the deer hunt scene. A visual reexamination in accordance with Zoroastrian sacred texts leads to a religious interpretation of the whole scene. More specifically, this paper concludes that the deer hunt panel is a visual commemoration of the Frawardigān festival, an important religious event in the Sasanian calendar. This new interpretation enables us to understand the otherwise mysterious elements in the composition, notably a narrative representation of a beribboned doe running freely in front of the king. I argue that the female animal in this relief represents the Fravaši.

**4A. Archaeology of Jordan III**

CHAIRS: Marta D'Andrea (Sapienza Università di Roma) and M. Barbara Reeves (Queen's University)

**S. Thomas Parker (North Carolina State University), “A Tale of Two Cities: Historical Implications of Quantified Ceramic Evidence from Petra and Aila (Aqaba)”**

Quantified ceramic evidence from the author's excavations on the Petra North Ridge (2012–2016) may now be compared to his previous excavations at Aila (modern Aqaba) on the Red Sea (1994–2003). The corpus of ceramic evidence from both sites is considerable, totaling over 600,000 sherds from Aila and nearly 300,000 sherds from Petra. Despite the fact that both sites were urban centers founded by the Nabataeans, lie only about 100 km apart on the same trunk road (*Via Nova Traiana*), were absorbed into the Roman Empire at the same time, and were substantial centers of ceramic production, the quantified ceramic evidence suggests fundamental differences in their economies. How might this be explained? Although differences in geographical location (i.e., Aila on the Red Sea coast vs. landlocked Petra), local climate (semi-arid Petra vs. hyper-arid

Aila), and local natural resources surely played a major role in explaining these contrasts, it also seems likely that cultural differences between these two urban populations are reflected in the ceramic corpus and thus the broader economy. In ceramic terms, this differentiation seems to be reflected not only in the consumption of imported table ware and food products associated with imported transport jars (amphorae), but even in some types of utilitarian local coarse wares, such as cooking vessels. The paper will conclude by attempting to identify key differences between these two urban populations.

**M. Barbara Reeves (Queen’s University), “A Graffito of a Sacred Stone in a Wheeled Vehicle from Humayma”**

Hundreds of graffiti found on natural and manufactured surfaces across the site of Humayma, Jordan, provide insights into the interests of the settlement’s occupants, including the Roman soldiers and Nabataean townsfolk. One particularly interesting graffito was abraded onto the surface of a flat stone that was later broken and subsequently reused (along with other spolia) in a 20th-century shed built over the ruins of the Roman fort’s perimeter wall. Although broken along with the stone, enough of the graffito remains to see a similarity to Roman coin imagery commemorating the sacred stone of Emesa traveling by chariot across the Roman Empire during the reign of Elagabalus. This sacred procession was commemorated not just on imperial issues, but also on civic coins as a way of showing loyalty to the emperor and his chief god. As the communities issuing such coins included those with Roman garrisons (e.g., Alexandria and Jerusalem), it is possible that a member of Humayma’s garrison was also motivated to reproduce this sacred imperial imagery. Alternatively, it is possible that the graffito from Humayma had a local significance. The conical stone might be a local betyl, such as the one standing next to a legionary altar in the center of the town’s community shrine, and its journey might reflect a local event. Similar local events are commemorated on a Roman coin from Sidon featuring a local sacred stone in a two-wheeled ceremonial cart and a relief from Petra depicting a Nabataean betyl on the back of a horse.

**Jehad Haron (American Center of Oriental Research) and Ahmad Lash (Department of Antiquities, Jordan), “Bayt Ras Tomb: A New Discovery in North Jordan”**

The town of Bayt Ras, located in northern Jordan, stands on top of ancient Capitolas, one of the ten cities of the Decapolis League founded during the Hellenistic age and listed by Pliny the Elder. Many explorers and travelers visited Bayt Ras including Seetzen, Merrill, Buckingham, and Schumacher, among others. A few archaeological remains can be seen today, such as the theater and the agora, but important parts of the site are buried beneath the modern city.

In November 2016, infrastructural work to expand the sewage system near the local elementary school in Bayt Ras led to the discovery of a Roman period hypogeum. USAID SCHEP and the Department of Antiquities jointly formed an international consortium to document and preserve the tomb. Two years of archaeological investigations have helped gather considerable information.

The hypogeum's significance is due to its rare mural paintings, which include some 62 Greek inscriptions in the local Aramaic dialect and more than 200 daily life scenes representing the story of the city and its founder in the second century A.D. The tomb consists of two rooms and a large basalt sarcophagus. The tomb was reused within the Late Roman and Byzantine periods. Further research will be carried out to answer the many questions related to the original function of this exceptional hypogeum.

**Leigh-Ann Bedal (Penn State Erie, the Behrend College), "The Chronology of Decline in the Petra Garden and Pool Complex"**

The Petra Garden and Pool Complex (PGPC) is laid out on the southern terrace at the heart of the Nabataean capital city. This urban *paradeisos* was one component of a major elite building program attributed to Aretas IV (9 B.C.E.–40 C.E.). Renovations at the time of Roman annexation of Nabataea at the beginning of the second century indicate an intention for the site's continued role as a luxury garden. However, excavations have presented evidence that the lifespan of the PGPC under Roman usage was short-lived. The bottom of the pool and walkways were allowed to build up with soil and debris (indicating a cessation of maintenance), paving stones were robbed out, a staircase was blocked off, and some of the spaces were modified for more utilitarian functions, all symptoms of the economic decline and failure of infrastructure experienced by Petra prior to the devastation of the 363 C.E. earthquake. Evidence from the PGPC indicates that this decline may have begun as early as the late second century, at least a century earlier than commonly attributed. This paper reviews the stratified record of the PGPC with the goal of updating the site's chronological sequence and to attempt to more narrowly identify the onset of Petra's transition from prosperity to decline under Roman administration.

**John Oleson (University of Victoria), "The World's Earliest Known Chess Piece, from Humayma (Jordan)?"**

A small sandstone object found in an Early Islamic context at Humayma (southern Jordan) in 1991 appears to be the earliest known archaeologically documented chess piece. Although the shape, rectangular in section with splayed, horn-like projections at the top, resembles a Nabataean altar or betyl, parallels with Early Islamic chess pieces are far more convincing. The object appears to be a "rook" (or "castle") and has the typical abstract form for this playing piece favored in the Islamic world. There are references to chess-playing in Islamic texts as early as A.H. 23/A.D. 643, and the game was popular throughout the Islamic world by the end of the Umayyad caliphate. Several later abstract "rooks" from Jordan and elsewhere in the Near East, carved in stone, wood, or ivory, are nearly identical to the Humayma object in design and scale. Since the Humayma object was found in a seventh-century context, if the identification as a chess piece is correct, it would be the earliest known physical example for the simplified, abstract design, and possibly the earliest known example of a chess piece altogether. Since the game probably was carried westward from India by the movement of merchants and diplomats, it is no surprise that early evidence for it should be found at a site on the busy *Via Nova Traiana*. While resident at Humayma, the Abbasid family had kept itself abreast of events in Syria and Iraq along this same route.

#### **4B. Archaeology and Biblical Studies II**

CHAIR: Jonathan Rosenbaum (Gratz College)

##### **Stephen Cook (Virginia Theological Seminary), “Ezekiel’s Utopian Temple and Near Eastern Archaeology: New Illuminations and Continuing Conundrums”**

In researching and writing my just released Anchor Yale Bible on Ezekiel 38–48 (Yale University Press), constant interaction with old and new archaeological discoveries was indispensable. Numerous problems in interpreting the prophet’s vision of a utopian sanctuary complex trenchantly elude understanding apart from archaeology’s mine of evidence. So, too, bringing Ezekiel’s vision into conversation with archaeological data, in my experience, frequently evokes new questions about, and new insights into, the latter.

After intensive exegetical probing and interaction with ancient finds, the formidable temple complex of Ezekiel 40–48 emerges as a masterwork of symbolic architectonic design. My paper describes some of my key findings based on exegetical and comparative work while also noting puzzles and secrets the text has not yet willingly divulged. I am most interested in hearing archaeological specialists’ insights and wisdom on the major questions at issue. Among the sites and finds especially helpful in elucidating Ezekiel’s intricate symbolic design, I must mention at least the following: Sumerian cylinder seals; the Mari Investiture Panel; finds at Khirbet Qeiyafa, including temple models; the Ain Dara temple; ivories from Arslan Tash; the Tell Tayinat temples; the Arad temple; and the Motza temple. This paper will highlight selected examples of the use of this evidence in addressing key problems and interpretive issues in the study of Ezekiel’s utopian complex.

##### **Torleif Elgvin (NLA University College), “Where Have All the Scribblers Gone? Writing and Editing Biblical Scrolls in a Post-Collapse Society”**

Faust characterizes Persian-period Yehud as a “post-collapse society.” Meanwhile, the Diadochian wars did not allow for economic or scribal blossoming in third-century Jerusalem. Finkelstein notes that inscriptions and ostraca point to widespread literacy and scribal production in Judea before 586 and after 200 B.C.E., but hardly any in between. Jerusalem remained a tiny village until Antiochus III and grew substantially only in Hasmonean times. But biblical scholars continue to ascribe the most formative processes in the growth of the Hebrew Bible to Persian-period Yehud (some to Ptolemaic times).

Can these findings and theories be harmonized? A few scribes were connected to the Jerusalem temple in this period (cf. the monumental fifth-century building found in the City of David in 2018). Were there also competent “biblical” scribes in Mispa and the governor’s center Ramat Rahel? Persian-period scribes in Egypt and Babylonia must also be taken into account.

Following Finkelstein, more texts should be dated either before 586 or after 200. Joshua, 1 Samuel, Ezra, Nehemiah, and Chronicles were updated to fit the new reality of the Hasmonean state, showing that the Hasmonean rulers were regarded as successors of

Joshua, David, Solomon, and Nehemiah. Canticles reflect a “romanticism of the land” in the greatly expanded late Hasmonean kingdom.

The political upheavals can be traced in the Greek translations: Was LXX Isaiah translated in Onias’s Leontopolis (cf. 7:14, 8:8, 10:24, 14:19–20, 19:18–19)? Septuagint texts such as Isa 11:11–14, Num 24:17–19, and Ps 60:7–8 [59:9–10] reflect knowledge of the Hasmonean conquests of Perea (ca. 125 B.C.E.) and Idumea (107 B.C.E.).

**Dennis Mizzi (University of Malta), Joan Taylor (King's College London), Marcello Fidanzio (Facoltà di Teologia di Lugano), “Analysis of Residue from a Qumran-Type Jar Lid”**

The Leverhulme-funded Network for the Study of Dispersed Qumran Cave Artefacts and Archival Sources has initiated scientific testing of a deposit found inside the lid of a Qumran-type jar lid, now in a private collection. This lid was purchased in 1962 by John Allegro from the antiquities dealer Kando in Bethlehem. This has been verified through records documenting the acquisition of the object, and these will be presented and then published together with the lid. In 2016 a sample of the lid deposit was extracted and sent for analysis at Quest (Quaternary Scientific), within the School of Archaeology, Geography and Environmental Science at the University of Reading, UK. The important results of this analysis will be presented in this paper.

**Mark Wilson (Asia Minor Research Center), “Eutychus’s Fall in Troas: Architecture, Archaeology, and their Implications for Early Christian *Ekklesiae*”**

Acts 20:9 mentions the fall of Eutychus in Troas from a third-story window. This paper first discusses the lexical problem related to the architecture behind that fall and suggests a preferred translation of the verse. It then examines from what type of urban structure Eutychus might have fallen. It has been suggested that the believers in Troas were meeting in an *insula*. *Insulae* have been discovered in Rome and Ostia, and the architectural and sociological dimensions of these structures are discussed. However, were *insulae* part of the urban fabric of cities like Troas in Roman Asia? The archaeological evidence for such structures, though scarce, will be examined next. The paper closes with a discussion about what the meeting place in Troas might tell us about the socio-economic status of the *ekklesia* there

**Thomas Davis (Southwestern Baptist Theological Seminary), “The *Fiscus Judaicus* and Forced Identity”**

The Flavian transfer of the revenues from the Jewish Temple Tax to the Temple of Capitoline Jupiter continued a voluntary tax previously levied on the Jewish community. Vespasian permitted the Jewish community to self-identify for this tax, not requiring ethnic Jews who were no longer religiously active to pay the tax. However, in the later years of Domitian, the tax became an instrument of identity and oppression. He asserted the power of identity for the Roman government who became the gate-keepers of who was a Jew. The aggressive enforcement of a Roman designated “Jewish Identity” put severe pressure on the ethnically Jewish members of the Christian Church, as reflected in some early Christian writings. The accession of Nerva changed the dynamic and may have provided a new hope for the rebuilding of the Jerusalem Temple.

#### **4C. Digital Archaeology and History III**

CHAIR: Tiffany Earley-Spadoni (University of Central Florida)

**Allison Lee (Durham University), “GIS Applications for Analyzing and Predicting Use, Development, and Management at Archaeological Sites: The Ad-Deir Plateau”**

This paper summarizes the results of the digital assessment and GIS modeling approach for analyzing the impact of inheritance variables on the use, development, and future management of the Ad-Deir Plateau archaeological site in Petra, Jordan. Analyses preceding this work on the Ad-Deir Plateau have been relatively general in scope and heavily focused on the basic visualization and classification of archaeological elements. This study utilized data drawn from a large and diverse database of archaeological, environmental, and ethnographic sources. Much of the original database was reformatted for GIS analyses focused on five areas of inquiry: identification, relationships, use/reutilization over time, natural and constructed risk, and predictive development. These analyses represented a unique method to examine environmental, material, and cognitive inheritance as they have impacted, and may impact in the future, the use, development, and management of the Ad-Deir Plateau archaeological site. This study contributes to archaeological work in the region, GIS applications in archaeology in general, and the role that both may play in the preservation, development, and management of the Ad-Deir Plateau archaeological site. These types of analyses help to metaphorically sharpen interpreted images of the past in greater detail. These enhanced perspectives of the past will help to expand the vision of how diverse data may be consciously and strategically utilized for increased archaeological inquiry, the preservation of archaeological sites, and heritage development.

**Daniel Browning (University of Southern Mississippi), “Malaria Risk on Ancient Roman Roads in Asia Minor: A Study and Case-Study Application to Assessing Travel Decisions by the Apostle Paul”**

Using a Geographic Information Systems (GIS) approach, malaria risks for travelers on ancient Roman roads is modeled with the goal of providing a tool for historical assessment of travel and other text accounts from antiquity. A GIS model, based on risk factors in modern studies, is refined and verified against control data obtained in Italy prior to malaria eradication efforts. An overlay of Roman road data assesses travel risk in antiquity and a case-study application made to the journeys of the early Christian apostle Paul, as narrated in the biblical book Acts of the Apostles.

A century ago, William M. Ramsay suggested that Paul’s movements in Asia Minor were dictated by the region’s physical terrain coupled with the apostle’s propensity to suffer from recurrent malaria. This claim is reexamined through application of the study’s malaria risk model to travel decisions by Paul in Acts 13:13–4 and 16:6–10. This contribution of data for Pauline studies is but one of many possible applications of the model and demonstrates the potential for adapting the technical capabilities of GIS to the liberal arts task of evaluating nuanced textual sources.

**Stefan Münger (University of Bern) and Liat Weinblum (Israel Antiquities Authority), “DANA (Digital Archaeology and National Archives)—A New Software Tool for Field Archaeologists”**

This paper presents and showcases a new archaeological documentation system jointly developed since 2011 by the Israel Antiquities Authority (IAA) and the Institute of Jewish Studies, University of Bern (Switzerland). It is based on software elements previously developed for the Kinneret Regional Project database framework, operating since 2003.

Governmental archaeological institutions, such as the IAA, are normally involved in rescue excavations and/or complex, long-term projects, often facing difficult work situations in urban/constructional contexts and usually bound to especially tight time frames. Therefore, the digital tool not only needs to streamline and facilitate the archaeological documentation process but is also required to simplify the administrative reporting workflow, including a seamless integration into the broader, already existing IT-framework of the national archive. Likewise, the system is expected to guarantee the highest academic standards during fieldwork and in the following publication phases.

The basis for DANA (Digital Archaeology and National Archives)—the digital documentation tool under discussion—is the well-known Filemaker Pro database software (currently v. 17). This technically rather simple database environment allows easy programming, fast debugging, and a handy fallback on already existing resources. However, the basic tools offered by Filemaker Pro would not allow a fluid and professional work environment. Thus, DANA is packed with additional technologies, improving both communication with the different components of the software and the user experience. In late 2018, DANA v. 2 was released and since then has been used in all IAA excavations, a total of more than 300 a year.

**Peter Demján (Czech Academy of Sciences), “Laser-Aided Ceramic Morphometrics as a Tool to Produce Site-Specific Sequences”**

Ceramic finds present one of the most abundant sources of archaeological information. Statistical evaluation of ceramic evidence within a settlement, combined with other sources of evidence, can be used to produce site-specific chronological sequences. However, full use of this resource requires detailed drawing documentation of individual vessels—not just selected pieces, but a truly representative sample.

The Laser Aided Profiler (LAP), presented in this paper, allows for high-quality drawing documentation of dozens of ceramic fragments per day. It is a portable system, applicable for example at excavations abroad where long-term storage or transport of the finds to the home institution is not possible. Within a few minutes, it is possible to make a digital vector drawing that can be used to create a classic catalog and further use the acquired profile for morphometric analysis. The LAP is currently used at the Kaymakçı Archaeological Project (Manisa province, Turkey) to document ceramics from a Middle to Late Bronze Age hilltop site.

We developed a new methodology to assess morphometric (dis)similarity based on rim fragments and applied it on 1200+ specimens. We used the resulting dissimilarity matrix as input for hierarchical cluster analysis, which was then employed in the typological classification of the material. The dissimilarity scores were further used to express typochronological relations between the settlement features in a probabilistic way. Combined with stratigraphic evidence, it will be used as a prior for Bayesian modeling of radiocarbon data and ultimately reconstruct the site chronology.

#### **Eythan Levy (Tel Aviv University) “ChronoLog: A Tool for Computer-Assisted Chronological Research”**

ChronoLog is a new tool for computer-assisted chronological research. It allows its users to build models featuring chronological sequences (such as dynasties, stratigraphic sequences, and historical periods) and synchronisms between the items of these sequences. Each item (reign of a king, archaeological stratum, historical period) can be provided with an exact or approximate start date, end date, and duration. The software uses this information to compute the tightest possible estimates (expressed as ranges) for each date and duration. The tool also checks the validity of the model, and reports cases where the encoded data are contradictory. Such a tool is important as it allows users to examine large chronological models that are otherwise too difficult to study manually. The tool is used in an interactive way, allowing immediate assessment of the impact of a given hypothesis on the overall chronological network. Users can thus check the impact of altered dates for a given king, or the addition of a new synchronism between two strata. They can also test hypotheses, in order to check, for example, if two kings were contemporaries. The software runs fast, allowing users to obtain instantaneous answers to the above-described queries. The presentation will feature a demo of ChronoLog and a case study. It is believed that a tool such as ChronoLog can put chronological debates on a more rigorous footing, as it allows users to reach conclusions based on a fully disclosed set of chronological hypotheses, without any hidden or implicit assumptions.

#### **4D. Archaeology of the Southern Levant**

CHAIRS: Owen Chesnut (North Central Michigan College) and Joshua Walton (Capital University)

#### **Oystein LaBianca (Andrews University), “A “Global Turn” for the History and Archaeology of the Ancient Near East”**

Our planet is on the verge of climate catastrophe, and, as scholars of the ancient Near East, we have been complicit in inventing and sustaining ways of studying and narrating the past that ultimately are counter-productive to fostering the sort of thinking and outlook needed to address this crisis. This paper will make the case for a “global turn” for our discipline that locates the study of the past in this part of the world within the perspective and approach of global history. The “global turn” is thus a call for a new kind of history—one that, instead of reinforcing the status quo, seeks to contribute solutions to the greatest challenge facing humanity. The paper will posit seven steps that we as scholars can take in moving forward with a “global turn.” *A first step* is to give critical thought to the interpretive lenses we use to research and narrate the past. *A second* is to



stay informed about new interpretive lenses and approaches being developed by global historians that can help us rethink the way we frame our research questions. *A third* is to situate whatever problem we are studying within a long-term frame of reference. *A fourth* is to embrace the notion of connectivity as an influencer of local cultural production and change that functions apart from imperial agendas or civilizational confines. *A fifth* is to prioritize, whenever and wherever possible, investigations of interactions between humans and animals and humans and the environment. *A sixth* is to acknowledge that the solutions we seek to the crisis upon us requires multi-disciplinary approaches and collaborations; and the *seventh* is to share with the host communities where we work the significance of our research for contributing solutions to the greatest challenge facing the future of humanity—a planet on the verge of climate catastrophe.

**Andrea Squitieri (Ludwig-Maximilians-Universität München) and David Eitam (Independent researcher, Hararit, Israel), “Methodology and Classification System of Levantine Iron Age Stone Tools”**

As archaeological research has extended towards broader issues of anthropological and socio-economic aspects of past societies since the 1990s, a new era for stone tool research has opened up. Many studies that have followed since then have shown that stone tools can be used effectively to tackle questions regarding the organization of everyday activities such as food preparation and industrial activities; patterns of access to raw materials; regional and interregional trade; gender issues; and rituals of communal meals.

One of the primary vital issues regarding stone tools is the need for a classification system. Wright’s classification system (1992) of ground stones, including a precise terminology and typology classes, criteria and morphological terms, has been well accepted for 27 years by archaeologists studying prehistory, as well as by those investigating historical periods, though this classification was meant to cover the prehistorical material. Many historical periods still await a comprehensive and regional classification of stone tools.

This paper intends to offer a framework for the classification of Iron Age stone tools in the Levant, based on assemblages from several Levantine sites. The framework combines both morphological and technological aspects of the items so as to detect patterns of use, chronological and geographical variations, and patterns of raw material access that can offer new insights on the Iron Age cultures of the Levant.

**Joshua Errington (Macquarie University), “Processes in the Site Formation of the City of David Ridge, Jerusalem”**

Seemingly centered away from the natural summit at the Temple Mount to its north, the narrow, sloping form of the City of David ridge differs from every other traditional tell in the greater ancient Near East. Despite a vast archaeological exposure, it has been extremely difficult to ascertain the true nature of each phase of the evolution of this Jerusalem landscape.

This paper presents the initial findings of a study examining how the landscape of the City of David ridge evolved throughout millennia of occupation from natural hill-scape to its modern form as an archaeological mound, through the lens of site formation processes. By mapping the published locations of bedrock and architectural features identified by past expeditions onto a single plan and correlating these data with the overarching stratigraphy, a tentative reconstruction of the evolution of the city in each phase of urban development could be extrapolated.

The stages of site formation represent the culmination of human efforts to build up the settlement in a desired way, and this paper assesses the scale and layout of earthworks and breaks down the usage of Jerusalem's resources in each phase of development—be that towards defense, site stability, or planning for visual constructs (where the impression of grandeur or might was deliberately evoked). These landscape reconstructions provide a new tool in examining the utilization of the hill-scape by Jerusalem's earliest settlers and the significance of this topography in later construction and site use.

**Louise Hitchcock (University of Melbourne), Shira Gur-Arieh (Universitat Pompeu Fabra), Madaline Harris-Schober (University of Melbourne; Ludwig-Maximilians-Universität München), Pietro Militello (University of Catania), Aren M. Maeir (Bar-Ilan University), and Laura Pisanu (University of Cagliari), “All in All, It’s Just Another Stone in the Wall: From Safi to Sicily, 12th-Century Monumental Architecture in the Mediterranean”**

Worked stone in Philistia has been frequently limited to highly visible elements such as column bases, ritual features such as altars, and pavements. This paper presents a study of a selected group of Iron Age I monumental buildings in Areas A and C at Tell es-Safi/Gath. These remains can be potentially situated within the context of what is known about Sea Peoples' architecture in the Mediterranean as seen at 12th-century “anaktoron” at Pantalica, Sicily. Stratigraphic excavations of the Iron Age IIB siege tower in the lower city in Area C at Tell es-Safi/Gath indicate that the tower was built on the foundations of an earlier Iron Age I building. This earlier building is interpreted as a temple based on the ceramic and faunal remains associated with it as well as its rectangular layout. The monumentality of the building is indicated by the size of its blocks, three of which were drawn and cataloged by Hitchcock. Remains of a similarly monumental Iron Age I wall were uncovered and catalogued in the final season conducted in Area A at Tell es-Safi/Gath. Although the Area A structure was not completely excavated, it demonstrates that monumental architecture was more widespread at early Philistine Gath than originally thought. In addition, we will argue in this paper that the tradition of worked masonry survives the Late Bronze to Iron Age transition, and that it was more widespread than originally thought, by recognizing the western Mediterranean component of the Sea Peoples' tradition.

**David T. Sugimoto (Keio University), “Jacob’s Stone? A Unique Feature from the Byzantine Church at Burj Beitin”**

Beitin in Palestine is generally identified with the biblical town of Bethel. Early church traditions (fourth century C.E.) suggest that there was a church commemorating the stone

on which Jacob slept and dreamt of a heavenly ladder (Genesis 28) and the tomb of a prophet who criticized the golden calf (1 Kings 13; 2 Kings 23:15–20) on the outskirts of Beitin. Burj Beitin has been suggested as its location, but this identification is debated because no church has been excavated there.

The author has excavated the site since 2012 in collaboration with the Palestinian Department of Antiquities and Cultural Heritage and uncovered a large (40 m x 27 m) church from the Byzantine period. It is a five-aisle church with one apse. In its center is a unique structure with a large stone preserved in a damaged condition within.

I believe that this may have been regarded as “Jacob’s stone” during the Byzantine period, because the features of the stone are different from that of the surroundings and graffiti are inscribed on it. The stone was likely destroyed toward the end of the Byzantine period and reassembled at the beginning of the Crusader period, filling the lacunae with Byzantine building blocks. The people during the Crusader period rebuilt a small church on it, which again indicates its importance. I present the case that this church may be identified as the church of the early Christian traditions.

#### **4E. Ambiguity in the Ancient Near East: Gender and Identity II**

CHAIRS: Elizabeth Knott (New York University) and Lauren McCormick (Syracuse University)

##### **Megan Cifarelli (Manhattanville College), “Betwixt, Between, and Beyond: Binarity and Ambiguity in the Study of Gender in Archaeology at Hasanlu, Iran”**

What does it mean to apply the word “ambiguity” to the evidence of performances of gender in the material, written, and visual cultures of the distant past? This term indicates that which is uncertain, or which can be understood in two or more ways. With respect to gender, it is often applied to performances of gender and identity that fall outside of our understanding of an immutable feminine/masculine binary, and “ambiguous gender” is sometimes used interchangeably with “third gender” or even “non-hegemonic masculinity.” At the root of this interpretive strategy is the universalization of binarity in gender and sex, and our habit of viewing the world as divided into material things with inherent properties—in this case bodies—and culturally generated ideas.

This paper will problematize the use of the word “ambiguous” to describe practices that were likely unambiguously legible in their emic context, but which defy our attempts at categorization. Ambiguity in gender is, rather than a condition inherent to past socio-cultural practices, a proxy for the ontological and epistemological challenges posed by reconstructing and evaluating human experiences in the distant past. To avoid imposing contemporary cultural norms onto the intersections of material culture and sexed bodies in burials at Hasanlu, Iran, this paper uses a more culturally neutral, statistical approach to identify the object clusters that participated in the performance of a range of genders in the past at this site.

**Victoria Almansa-Villatoro (Brown University), “The Gender Ambiguity of Fertilization in Ancient Egypt: The Hemusets as a Case Study”**

The quest for gender cues in the fertility, procreation, and birth conceptions of ancient Egyptian religion has divided the scholarship into two polarized argumentations: an initial equation of fertility and womanhood, and the ultimate recognition of an Egyptian male-centered creative tradition that relegates women to a passive and subordinate position. The strongest argument of the male fertility theory is that no ancient Egyptian source admits active female agency before the moment of birth. However, the nuanced gender reality and multiple traditions of Egyptian religion and culture have not been sufficiently taken into consideration for the study of fertility. A reconsideration of the current state of this debate will now be undertaken using the Hemusets as a case study. The obscure concept of Hemuset has been almost entirely neglected by the Egyptological literature, and with their exclusion, a crucial side in the discussion of fertilization and gender is missed. The Hemusets were goddesses related to birth, generally appearing as a group of women in the Graeco-Roman period. However, the term is attested at least since the Old Kingdom in texts in which the Hemusets do not appear to be deities but rather entities closely related to the spiritual aspects of the human being, especially the masculine force Ka. This research will show the connection between gender ambiguity, liminality, creation, and the pharaonic institution in ancient Egyptian religious thought, and will frame the Hemusets in a broader Mediterranean context of hermaphrodite creative goddesses.

**Stephanie L. Budin (Near Eastern Archaeology), “Pughat as Daughter and Son in the *Tale of Aqhat*”**

Gender is an important organizing element in the *Tale of Aqhat* and may be the key to deciphering the meaning of the narrative in its Ugaritic context. Although not recognized in previous studies of *Aqhat*, the narrative’s progression is organized according to a pattern of gendered activity which shows increasing interconnection between the male and female domains. At the text’s beginning, these domains appear as broad “swathes”: First is a masculine segment showing Danel in a typically masculine pursuit for fertility and offspring. The narrative then switches to the feminine domain, marked by the arrival of the Kotharat in Danel’s home and the pregnancy of his wife. The tale turns back to the masculine in the creation and delivery of Aqhat’s bow. When Anat meets the adolescent Aqhat, a change occurs in the gendered pacing of the narrative, with the male and female domains interacting rapidly and often violently. Finally, in the person of Pughat, the gendered domains collapse into one individual, who combines both the masculine and feminine in her persona, functionally becoming Danel’s son.

In this presentation I focus on the persona of Pughat as a character of ambiguous gender, the daughter who becomes a son to her father Danel. Her “sonness” appears in her fulfillment of filial duties listed repeatedly in the text, while her masculinity appears in her choice of clothing as she goes to avenge her brother’s death.

**Vanessa Bigot Juloux (École Pratique des Hautes Études; Andrews University), “Anatu’s Male Gender Based on Her Agency in the Political Context of KTU 1.1-6+10”**

Since the discovery of KTU 1.1-6 and later 1.10, tablets with a Ugaritic narrative text from the late Bronze Age, the role of 'Anatu has been mostly underestimated. So far, most of the analyses focus on either her supposed loving relationship with Ba'lu or her violent and bloodthirsty profile. Those analyses often downplay the significance of her role as a political actor based on later texts or on traditional Judeo-Christian conceptions of women's roles. I will present a hermeneutics of her political activity according to John Searle and Karl Popper's approaches. Despite 'Anatu's watchful eye over Ba'lu—similar to a mother toward her son—her political agency highlights her “male” side during the conquest of a new territory. That analysis raises several questions such as how to read and understand gender in the context of Ugaritic culture.

#### **4F. Archaeology of Iran II**

CHAIR: Holly Pittman (University of Pennsylvania)

##### **Mitra Panahipour (New York University) and Daniel T. Potts (New York University), “Socio-Ecological Dynamics on the Plains and Foothills of the Zagros Mountains: Uncertainty, Mobility, and Adaptation”**

Although there has been archaeological research at Sialk and Khorvin, and more recently at Ma'murin and Qholi-Darvish, archaeological research on the Iron Age of the central Iranian plateau is still new. We have focused on the site of Mersin, near Shahmirzad, Semnan Province, in the eastern part of the plateau. This area was selected not only with the aim of archeological surveys but also for recognizing, examining, and documenting the historical and cultural effects of Finesk Dam. Of interest in the area is a cemetery that includes Iron Age III–IV cultural material from Mersin, adding to our knowledge of pottery types in the late Iron Age. But besides its value for chronology, this pottery is also significant for representing newly recognized local traditions that can be mostly attributed to nomadic people.

##### **Trudy Kawami (Independent Scholar), “The Robes on the Marv Dasht Beaker and Their Survival in Elamite Iran”**

The silver Marv Dasht beaker, found near Persepolis in 1966, depicts a pair of sumptuously-robed women of uncertain identity. Their voluminous gowns are covered with a diamond-shaped pattern of tufts or flounces quite distinct from the horizontal bands of long, undulating fringe commonly found on the garments of divine figures. Dated to the 21st century B.C.E. by a Linear Elamite inscription around its rim, the vessel with its imagery has recently been described by Daniel Potts as an import from the Oxus (or BMAC) culture of southern Central Asia (Bactria), where images of similarly clad women have been excavated. Thus the beautiful beaker from the Elamite highlands has been considered primarily as an indication of contact between that region, ancient Anshan, and the Oxus Culture. The distinctive garments shown on the Marv Dasht beaker find an echo in a series of heavily robed seated female figures on cylinder seals of a style now called Anshanite. But the very small scale of the seals precludes a detailed depiction of the garments worn. Close to 500 years later, however, a series of terracotta female figurines excavated at Susa in the Elamite lowlands depicts women wearing robes covered with the same type of diamond-patterned fringe. This presentation will explore the archaeological context of these later figurines and their connection to earlier

examples.

**Cale Staley (Cornell University), “Sealing the Deal at Bisitun: The Bisitun Glypto-Relief as a Source of Legitimacy”**

In the Achaemenid world, the Bisitun monument holds an intriguing position between artistic representation and political authority. The relief does not conform to the standard art program of Darius nor does it fit within the majority of the previous traditions of rock reliefs. The relief and text detail a consecutive series of events in a specific temporal frame, an act that is not replicated again in Darius’s art, but it serves as the starting point for many Achaemenid cultural traditions that began during his reign. However, the importance of the message contained in the inscription is obscured from the ground and the image does not completely reflect the content and politically legitimizing message of the inscription. All of this leads to the question: What purpose did the relief serve? Scholars such as Margaret Root have noticed the relief’s similarities to a cylinder seal impression. It is my contention that the monument serves a more strategic purpose: the Bisitun relief does more than resemble a cylinder seal impression—it functions as one. The characteristics of the Bisitun relief suggest that it is something different; it does not conform to known classifications of rock-cut reliefs, prompting a new typology. In this paper, I will argue that the Bisitun relief should be categorized as a glypto-relief—a relief whose context resonates with cylinder seals and sealings—and that this glypto-relief functioned as a tool of legitimization for Darius following his ascent to power.

**Tobin Hartnell (American University of Iraq, Sulaimani), “Aristotle’s Final Causality and the Significance of Water in Elamite Religion”**

This study will propose a new understanding of the nature and thus function of sacred water at two Elamite pilgrimage sites. Based on parallels to Mesopotamian religion, the function of any given object, building, or natural phenomena can be related to its *me* (Akkadian *parṣū*, divinely controlled powers that enable natural and cultural order). As each *me* can be related back to a god, one may effectively understand Mesopotamian cultural phenomena through the identification of the relevant god, their behavior, and their associated iconography (the material and formal cause). For cultural products, this analytical step is the equivalent of identifying an Aristotelian efficient cause as the object, image, or building is the product of an artist or builder and their patron. Scholars have made significant progress analyzing the cultural remains of Kurangun and Chogha Zanbil, two of the preeminent pilgrimage sites of the Elam. However, the applicability of Mesopotamian classificatory schemes of nature to Elam cannot be assumed. In contrast, the materiality of water at these sites (Aristotle’s material cause) is not so straightforward. As a significant element of cultic practice, a greater awareness of the materiality of water at each site is necessary for a deeper appreciation of each site’s role in Elamite pilgrimage networks (Aristotle’s final cause).

**Alireza Khounai (New York University), “No Bronze Coins in Persis: A Case Study in Microeconomies of the Arsacid Empire”**

Geopolitical and numismatic evidence from the kingdom of Pars (Persis) during the Arsacid era (247 B.C.E.–224 C.E.) may point to economic conditions that contributed to the revolt of local dynast Ardashir V, which subsequently brought about the fall of the

empire. Arsacids established mints in imperial centers, but also allowed local kingdoms to issue coins. Mesene and Elymais issued both silver and bronze coins, but the neighboring Pars minted only silver with no bronze. This phenomenon remained the same in Pars from the rise of the Seleucids and the introduction of bronze coins in 305 B.C.E. until the fall of the Arsacid empire in 224 C.E. It is important to remember that this kingdom became landlocked after two decisive Seleucid victories on the coast of the Persian Gulf during the reign of Antiochus III. What could the lack of bronze coins from the mint of Pars mean for its internal economy and for the revenue of the local royal treasury? It has been suggested that issuing bronze was very beneficial to the local mints, and Greek city-states would even pay for the privilege to issue bronzes. Could this mean the Arsacid kings imposed economic limitation on the local mint at Pars? After all, Mesene and Elymais were allowed to issue bronzes, and other evidence clearly portrays them as strong players in trade activities. Could this “economic isolation” provide a fundamental motive for Ardashir and his revolt in order to make Pars, once again, a supra-regional economic and political center?

#### **4G. Meeting the Expenses: Ancient Near Eastern Economies II**

CHAIR: Raz Kletter (University of Helsinki)

##### **Brian Muhs (University of Chicago), “The Transition to Coinage in Egypt: Evolution Rather than Revolution”**

The transition to coinage is frequently characterized as a technological revolution, but in Egypt it was a series of incremental developments. Different commodities such as silver, copper, cloth, and grain all served as measures of value, media of exchange, and stores of wealth in Egypt in the late second millennium B.C.E. (New Kingdom). There was however a gradual trend away from multiple measures of value and stores of wealth and towards a preference for silver in the early first millennium B.C.E. (Third Intermediate Period), long before the appearance of coinage. The preference for hacksilber and silver bullion in Egypt by the middle of the first millennium B.C.E. (Saite and Persian periods) facilitated the adoption of silver coinage, which was initially treated as just another form of hacksilber or bullion. The preference for silver coinage over hacksilber or bullion may have finally developed as Athenian coinage came to predominate and became an international standard.

The introduction of fiduciary bronze coinage in the late first millennium B.C.E. (Ptolemaic period) might also be considered as a revolution. Even in the late first millennium B.C.E., however, multiple commodities continued to be used as fiscal measures of value with fixed exchange rates in Egypt, so fiduciary money was not an entirely novel concept.

##### **Peter Altmann (University of Zurich), “Money Changes Things, or Does It? Approaching the Meanings of Persian-Period Levantine Coinage”**

Numerous theories ponder the impetus for the original developments of coinage, linking it especially to particular economic or political aims. However, coinage only emanates from Levantine polities much later. Therefore, this paper instead investigates the apparent

political, economic, or other purposes of early Levantine coinage within the context of the fifth–fourth century B.C.E. eastern Mediterranean/ancient Near East. After laying out the different approaches to coinage from Greece and Persian Babylonia, the paper specifically addresses what can be gleaned from the usage and imagery of coinage in various polities. The ultimate aim of this discussion is to show that, regardless of the supposed original purpose in the invention of coinage, its purposes become varied in the Persian-period Levant.

**Oren Tal (Tel Aviv University), “The First Coins of Palestine and the Transition from Hacksilber to Coins”**

This paper will survey the evidence of the late use of Hacksilber and the contemporaneous minting authorities of Palestine under the Achaemenids (ca. 450–332 B.C.E.) in order to address questions of continuity and change in the “metal economy” and monetary administration of the southernmost regions of the Fifth Satrapy.

**Haim Gitler (Israel Museum; Israel Numismatic Society), Catharine Lorber (American Numismatic Society), and Jean-Philippe Fontanille (Independent Scholar), “The Economic Role of the Yehud Coinage”**

The authors recently completed a die study and analysis of the silver coinage issued by the province of Judah, based on a large sample and an innovative method of reconstructing the 44 known coin types (<http://www.menorahcoinproject.org>), which will be published in our forthcoming monograph. The Yehud coinage was never the only coinage circulating in the borders of the province of Judah, nor was it predominant. Archaeologically provenanced Philistian drachms outnumber archaeologically provenanced Yehud coins of the late Persian period, and in the early Hellenistic period the Yehud coinage supplemented royal coinage systems that included both larger silver coins and bronze Ptolemaic denominations with a range of values that overlapped the value of the Yehud coins. Under these circumstances, we would expect Gresham’s Law to have applied: i.e., the inferior bronze coinage should have driven the Yehud silver out of circulation. Evidently the provincial administration did not mint coinage to meet some need in the economy, but for a purpose of its own, presumably to meet its payroll. An important aspect of the Yehud coinage is the decline of its weight over time. This cannot have been driven by constraints on the silver supply, since older coinage, especially imported Athenian tetradrachms, most probably provided the bullion for the minting of the Yehud coinage. Instead we must assume that declining weights met a need of the provincial administration. A goal of our presentation will be to examine the practical and economic significance of the weight decline.

**4H. Tel Abel Beth Maacah in the Huleh Valley, Israel: Insights, Conclusions, and Questions after Seven Seasons of Excavation**

CHAIRS: Robert A. Mullins (Azusa Pacific University) and Naama Yahalom-Mack (The Hebrew University of Jerusalem)



**Robert A. Mullins (Azusa Pacific University), “A Canaanite, Aramean, Israelite, and Phoenician Walk into a Bar: Geopolitical and Historical-Chronological Insights from Seven Seasons of Excavation at the Tel Abel Beth Maacah”**

Seven seasons of excavation at the northernmost tell in Israel have yielded rich remains of occupation from the second and first millennia B.C.E., specifically the MB IIB to the Iron Age IIA. This presentation will review the major finds uncovered in six areas and explain how the excavations in this border region have illuminated several key issues in the archaeology of the Bronze and Iron Ages. These include the integration of the site into the MB IIB and Late Bronze Age urban fabric of the Hula Valley, the political organization and socio-ethnic composition of the site vis-à-vis neighboring polities in Iron Age I and Iron IIA, and the apparent lack of Iron Age IIB remains in light of 2 Kgs 15:29 and the Assyrian conquest.

**Fredrika Loew (Cornell University) and Carroll Kobs (Trinity Southwest University), “Administration, Industry, and Cult at Iron Age I Abel Beth Maacah: A Multifunctional Building Complex in Area A”**

Area A is the largest field at Tel Abel Beth Maacah, excavated intensively during all seven seasons. A sequence of five main Iron Age I strata, with several sub-phases and two destruction events, has been exposed throughout the area. The earliest Iron Age I occupation reached to date consists of a layer of pits dug into a massive brick wall whose date is not yet clear, but may belong to the Late Bronze Age or Middle Bronze Age. The latest Iron Age I phase ended in a fierce destruction and was covered directly by structures of Iron Age IIA. This is one of the richest and most intensive Iron Age I occupations found in Israel to date, certainly in the Hula Valley. The earlier stratum yielded an interesting cultic structure, which was violently destroyed, while the latest stratum comprised a large, carefully planned, and well-built complex of buildings with joining passageways. Finds in these buildings show that they served a variety of activities, including metalworking, large-scale storage in pithoi, and, by all appearances, cultic activity reflected in a number of unique finds. This presentation will present the data, including the radiocarbon dating of the destruction contexts. It will also discuss the significance of such a complex in light of the events and processes that took place in the Iron Age I in the Hula Valley and neighboring regions.

**Naama Yahalom-Mack (The Hebrew University of Jerusalem), “Lost and Found: The Iron Age IIA at Tel Abel Beth Maacah: Chronological and Geopolitical Aspects”**

The location of Tel Abel Beth Maacah at the meeting point of Israelite, Phoenician, and Aramean territories raises significant questions as to the geopolitical association of this urban center during various stages of the Iron Age IIA. Major building activities took place after the destruction of the late Iron Age I building complex in the lower city (Area A). At least three strata from Iron Age IIA lay above it, each with significant material culture remains and evidence for an industry possibly related to the production and processing of food. Striking new evidence for occupation during Iron Age IIA in the center of the lower city was uncovered in Area K, newly opened in 2019, indicating a more extensive city than previously thought. The large Iron Age IIA citadel on the upper tell (Area B) contains several internal phases and evidence for a massive fortification

wall. This structure, which went out of use in the ninth century B.C.E. according to the radiocarbon dates, appears to be a direct continuation from Iron Age I. The material culture of Abel Beth Maacah, particularly the pottery assemblage, as well as other objects such as figurines (like a unique faience head of an elite bearded male) and seals, points to an association with the Israelite kingdom and a strong connection with neighboring Phoenicia.

**Nava Panitz-Cohen (The Hebrew University of Jerusalem), “It’s the Pottery, Stupid: The Iron Age I and IIA Ceramic Corpus from Tel Abel Beth Maacah”**

Pottery is the most common find in every excavation and Tel Abel Beth Maacah is no exception. Seven seasons have produced an abundant assemblage of ceramics from all excavated strata. This talk will focus on the typology of the Iron Age I and IIA corpus along with a brief glimpse at a petrographic study of the pithoi by Anat Cohen-Weinberger. The results will be discussed in their regional context, including comparisons to vessels from Hazor, Dan, and sites in the mountainous Upper Galilee such as Mt. Adir and Sasa. The formation of a typology based on the secure stratigraphic sequence and rich ceramic assemblage from Iron Age Tel Abel Beth Maacah will serve as a useful tool for regional research and beyond, and provide insights into aspects of chronology and geopolitical affiliations in northern Israel at this time.

**Matthew N. Susnow (The Hebrew University of Jerusalem), “If the Right Astragalus is Punctured...”: Identifying Function and Symbolic Behaviors in an Astragalus Hoard at Tel Abel Beth Maacah”**

During the 2018 season at Tel Abel Beth Maacah, a hoard of 425 astragali was found in an Iron Age IIA context stashed away in a small amphora placed on a podium. These astragali came from a variety of different animals (both left and right sides) and ranged in both age and sex. Moreover, many exhibited a diversity of modifications including smoothing, artificial abrasion and flattening, cut marks, drill holes, and inserted metal. Why were these bones placed in a single vessel? Why were some worked? Should one tie their deposition in this vessel to single or multiple events? This paper will present the zooarchaeological data, followed by a discussion of the larger phenomenon of astragali—both worked and unworked—at sites throughout the ancient Near East during the second and first millennia B.C.E. In assessing their function and potential symbolic meaning, we will consider a number of ancient Near Eastern texts that refer to astragali, as well as the specific archaeological context in which the bones were found. Were they related to ritual or divination? Could they have been used as game pieces or served some other purposes? How does this hoard relate to the cultural, social, economic, and/or cultic structures and practices extant at Abel Beth Maacah and northern Israel in the early first millennium B.C.E.? Finally, might this interesting find shed new light on the role of the wise woman of Abel Beth Maacah in 2 Sam 20?

**4I. Creative Pedagogies for Teaching in the Ancient Near East and Egypt: Next Steps—Collaborating, Sharing, and Validating Creative Approaches to Teaching (Workshop)**

CHAIRS: Marta Ameri (Colby College) and Helen Dixon (East Carolina University)

**Marta Ameri (Colby College), “Let’s Talk about That OTHER Thing We All Do...”**

This short presentation will serve to recap the concerns and outcomes of last year’s Creative Pedagogies session and set the stage for a continuing conversation about creativity, pedagogy, and reality in teaching the ancient world at a variety of institutions.

**Cynthia Shafer-Elliott (William Jessup University), “The Iron Age House of Graham Crackers”**

As professors we juggle many things when we teach, from preparation and assessment to student diversity and classroom management. There is one aspect of teaching in particular that I struggle with: creativity—creativity in my own teaching pedagogy and creativity in getting students more engaged in the classroom. In my attempt to be more creative in both these areas, I realized that the burden doesn’t necessarily always have to lay entirely on the professor’s shoulders; rather, I wondered how do I get students involved in the process of being engaged in their own creative learning? My “Biblical World: Hebrew Bible” class was an excellent test case. As a way to learn about the Iron Age pillared house and the daily activities that occurred there, students built their own house out of graham crackers, frosting, and candy. This brief presentation will introduce the activity and its outcomes, and suggested areas of expansion and improvement.

**Helen Dixon (East Carolina University), “What’s Already Out There? Online Resources for Teaching Ancient Near Eastern Studies and Cognate Fields”**

This short presentation (with accompanying handout) will offer a survey of existing online resources for teaching ancient Near Eastern and other ancient Mediterranean courses. Examining the range of available assignment ideas, archived syllabi, museum loan programs, and other digital projects will help frame our discussion of how ASOR can best serve as a hub for pedagogical resources in future.

**Nadia Ben-Marzouk (University of California, Los Angeles) and Jacob Damm (University of California, Los Angeles), “Surveying the Field: Toward Establishing a Digital Collaboration Space for Educators of the Ancient World”**

While the disciplines represented by the ASOR community are filled with educators developing their own creative pedagogies for student and public engagement, the field has largely lacked a venue in which to share best practices. With the establishment of the Creative Pedagogies session at the 2018 ASOR Annual Meeting, however, we have begun the process of developing a common forum to discuss what it means to teach in the 21st century. In order to move toward establishing a permanent space in which to engage one another in ongoing dialogue, we are in the process of creating an online pedagogical resource to serve members of the ASOR community in collaborating and sharing best practices. Given that it is important that the design of any potential resource reflect the needs of the diverse community of users, we developed a survey to query members of the academy on their pedagogical needs and interests, as well as the potential utility of such a resource. This paper will briefly share the results from that survey in order to foster discussion around next steps toward establishing such a space.

#### **4J. Small-Scale Industries in the Galilee: Oil Lamp Manufacturing (Workshop)**

Columbia Conference Center

CHAIRS: James Riley Strange (Samford University) and Adi Erlich (University of Haifa).

##### **Adi Erlich (University of Haifa), “Comparative Technology: Manufacture of Terracotta Figurines and Masks from Hellenistic and Roman Palestine”**

The manufacturing technique of Hellenistic and Roman terracottas included the preparation of clay or plaster mold from an archetype or a ready-made figurine. Thin layers of clay were set in the molds and the varied components were then joined to create the hollow figurine, subsequently fired in the kiln. This mold technique is shared by oil lamps, as attested in workshops for lamps and figurines from Egypt and the Levant. During the Late Roman period a new practice began in Palestine. In workshops at Beit Nattif and Caesarea terracotta lamps and figurines were found together with molds made of soft limestone. The production process of stone molds requires special craftsmanship and experience, as it involves the free carving of a pattern into the soft stone. Any fault in the carving of the mold would have damaged it. The use of stone molds for lamps is self-explanatory, since lamps are round and symmetric, and they carry minimal and merely geometric decorations. Unlike lamps, figurines require a more plastic and three-dimensional modeling, and therefore their outline is not easy to be carved in negative. This paper examines the reasons for the change in the production method, its correlation with the main specialization of the artisans, and the impact of this technological shift on the style of early Byzantine figurines in Palestine.

##### **Yeshu Dray (Restoration of Ancient Technology), “Making Clay Oil Lamps in Hellenistic and Roman Galilee: Technology, Artistry, and Identity”**

The technology of oil lamp production did not develop in a linear way. Deciphering the production technology of the "Darom" oil lamps (from the late 1st century until the beginning of the 2nd century C.E.) led the presenter to discern the development of local technologies and production methods that disappear and reappear in different periods.

##### **Hands-On Workshop on Mold Design and Lamp Production led by Yeshu Dray**

A workshop in which attendees will have an opportunity to experience the use of simple tools to create elaborate designs in lamp molds, and to use clay to produce an oil lamp out of a decorated mold.

#### **5A. Preserving the Cultural Heritage of the Madaba Region of Jordan (Workshop)**

CHAIRS: Douglas R. Clark (La Sierra University), Suzanne Richard (Gannon University), Andrea Polcaro (Perugia University), Marta D'Andrea (Sapienza Università di Roma)

This year's workshop on Preserving the Cultural Heritage of the Madaba Region of Jordan will focus on strategies and plans for preserving cultural heritage and fostering

community archaeology in the Madaba region. This will involve short reports/conversations among excavations and projects already carrying out heritage protection initiatives and/or community archaeology (such as Hisban, Madaba, MRAMP, etc.), those with plans to do the same (Dhiban, ‘Umayri, etc.), initiatives of the Ministry of Tourism and Antiquities and the Department of Antiquities, and USAID/ACOR/SCHEP endeavors, all in the service of cross-pollination of ideas and practices in the region.

**Suzanne Richard (Gannon University), “Madaba Regional Archaeological Museum Project (MRAMP): Repurposing the Current Museum and Preserving Its Collection”**

This presentation will focus on a two-year plan to repurpose the current Madaba Archaeological Museum, located within the Department of Antiquities District Office, Madaba, Jordan. Thanks to a two-year grant (Cultural Antiquities Task Force at the Bureau of Educational and Cultural Affairs/U.S. Department of State/US Ambassadors Fund for Cultural Protection–CATF/AFCP), this portion of the overall MRAMP endeavor undertakes to preserve and protect the collection of over 14,000 valuable artifacts from archaeological sites across the region while transforming the current facility into a modernized storage center that will house the artifacts and also serve as a conservation lab and study center in support of a new regional archaeological museum for the Governorate of Madaba, Jordan.

**5B. Archaeology of Israel I**

CHAIR: J. P. Dessel (University of Tennessee, Knoxville)

**Zachary Thomas (Macquarie University), “A Report on the Early Iron Age IIA Ceramic Corpus from Khirbet er-Rai, Israel”**

This presentation will report on work carried out on the corpus of early Iron Age IIA ceramics excavated at the site of Khirbet er-Rai, Israel, in a joint project of Macquarie University and the Hebrew University of Jerusalem. Lying to the west of Lachish at the very edge of the Shephelah region and bordering on the ancient Philistine coastal plain, Khirbet er-Rai is notable not only for its geographic position but also for its periods of occupation. Excavations at the site in the last few years have uncovered impressive architectural remains and ceramics from both the very late Iron Age IB and the earliest phase of the Iron Age IIA. Few if any other sites in the region have produced ceramics from both of these periods, and corpora from the earliest phase of the Iron Age IIA are quite rare. This presentation will report on work carried out so far on the seriation, typology, and parallels for this corpus, and comment on its regional characteristics and implications for the recognition of the earliest Iron Age IIA phase in general.

**Nurit Feig (Israel Antiquities Authority), “Fortifications—A Defense Practice or a Strategic Phenomenon? The Iron Age II Site of Tel Agol as a Test Case”**

The excavation of Tel Agol, a biblical site at the heart of Jezreel Valley in the northern part of Israel, revealed a fortification system on the southwestern slope of the tell. Based on preliminary results of the excavation, conducted by me on behalf of the Israel

Antiquities Authority, I shall try to show the significance and implications of the site from historical and geographical information as well as the excavation results.

Three phases or stages of fortifications were explored, one above the other in the same place on the cliff overlooking the surrounding roads and fertile fields. Together they extend over a period of 150 years, all dated to the Iron Age II. The system of building shows that the wall was planned with casemate rooms. Shortly after an earthquake, the outer wall shows signs of repair.

What are the reasons for what appears to be careless repair? Looking at the types of evidence mentioned above, I shall point out a few possibilities. Is it a threat from an enemy behind the mountain to the north, or a demonstration of power in this district that reflects a long-term conflict for hegemony?

### **Erez Ben-Yosef (Tel Aviv University), “Recent Discoveries by the Central Timna Valley Project (Southern Israel)”**

Since 2012, Tel Aviv University’s expedition to Timna Valley (southern Israel) has conducted surveys and excavations at multiple copper-production and related sites. This research has resulted in a revised chronological framework for the main period of copper exploitation in the region, which now covers the Late Bronze and early Iron Ages (ca. 1300–800 B.C.E.). In 2018–2019, further evidence of various aspects of the society operating the mines at this time was exposed, including the following:

- 1) A new smelting site located on a high cliff (“Crocodile Ridge”). A survey of the site yielded slag, abundant Qurayyah Ware, and first evidence in this region of Philistine Ware (bell-shaped krater, strainer jug).
- 2) Human remains and associated grave goods in the vicinity of Site 35, opposite the “Hathor Temple.” At least eight individuals were identified in two graves, including pregnant women. Pomegranates, garlic cloves, and fragments of embellished dyed clothes dated to the tenth century B.C.E. were uncovered in one of the graves, a well-built corbelled tumulus.
- 3) A unique cultic structure probably related to the rising sun of the winter solstice, associated with copper smelting at Site 35.
- 4) New cultic artifacts and radiocarbon dates from micro-archaeological probing at the “Hathor Temple” (Site 200).

In this paper, these new finds will be discussed in light of the growing archaeological data from the entire Arava (Yotvata, Faynan) and further contextualized within their social and historical settings.

### **Oded Lipschits (Tel Aviv University), “Tel Azekah: Fresh Results from the Seventh Season (Summer 2019)”**

The seventh excavation season of the Lautenschläger Azekah Expedition, conducted in July–August 2019, continued to reveal the secrets of this prominent site. In this presentation I will give an updated report on the finds and main conclusions from the 2019 season, focusing on the unique Middle Bronze Age fortifications, the large and rich Late Bronze Age city, the Iron Age I–IIA gap, and the strong Iron IIB–C Judahite city that existed until the Babylonian destruction.

**Assaf Yasur-Landau (University of Haifa), Eric H. Cline (The George Washington University), Alexandra Ratzlaff (Brandeis University), and Philipp Stockhammer (Ludwig-Maximilians-Universität München; Max Planck Institute for the Science of Human History), “Preliminary Report on the Results of the 2019 Excavation Season at Tel Kabri”**

This paper will present the results from our 2019 excavation season and from the study of objects retrieved during the 2017 season at Tel Kabri. During the 2013–2017 seasons within the palace, we excavated four wine storage rooms that yielded nearly 110 large jars, each capable of holding just over 100 liters. The organic residue analysis (ORA) indicated that they all held resinated wine. The 2017 season also saw the excavation of a large interior courtyard complete with pits full of discarded artifacts from a nearby location, probably located to the north. Our 2019 excavations will continue in this courtyard as well as heading north, seeking the source for these discards and/or the northern extent of the palace.

**5C. Idumea in the Hellenistic Period: Identities and Material Culture**

CHAIR: Oren Gutfeld (The Hebrew University of Jerusalem)

**Ian Stern (Hebrew Union College-Jewish Institute of Religion; Archaeological Seminars Institute), “The Emergence of Idumean Identity at Hellenistic Maresha: Some Preliminary Thoughts”**

Excavations at Hellenistic Maresha have revealed an eclectic material culture that, on the one hand, includes such generic Levantine characteristics as pig avoidance, ossilegium, circumcision, and even certain aniconic tendencies, while, on the other hand, features such distinctly Judean affiliations as ritual bathing facilities and the hundreds of punctured vessels that seem to suggest Judean purity laws. In harsh contrast, an almost total disconnect is discerned between Maresha and Judea with respect to the ceramic repertoire. Ceramic parallels are primarily from coastal Hellenistic-period pagan sites, with Phoenician, Greek and Egyptian influences prevalent as well. This suggests a lack of exchange and even deliberate isolation from Judea. This hybridized material culture assemblage would appear to reflect a hybridized group identity—a Maresha/Idumean identity. This paper will discuss this identity in its historical context in the second half of the second century B.C.E, up until the conquest of Maresha by John Hyrcanus.

**Oren Gutfeld (The Hebrew University of Jerusalem), “Settlement and Ethnic Identity at Horbat Beit Lehi (Loya) during the Hellenistic Period”**

Horbat Beit Lehi lies on a hilltop about 400 m above sea level in the southern Judean Lowland, approximately 6 km southeast of Tel Maresha and 8.5 km east of Tel Lachish. It was settled intermittently from the Iron Age II until the Mamluk period and has yielded such rich remains as dwellings, various subterranean complexes, a church, chapel, and mosque. Among the more significant findings from the time period under discussion (fourth–second centuries B.C.E.) are a number of subterranean oil presses and sizeable columbaria as well as a large watchtower. Based on the dating of the material found in

these contexts, alongside mentions of the region in the literary sources, it seems fitting to identify the inhabitants of Beit Loya during this time as Idumean.

Following a decade of excavations at the site, we are able to conclude that settlement ceased sometime during the first half of the 2nd century B.C.E., decades before the conquests of John Hyrcanus in Idumea ca. 113/112 B.C.E.—a dating that had long been accepted by scholars. One explanation for this earlier dating may be found in the forays of Judas Maccabeus to the region over the course of the Hasmonean Revolt in 167–164 B.C.E. Another possible reason may be an indirect result of the simmering tension felt between the Ptolemies and Seleucids, which in part facilitated the eruption of the revolt. The site would then lie desolate for some 150 years until its resettlement in the days of Herod the Great.

**Pablo Betzer (Israel Antiquities Authority), “The Beit Lehi Regional Project: Landscape Archaeology in the Southern Judean Lowland”**

In 2017 the Beit Lehi Regional Project (BLRP) was launched, comprising a large-scale, multi-disciplinary endeavor that consists of the mapping, surveying and pin-pointed excavation of an area south of the Hellenistic- and Roman/Byzantine-period cities of Maresha and Beit Guvrin (Eleutheropolis). Within the research area—spanning approximately 36 sq. km—are numerous archaeological sites dating from the Iron Age II to the Mamluk period, including a network of small- and medium-sized forts from the Hellenistic and Early Roman periods.

A preliminary drone survey has revealed an intricate road system that apparently linked these various settlements with one another, as well as with the main regional highways. Also observed were the various-sized agricultural plots and terraces served by these roads. Of particular note are the remains of a monumental structure first discerned from the air at Horbat ‘Amuda, situated about 4 km south of Maresha, and which subsequent excavations have identified as either a Hellenistic-period temple or palace. Accompanying ground surveys of the general research area have exposed numerous subterranean installations, including massive quarries, oil presses, burial caves, and stables, as well as extensive hiding tunnels used by Jewish rebels and refugees during the Bar Kokhba Revolt against Rome.

The project also incorporates GIS, DEM (Digital Elevation Model), orthoimagery and photogrammetry technologies. With this toolbox in hand, our ultimate goal is to better understand and define the connection among the various elements noted above—as well as their relationship to the region’s primary urban and administrative center of Maresha/Beit Guvrin.

**Michal Haber (The Hebrew University of Jerusalem), “Horbat ‘Amuda—A Monumental Hellenistic-Period Structure in the Heart of Idumea”**

In 2017 the Beit Lehi Regional Project was inaugurated, following nearly a decade of excavations at the Judean Lowland site of Beit Lehi. Within the framework of the project’s drone survey—encompassing a total study area of 36 sq. km—the remains of a massive structure were discerned at Horbat ‘Amuda, which lies approximately 4 km



south of Tel Maresha. Subsequent excavations at the site have revealed a unique edifice extending over an area of at least 45 x 55 m, divided into various chambers, corridors, and courtyards and featuring fine ashlar and header-and-stretcher construction. Unearthed in one chamber was a small vessel assemblage including two four-horned stone incense burners. The larger of the two bears an image of a bull in relief standing at the façade of a temple. The assemblage has been dated to the early Hellenistic period (third/early second century B.C.E.), which corresponds to the dating of the ceramic and numismatic material found elsewhere in the structure.

Taking into account its sheer unmatched size and impressive construction, alongside the presence of the aforementioned assemblage, we propose to identify the structure as an Idumean temple that served the hinterland of Maresha—and possibly also Maresha itself. Its dating leads us to conclude that it was abandoned and/or destroyed during the Hasmonean Revolt of 167–164 B.C.E.—and not, as had long been thought regarding other sites in the region, by John Hyrcanus ca. 113/112 B.C.

**Debora Sandhaus (Tel Aviv University; Israel Antiquities Authority), “Identities in the Making: Hellenistic Idumea through Its Material Culture”**

Throughout the Hellenistic period, economy and culture in the Levant flourished, reflecting interactions among different indigenous populations and between them and foreigners. Such encounters played a major role in the formation of cultural and ethnic identities. The Judean Shephelah was a fringe area between the districts of Judea and Idumea, and as such it comprises an ideal case study to examine how people once interacted and what strategies of acceptance/rejection of new ideas and habits they chose.

Analysis of the table and cooking wares at various sites on both sides of the border reveals a complex picture of varied patterns of human behavior, evidenced in the adoption of different strategies of acceptance/rejection/adoption and adaptation of new habits. New table manners and cooking habits were perceived differently.

I argue that the specific pattern of rejection of new ideas and conservatism observed in the sites located on the Judean side of the border are part of the mechanisms involved in the formation of a distinctive identity. In this lecture, I focus on the patterns observed at sites in the Idumean territory, characterized by a high degree of acceptance of new culinary habits. I maintain that foodways played a major role in the making of Idumean identity within the framework of both theoretical archaeology and new evidence from recent excavations.

**Avner Ecker (Bar-Ilan University), “The Languages of Hellenistic Idumea: Acculturation in *Medias Res*”**

The second century B.C.E. was a time of cultural transformation in Palestine. Local cultures redefined their religious, administrative, and material traditions in the context of the growing Hellenistic culture. Significantly, the Greek language was introduced into the daily lives of the inhabitants. Forty km southwest of Jerusalem, in the Idumaeen town of Maresha, this cultural process came to a halt with the town’s abandonment as a result of the Hasmonaean conquest at the end of the second century B.C.E. Finds retrieved from

the sprawling underground complexes of Maresha constitute a snapshot of a community in the midst of an acculturation process: a community that seems far less resistant to Greek culture than its Jewish counterpart.

More than 200 Greek inscriptions from Maresha have recently been published in the fourth volume of the *Corpus Inscriptionum Iudaeae/Palaestinae*. These texts, which include funerary inscriptions, poems, and dedications, alongside ostraca, unravel the formation of a multilingual society in the process of defining its linguistic codes.

This paper will offer a survey of these inscriptions and will present the town inhabitants' striking proficiency in Greek, concurrent with their use of transliterated Aramaic/Hebrew words, and the instances in which they preserved their native Aramaic.

#### **5D. New Directions in the Historical Geography of the Ancient Near East I**

CHAIRS: Chris McKinny (Texas A&M University-Corpus Christi), Aharon Tavger (Ariel University), and Kyle Keimer (Macquarie University)

##### **Mark Janzen (Southwestern Baptist Theological Seminary), “Historical Geography and the Reliefs of Merneptah at Karnak Temple”**

The battle reliefs on the western wall of the Cour de la Cachette at Karnak Temple depict three fortified polities. Due to severe damage to the reliefs, only one toponym survives, Ashkelon. For several decades scholars have debated the authorship of these reliefs. At present, the bulk of the evidence strongly suggests that Merneptah was the author of these scenes despite the presence of a palimpsest dating to the reign of Ramesses II. As a result, the reliefs have been studied in connection to Merneptah's campaign in western Asia as memorialized in his famous Victory Stele, the so-called “Israel Stele.” Despite a plethora of scholarship on that campaign, few studies have sought to understand the geography and logistics of the campaign in conjunction with the depictions on the western wall of the Cour de la Cachette. This paper seeks to better understand Merneptah's campaign and the toponyms referenced in both the Victory Stele and the battle reliefs using a combination of epigraphy and historical geography. Such an approach allows for the construction of reasonable theories for the identity of the polities on the western wall whose textual identifications did not survive.

##### **Deborah Hurn (Avondale University College), “‘Eleven Days from Horeb’: Deut 1:1–2 and Har Karkom”**

Deuteronomy 1:1–2 is an inscrutable list of obscure toponyms and diverse prepositions. Yet from it derives the common understanding that Mount Horeb is 11 days distant from Kadesh-Barnea. In 1983, paleoethnologist Emmanuel Anati identified Har Karkom in the central Negev as Mount Sinai-Horeb, but the mountain lies within 100 km of the Kadesh district. To address this biblical problem, Anati proposed a circuitous 11-day route from Har Karkom to Kadesh via minor water-sources as little as 7 km apart. The narrative of Numbers 10–13, however, indicates that Israel's march from Sinai to Kadesh took only six days of actual travel. This presentation will propose and describe the route of this journey in terms of ancient trails, water sources, and campsites. Also, by a new reading of

Deut 1:1–2, I argue that this text describes the way from the east bank of the Jordan River to Horeb (at Har Karkom) via well-known ancient roads. A route of 11 daily stages links 12 water sources at an average of 30 km apart, the standard rate of military and commercial travel in the ancient Near East. This paper will offer identities for the seven listed stations and locate the remaining five stations, offering a rationale for their omission. No longer obscure and irrelevant to its context, Deut 1:1–2 turns out to be an accurate, linear, timed itinerary describing the optimal route between Mount Horeb and the Jordan River where Moses spoke his final words to Israel.

**Koert van Bekkum (Evangelical Theological Faculty/Theological University), “Historical Geography and the Diachrony of the Geographical Concept of Joshua 15–19”**

During the 20th century C.E., the combination of historical-geographical research and diachronic analysis in the *Leipziger Schule* and the Baltimore School led to clear views regarding the geographical identification and historical growth of Joshua 15–19. Important theories regarding the geographical concept of these chapters as a whole were formulated by Zechariah Kallai and Nadav Na’aman. In recent times, however, scholars have become very reluctant in presenting such a view due to publication of archaeological surveys of major areas of the southern Levant and new directions in the study of ancient Israel and in textual, literary, and redaction criticism. At the same time, however, new historical-geographical studies also highlight that these chapters reflect a very intimate knowledge of the land. Accordingly, the question is again to what extent Joshua 15–19, both in its conflation of sources and as a whole, still offers a coherent geographical conceptualization of the Promised Land. The paper discusses examples which might be interpreted as indications in this direction.

**Kyle Keimer (Macquarie University), “Biblical Ziklag: The Case for Khirbet er-Ra‘i”**

The identification of biblical Ziklag has plagued scholars for nearly 100 years. Twelve potential sites have been identified, and there is yet to be a consensus. Based on geographical, archaeological, and chronological considerations, it will be argued that Khirbet er-Ra‘i, the most recently site proposed, is the best candidate for biblical Ziklag.

**Chris McKinny (Texas A&M University-Corpus Christi) and Zachary Thomas (Macquarie University), “Historical Geography Gone Awry at Khirbet er-Ra‘i? The Case against Identifying Khirbet er-Ra‘i with Ziklag”**

Garfinkel, Ganor, and Keimer’s ongoing excavations at Khirbet er-Ra‘i have revealed a relatively significant Iron Age I settlement with Philistine pottery and a small early Iron Age IIA settlement (2017a; 2017b; 2018). In light of this and their analysis of the biblical sources, Garfinkel and Ganor propose that Khirbet er-Ra‘i matches the historical geographical details for Ziklag (2019). This paper will challenge their identification of Khirbet er-Ra‘i with Ziklag, and suggest a possible alternative ancient name for the Khirbet er-Ra‘i in light of Eusebius and existing Arabic toponyms in the vicinity.

**5E. Best Practices for Digital Scholarship**

CHAIRS: Sarah Witcher Kansa (Open Context) and Charles E. Jones (The Pennsylvania State University)

**Charles E. Jones (The Pennsylvania State University), “Sharing Your Work: Library Ethics, Privacy, and Commercial Repositories”**

Does your institution or your source of funding have an open access publication requirement? How can you comply with it responsibly? Do you have a responsibility to communities without access to research materials either in print or behind paywalls?

This presentation will be a discussion of best practices in managing the published results of your work.

**Erin Averett (Creighton University), Derek Counts (University of Wisconsin–Milwaukee), and Kevin Garstki (University of Wisconsin–Milwaukee), “Bridging Divides: Hybrid Approaches to Publishing 3D Data”**

The archaeological record is three dimensional and archaeologists strive to reconstruct how ancient people interacted with each other, the built environment, and the landscape in 3D. Yet, for practical reasons, past worlds have been presented in 2D formats. To supplement these publications, archaeologists have long experimented with plaster casts, models, and more recently with new digital imaging technologies. While the limitations of print publication are well known (e.g., 2D, static, linear, selective), it has remained the primary mode of disseminating archaeological information for over a century. The emergence of new forms of capturing data comes at a time when archaeologists are beginning to push back against the authoritative monograph tradition. For example, there is a call to decentralize the knowledge production process by publishing primary data (e.g. notebooks, databases) that allow scholars to evaluate how site narratives have been reconstructed. At the same time, archaeological data have grown more complex and are often born digitally, while new visualization technologies have become more efficient, economical, and accessible. The result is that 3D visualizations can be presented alongside contextual narratives, making use of developing digital research infrastructures and digital gazetteers. The combination of these burgeoning 3D visualization platforms and the development of the semantic web provides digital academic publications with some distinct advantages for the use and reuse of archaeological data over print publications. This presentation will contextualize our publication, *Visualizing Votive Practice: Exploring Limestone and Terracotta Sculpture from Athienou-Malloura Through 3D Models* (The Digital Press at the University of North Dakota and ASOR, with tandem publication by Open Context), within the current publication environment as a springboard to a discussion of the future of archaeological publication.

**Kevin McGeough (University of Lethbridge), Sarah Witcher Kansa (Open Context), Charles E. Jones (The Pennsylvania State University), Andrea Berlin (Boston University), William Caraher (University of North Dakota), and Eric Kansa (Open Context), “Digital Media Policies for ASOR Publications”**

Publication practices need to enable and reward responsible curation of the cultural heritage that a wide range of stakeholders entrust ASOR members to document and interpret. Publication represents an important tool for ASOR to enrich the lives of future generations by communicating the value and significance of the archeological record, especially in situations where that record is endangered by war, neglect, appropriation, and commoditization. By encouraging and supporting more full and comprehensive sharing and archiving of primary data and related documentation, we can better align our publication practices with our ethical ideals. To this end, a subset of ASOR's Publications Committee has developed a set of recommendations that will promote publishing practices that better incentivize the accessibility, persistence, and integrity of archaeological data. This paper presents a set of good practices in digital publishing that will both advance our ethical conduct and help us better meet a broad array of emerging needs in 21st-century scholarship. Topics covered include long-term access, citation, reproducibility, peer review of digital content, attribution, and professional recognition.

**Eric Kansa (Open Context) and Sarah Witcher Kansa (Open Context),  
“Expanding the Reach, Scope, and Significance of Archaeological Publication”**

Publication needs to promote more responsible stewardship of the archaeological and historical record. In order to meet this goal, this talk will outline good practices in the use of digital publishing services that have the support of digital library and other preservation services required to curate scholarly content for the long term. This talk will highlight Open Context's collaborations with scholarly publishers, and recent progress in augmenting conventional publication workflows with more editorially supported preparation, cleaning, documentation, curation, publication, and repository archiving of large datasets, including 3D media. While advancing our ethical conduct, these examples will demonstrate how improved publication practices can help archaeologists address pressing public outreach, education, preservation, and research needs.

**5F. Art Historical Approaches to the Near East I**

CHAIR: Allison Thomason (Southern Illinois University Edwardsville)

**Agnete W. Lassen (Yale University), “Seal Reuse in the Ancient Near East:  
Heirlooms and Antiquarianism”**

This paper will address the use of reuse of seals—both as heirlooms and as purchases—in the ancient Near East, with a particular emphasis on the Old Assyrian period. As was argued by Appudurai, material objects gain value when taken out of a distant spatial or temporal context, demonstrating the power over time and space by the new owner. This paper will present as case studies seals whose imagery and legends clearly signal that they were of significant age, and of significant pedigree. Through a study of seal biographies the paper will follow the journey of these three seals through changing owners, and the ensuing recarving of imagery and legends.

**Elizabeth Knott (New York University), “The Power of ‘Presentation Scenes’ in the  
Old Babylonian Period”**

In the Old Babylonian Period, the well-known so-called “presentation scene,” featuring a human figure being escorted before a seated ruler or deity by an interceding deity, was transformed into a more intimate and audacious scene of divine-human contact. On select cylinder seals, the ruler was newly positioned in front of the interceding deity, showing him in direct visual (and sometimes physical) contact with the deity. This transformation is further documented in large-scale artworks of the same period, including the famous Stele of Hammurabi and Mari Investiture Scene wall painting.

Previous scholarship has suggested that modes of seeing and visualizing the relationship between the world above and the world below changed in the Old Babylonian period, and may lie behind a handful of new representational strategies. This scholarship demonstrates the potential of using the visual record to write histories of political, religious, and social change. Using a phenomenological approach, the present paper surveys “presentation scenes” of the Old Babylonian period, asking how interactions with objects and modes of seeing are determined by the size, context, and portability of various media. How are messages of kingship mediated by the material of representation? The paper further considers the deities depicted, so that the intimacy of the “presentation scenes” is understood in relationship to the character and accessibility of the gods.

**Virginia Herrmann (University of Tübingen), “A Lion Statuette Base from Zincirli and the Cross-Media Application of the ‘Flame and Frond’ Style**

A small steatite lion, found in the Chicago-Tübingen excavations at Zincirli, Turkey, in 2017, represents a unique addition to the repertoire of Syro-Hittite sculpture. The couchant lion, carved in the round with inlaid red eyes, has two sockets in its back that suggest that its original purpose was as a base for a striding anthropomorphic figure, probably a deity cast in metal. More than a thousand bronze anthropomorphic figurines, most with tanged feet for insertion into a base, have been found in the Levant. The Zincirli lion shows one type of base in which these figurines could have been inserted to signify and enhance their divinity.

Though the material and inlaid eyes of the Zincirli lion recall the many lion bowls or “spoon-stoppers” found in the northern Levant, the incised markings on the lion’s body reproduce all of the elements of the “Flame and Frond” style of carving known from ivories found at Nimrud, Hama, Tell Halaf, and Hasanlu. These animal markings were also used on larger-scale reliefs from Tell Halaf, but this is the first time they have been found on a small stone object. The Flame and Frond group stands at the center of current discussions about the meaning of style in the Iron Age Near East and its association with particular workshops, locales, values, and identities. The application of these very specific markings to media beyond ivory provides further support for understanding such styles as flexible symbolic and communicative resources rather than passively received traditions.

**Jane DeRose Evans (Temple University), “An Early Imperial Glass Intaglio Workshop at Sardis, Turkey”**

Glass intaglios are rarely studied as a class of object, but finds from the excavations of Sardis in Turkey give us some insight into the production of these humble items. Glass

intaglios have been found in one sector of the site since 1994, and correspond to each other in manufacturing technique, color, and style. Given their unfinished state, it is likely that they were produced in the immediate vicinity of where they were found. Although intaglios are generally dated by stylistic means, some the intaglios at Sardis were excavated in Early Roman fills, especially in the clean up of the debris associated with the earthquake of 17 C.E., giving a *terminus post quem* of their production. By exploring iconographic parallels in local coins, the hypothesis that the intaglios were made in Sardis in the early imperial period is strengthened. The intaglio group shows the strong inter-regional ties of the populace of Sardis at the end of the first century B.C.E. and beginning of the first century C.E.

## **5G. Theoretical and Anthropological Approaches to the Near East**

CHAIRS: Tobin Hartnell (American University of Iraq, Sulaimani) and Darrell Rohl (Calvin University)

### **Matthew Winter (University of Arizona), “Animating the Built Environment: Creating an Architectural ‘Grammar’ through the Intersection of Semiotics, Materiality, and Practice Theory”**

Architecture is the largest expression of human thought. How we move through urban space conditions how we understand the built environment and patterns human behavior; we understand where and how rituals that constitute “culture” occur because we understand their position in urban or natural space, which becomes a blueprint for urban design. Architecture is a means by which humans convey identity—political, religious, economic, ethnic, or otherwise—and frequently becomes a defining feature of groups of people which engenders a sense of belonging to both communities and places. An explicitly anthropological approach to studying the built environment is to consider how human behavior within urban settings create “space” and that what humans do in or around these spaces define them before, during, and after they are occupied. This paper explores how semiotics, materiality, and practice theory can intersect to form an architectural “grammar” that can animate the built environment. By so doing, I suggest that the built environment provides a “language” for places situated in time and space, constituted by the physical objects within a place (nouns) and the behaviors of the communities that inhabit those places (verbs), without taking a full ontological turn that suggests architecture is itself an active agent. Thus, I argue that built environments can serve as markers of identity not through typologies of similarity or dissimilarity, but rather as a more comprehensive “language.” Like oral or written languages—which are mutable through time and can be adopted, adapted, or hybridized to form new markers of identity—architecture likewise can be understood as a sophisticated measure for identity. By using an architectural “grammar” to read form, function, technical qualities, and ornamentation, it is possible to suggest that the built environment “speaks” to community identity as it is displayed through architecture.

### **Darrell Rohl (Calvin University), “Place as Process: Process Philosophy and the Archaeology of Place”**

This paper outlines an intellectual framework for approaches to place within archaeology,

explicitly building upon process philosophy (Whitehead 1978; Deleuze 1994) and place theories developed within humanistic geography (Cresswell 2015).

Although archaeology has been influenced by ideas emerging from the rich discourse on place theory (e.g., Tilley 1994), explicit engagement with the primary sources of this discourse has been limited and we have largely failed to directly contribute back. This paper therefore addresses the following questions: how has place been theorized outside of archaeology, what are the implications of these ideas for archaeological research, and how can archaeologists make meaningful contributions to interdisciplinary understandings/appreciations of place?

Process philosophy has also received little direct attention within archaeology, although it has been (ironically) implicit in many post-processual approaches. Recently Gosden and Malafouris (2015) have directly advocated for a “Process Archaeology” (P-Arch) approach, using pottery making as an illustrative case-study. This paper also critically considers place theory from a process philosophy perspective, focusing on the perpetually iterative nature of place and the relationships between locations, human experience, and memory in both past and present.

Global case studies from archaeology, including in Scotland and Jordan, will be highlighted in order to illustrate some of the problems and prospects of the proposed theoretical perspective.

### **Terrence Nichols (Southwestern Baptist Theological Seminary), “The Private Space of Herod the Great”**

In 2007, Ehud Netzer revealed the remains of a mausoleum on the northeastern hill at the site of Herodium which drew considerable interest in the archaeological world, as Netzer was not hesitant to identify it as Herod the Great’s long sought tomb. The only site to bear the name of Herod the Great, the site was founded as a testament to the infamous king. Conversely, there are scholars who question the mausoleum’s identification as Herod’s tomb. While the feature is indeed a mausoleum, there remain several questions in making a definitive identification of the tomb’s owner. In a 2015 article, Joseph Patrich and Benjamin Arubas questioned Netzer’s identification of the mausoleum as Herod’s resting place based on four arguments that the tomb violates programmatic principles of Herodian design.

This paper examines and refutes each argument posited by Patrich and Arubas. It does so by assessing a number of Herodian sites and developing a counter-argument based on Herod’s “pattern of private space.” This “private space” argument is a new claim that forms the basis for refuting three of the four arguments, with the last being dealt with on a separate basis. This paper also assesses the author’s line of reasoning in several of their claims. In contrast to Patrich and Arubas, the mausoleum found at Herodium remains the most likely candidate for Herod’s tomb among what has been excavated thus far.

### **Jonathan White (University at Buffalo), “Disability and Accommodation in the Ancient Near East: Case Studies from the Fertile Crescent”**



Recently there has been an increasing trend to interpret disability as a part of personal identity rather than a condition or conditions to be suffered and cured. This trend essentially sets aside a medical model of disability in favor of cultural and social construction models. This paper applies modern disability theory to a survey of bioarchaeological, material culture, and textual evidence for disability and accommodation in Mesopotamia and the Levant in the late second and early first millennia B.C.E. Through this process, it is possible to reconstruct the shared social perceptions of disability in these societies and to begin to understand the lived experiences of people with disabilities in the earliest urban societies.

**Avraham Faust (Bar-Ilan University), “The Power of the Weak: Local Interactions with the Assyrian Empire in the Southwest”**

In recent decades there has been a growing scholarly interest in the ways that local communities interact with imperial domination. While “resistance,” in its various manifestations, had received the greatest scholarly attention, other strategies are also receiving their share of scholarship. Notably, most studies have focused on specific encounters, or even on individual aspects of specific case-studies, in order to identify a particular type of indigenous strategy or to particular a certain theme. There have also been some attempts to systematically define the “spectrum” of strategies that can develop in such encounters, mainly on the basis of information from Central and South America.

The Assyrian empire, especially its southwestern margins, is one of the best documented case-studies of such encounters. Thousands of sites from the relevant period have been identified in surveys, and hundreds of excavations (planned and salvage alike) have exposed relevant remains. These are accompanied by a few dozen imperial texts, of various genres, that supply information on imperial actions and rule, and by a large number of fragmentary local “texts” (mainly ostraca) highlighting aspects of local administration. Furthermore, parts of the biblical corpus provide a unique voice to (some of) the conquered—a voice that is practically missing from similar contexts. Given the uniquely rich information available, this paper will explore the various outcomes of such imperial encounters, and will present a spectrum of choices and responses employed by the conquered, from violent resistance on one end to full cooperation and even integration on the other.

**5H. State and Territory in the Ancient Near East: Mapping Relationships and Challenging Paradigms I**

CHAIR: Heidi Fessler (Independent Researcher)

**Eyal Regev (Bar-Ilan University), “Purity and Judaeans Ethnicity in the Hasmonean State”**

Three distinct cultural phenomena emerged in Judaea during the Hasmonean period (152–37 B.C.E.): the concept of Gentile impurity, full body immersion in a ritual bath, and (relative) abstinence from the use of imported foreign pottery such as Rhodian amphoras and Eastern Sigillata A wares. All three relate to the interaction between Judaeans and non-Judaeans. They reflect social boundaries that were created to foster the

ethnic identity of the Judaeans vis-à-vis the local Gentiles. Thus, purity and impurity (both conceptual and practical, i.e., rituals of purification in a ritual bath) were representational of Judean/Jewish ethnic identity and ethnic boundaries.

It is well known that state formation develops and encourages ethnic boundaries because the differences of power within the state and its political activity create new possibilities for defining such ethnic identity. National or ethnic identities are elaborated to define conceptions of civic virtue that legitimize submission to the state. In the case of Judaeans, purity in the Hasmonean period, I suggest that the establishment of ethnic boundaries of ritual purity and the avoidance of imported pottery was encouraged by the Hasmonean state for two reasons: because they corresponded to Hasmonean ideology and its political aims, and because state formation usually contributes to the development of ethnic identity.

### **Ki-Eun Jang (New York University), “Trans-Border Membership and Unsettled Identities: A Case of Gentilics”**

Place names preserved in the textual data are a primary source to map out the territorial reality of distant days. While the toponym as a proper name denotes an entity (e.g., Shiloh), the adjectivized gentilic built on such a toponym (e.g., Shilonite) then designates a class of entities, in this case a population associated with the named place. This paper investigates the understudied nexus between gentilics and the paradigm of literary mapping of identities informing the political landscape in ancient Israel. Out of the 228 gentilic labels based on diverse types of proper nouns in the Hebrew Bible, I focus on those based on place names of town, district, nation, and state in the corpus of the Former and Latter Prophets. Whether used as a freestanding appellation or as an attribute of an individual or group, the gentilic label implies membership in a community, yet the scope of perspectives and meanings assumed in the gentilic label shifts depending on the scribal community’s socio-political interest and setting. With the use of gentilics as a common scribal tradition in Israel and Judah, this paper demonstrates the ways in which they elucidate a network of intergroup and interpersonal relationships beyond the presumed congruity among territory, state, and citizenry, explicating the trans-border membership defined by territorial affiliations of the lands of Israel, Benjamin, and Judah. With this inquiry, I attempt to distinguish the usage of gentilics as a vernacular categorization from official classification schemes that reflect bureaucratic persona.

### **Nathanael Shelley (Columbia University), “My Father Was a Wandering Ethnonym: Ancient Ethnic Maps, Their Lies, and Their Uses”**

Historians often produce maps identifying geographic locations associated with historical ethnic groups as a way of describing the social situation at a particular moment in the past. This practice is especially common when labeling a frontier region surrounding a historical state or polity, and such diagrams are typically associated with explanatory essays concerning the border or foreign policies of that polity. While ethnic maps do provide a useful reference in that context, they become problematic when used to present an ancient social reality or history, and the frequent use of ethnic maps in standard histories of the ancient Near East contributes to a distortion, and often oversimplification, of the social history in the region. This paper examines the usefulness and value of maps

featuring ancient ethnic labels such as “Amorites,” “Kassites,” or “Arabs,” as well as “Elamites” or “Assyrians,” in light of recent social scientific definitions of ethnicity, to highlight the effects of a geographical presentation of social constructs. Special attention is paid to the distortions that arise when an imagined, or mental, map is affixed to a diagram of physical space. How this can become misleading in a historical narrative is also discussed, and the benefits of graphing imaginary geographies is considered. These comparisons ultimately seek to emphasize the role that geography played in the social history of the region.

**Julie Deluty (Saint Joseph’s University), “Between Prophet and King: Locating the Royal Governors of Mari”**

This paper analyzes the representation of Kibri-Dagan of Terqa and Yaqqim-Addu of Saggara as human intermediaries of divine information within the Mari kingdom. Zimri-Lim would not gain access to the deities’ words without the role of these regional governors (*šāpīṭum*) who transmit the reports of prophets. As the Mari corpus highlights, these individuals transcend the geographic divide between prophetic personnel and the king, while simultaneously negotiating the religious and political interests of both sides. To what extent do the governors choose whether to quote the message of the respective deity, and decide how to formulate the dictation from a named or unnamed prophet? Examination of the *šāpīṭum*’s role reveals one case where the dyad between prophet and monarch changes due to the presence of the intermediary. Kibri-Dagan and Yaqqim-Addu take the initiative to comment on received information before sending it to Zimri-Lim. In doing so, they serve as brokers to advance and reshape the politics of divine communication.

**Jeffrey Newman (University of California, Los Angeles), “Running the Heb-Sed: Festivals and Regionality in the Formation of the Early Egyptian State”**

Due to the early social and political cohesion expressed in the Nile Valley and Delta ca. 3400–3000 B.C.E., Egypt is often described as the first “nation-state.” Over the course of its varied and long history, countless examples of local magnates, kings/queens, pharaohs, priests, generals, and even conquerors endeavored to promote the idea of unity between the disparate geographic and political settings of Valley and Delta. Such efforts were aimed at influencing the complex negotiations that always existed between localized and regional spheres of social power.

In this paper, I explore the origins and context of state-sponsored “community-building events,” particularly the iconographic and archaeological evidence for festival and feasting activities best evidenced in the royal cemeteries of Abydos and Saqqara. I argue that there was a conscious effort made by early festival organizers to appeal to various regional identities through direct association with the emergent cult of kingship. This is perhaps best seen in the origins of the Heb-Sed, or “Jubilee” festival. At the time of its first direct attestation during the reign of King Den, it was already purposely incorporating elements of older, regionally derived iconography and traditions in an effort to enhance the effectiveness of the festival in advertising kingship. Finally, a diachronic analysis of these regional appeals is used as proxy data to better understand

the interplay between local elites and the central administration during the Early Dynastic Period.

**Francesco De Magistris (University of Oxford), “The ‘Proximity Factor’ in the Amarna Letters and the Areas of Influence of the Egyptian Centers”**

The presence of Egyptian centers and commissioners in the southern Levant during the 18th Dynasty is well documented, but the area that each center controlled is not settled ground. Petrographic analysis shows that 36 of the Amarna letters were written in the Egyptian centers of Gaza, Joppa, Beth-Shean, and Sumur. The provenance of the kings who wrote those letters (Gezer, Lachish, and Gath for Gaza; Ashdod for Joppa; Acco and Shamnuna for Beth-Shean; Byblos and Amurru for Sumur) suggests the idea that—barring exceptional circumstances—a king would have related with the closest Egyptian commissioner rather than a farther one. This would in turn imply dominance of centers over a certain area.

This presentation will discuss the relations between the Egyptian commissioners in the Amarna Corpus, the centers in which they worked, and the interactions that they had with the local kings, in an attempt to theorize and map the area of influence of each Egyptian center during the late 18th Dynasty.

**5I. Toward an Archaeology of Crafting (Workshop)**

CHAIRS: Emily Miller Bonney (California State University, Fullerton) Leann Pace (Wake Forest University)

**Kristine Garroway (Hebrew Union College-Jewish Institute of Religion), “Crafting Children”**

Children are an important part of the ancient household. As part of the process of training the next generation, children were enculturated into their society in various ways. This paper investigates the area of crafting, specifically skill learning through play. I suggest that the skills learned to make a specific object of play, a spinning disc made of ceramic ware, were skills that could be used in the crafting of other objects. These skills included chipping, rubbing, drilling, and spatial alignment. Of particular interest are drilling and spatial alignment. I will explore the possibility that children could undergo further training that would allow them to apply these skills to textile- and jewelry-making processes. Loom weights, cylinder seals, rings, and beads all represent objects with drilled holes that require specific spatial alignment. Notably, these objects are not made of clay, but stone and semi-precious stones. I suggest that children may have learned these fundamental skills on a comparatively softer material, ceramic ware, before applying them to harder materials represented by the stones.

**Joanna S. Smith (University of Pennsylvania; The John and Mable Ringling Museum of Art), “Six Degrees of Craft Production”**

The idea of six degrees of separation is useful when thinking about connectivity in craft production. Crafts were interconnected in antiquity, even if connections were indirect. For example, people working in one medium, such as bronze, shared resources with those

working in a seemingly unconnected craft, such as textile production. Even less obvious is the interrelationship between stone carving and weaving; yet conceptually there were links, which survive in both objects and words such as *barāmu* and *birmu* in Akkadian, which refer both to a many-colored fiber or cloth such as a trim and an engraved object such as a seal or seal impression. Even if the craftsperson working in a reductive craft was not same as that working in an additive one, in the ancient world there were variable yet definable degrees of familiarity with working in a different medium. In this workshop, thinking through six degrees of craft production helps to clarify connections among the materials and techniques of different crafts and the degrees of familiarity of craftspeople with working in different media

**Frederic Brandfon (Expedition to the Coastal Plain of Israel), “If I Had a Hammer”**

In accordance with the workshop guidelines this presentation will concern a single object: a flint hammer found on the floor of house 816 (Stratum II, Iron Age II) at Tel Beer-Sheba, Israel. The hammer was found in association with loom weights, a nail, and bronze and bone objects. As a tool, it may have been used to create some of those objects. It was created by sculpting a round ball of flint from a larger stone. The technique that created the hammer may have been used to create some of the other objects as well.

**Megan Cifarelli (Manhattanville College), “Keeping up with the Joneses in Northwestern Iran during the First Millennium B.C.E.: The Gargul Belt, ‘Assyrianization,’ and Hasanlu”**

Contact with, and emulation of, Assyria has often been cited as the primary source of inspiration for changes in the visual culture of northwestern Iran during the early first millennium B.C.E. This paper takes a look at a decorated metal belt that was a chance find in what appears to have been an elite burial near Gargul, Iran, in the Zagros foothills. This belt evinces the metallurgical skills of its makers, as well as an awareness of a range of contemporary and ancient iconographic traditions from the highest reaches of power in Assyria to neighboring sites like Hasanlu, Iran. It is closely related to a type of belt known only from the most elite contexts at Hasanlu, although the craftsmanship is less refined, and its stylistic attributes resemble those exhibited by the “local style” ivories and wood carvings from that site as well. This paper speculates that this belt was produced across craft boundaries—that the “hand” of the artisan who decorated the Gargul belt was more accustomed to working in ivory and wood. These skills and the choice to create this particular type of bronze belt suggest that this object and its makers, rather than emulating Assyrian works, respond to artisanal practices in neighboring polities, and provide a hint of the richness and complexity of craft production in this region.

**Brent Davis (University of Melbourne), “Minoan Cross-Craft Connections: Evidence That Some Minoan Precious-Metalsmiths Were Also Scribes”**

Inscribed Minoan jewelry is always inscribed with Linear A signs that are both minuscule and extremely detailed. Most of these pieces were evidently cast—thus they must have begun as clay (or perhaps wood) models and been produced using the lost-wax method. Yet this means that these (very delicate) models were themselves inscribed with minuscule yet very detailed Linear A signs—that is, the inscriptions were integral to these

pieces from the beginning of their creation. As these signs are much, much smaller and more painstaking to create than the signs most ordinary Minoan scribes would have used, it is hard to escape the notion that the Minoan gold- and silversmiths who created these pieces must have been scribes themselves, with expertise in writing/epigraphy gained through writing in more common media such as clay tablets and perishable materials.

**Emily Anderson (Johns Hopkins University), “Bodies, Walls, and Cloth: Shared Experience in Making Frescoes and Textiles in the Aegean Bronze Age”**

In the early Late Bronze Age, color becomes a vivid component of figural wall painting in the Aegean. These paintings often depict humans, and it is largely through such renderings of people’s clothed bodies that we have formulated our sense of a rich textile tradition in the Bronze Age Aegean. I plan to interrogate the relationship of textiles and painting beyond the representational, to consider how the making and experience of these two creative media may have coincided and interacted. Specifically, I will highlight areas of experiential overlap in the acquisition, processing, and exchange of materials, the spaces involved in both crafts, and the socio-sensory dynamics at play (color, smell, texture). My hope is that, through some preliminary thoughts in this direction, we might begin to problematize mutual or shared references in these creative media through sociocultural terms, instead of merely their representational roles.

**6A. Archaeology of Cyprus I**

CHAIR: Nancy Serwint (Arizona State University)

**Alan Simmons (University of Nevada, Las Vegas; Desert Research Institute), “Location, Location, Location: Early Cypriot Neolithic Use of Upland Areas, the Case of *Ais Giorkis*”**

Over the past two decades, several sites have rewritten the Cypriot Neolithic. *Ais Giorkis* is one of these. It is located in the Troodos Mountain foothills in western Cyprus, unlike most contemporary (ca. 8000–7500 cal B.C.) settlements that are closer to the coast. These sites, generally referred as Cypro-PPNB, and a handful of even older PPNA sites confirm a Cypriot Neolithic earlier than what was previously documented and contemporary with developments on the mainland. Extensive interdisciplinary investigations at *Ais Giorkis* have revealed it to be a far more complex site than originally believed. It was, nonetheless, only a small settlement with a probably limited population. Despite this, the site is incredibly rich, containing what is likely the largest chipped stone and faunal assemblages on the island. This presentation examines reasons for the site’s upland location and how it represents an intentional exploitation of a variety of resources in its rich ecotonal setting. The multitude of analyses conducted included soil and animal isotope studies and pollen and phytolith groundstone washes that, coupled with artifact and other studies, provided information suggesting a diverse site function. This includes feasting activities, exploitation of forests for wood, and an emphasis on both wild and domesticated animals, with domestic and wild plants (possibly including *Vitis*) serving as supplemental economic resources. I conclude with a brief discussion on the significance of *Ais Giorkis* to the early Neolithic in Cyprus and its relationship with broader events that characterized the Neolithic Revolution.

**Andrew McCarthy (University of Edinburgh), “The First Potters at Prastio: Refining the Neolithic Sequence in Western Cyprus”**

The site of Prastio-*Mesorotosos* in the west of Cyprus has evidence for an extraordinarily long occupation from the Neolithic to modern times. Due to its location on a hillside, erosion has necessitated the excavation of step trenches that have allowed for simultaneous exposure of stratigraphically contiguous architectural phases. This erosion, however, has complicated matters by requiring sorting out the interface of topsoil disturbance in each step trench. After a decade of excavation, the series of deposits is beginning to become clear, however, and this paper will outline the prehistoric sequence of the site, showing the development of architecture, artifacts, and ecofacts, which demonstrate the development of culture at this site. Of particular importance is an apparently continuous inhabitation from the Aceramic Neolithic into the Ceramic Late Neolithic period, where we see the first use of pottery. This important transition offers a glimpse into an otherwise enigmatic period relatively unattested at other sites and demonstrates a gradual change and an increase in the permanence in use of the site from its seasonal origins.

**Kathryn Grossman (North Carolina State University), Tate Paulette (North Carolina State University), Lisa Graham (University of Edinburgh), and Andrew McCarthy (University of Edinburgh), “Village Politics in Prehistoric Cyprus: Makounta-*Voules-Mersinoudia*, 2017–2019”**

Against the backdrop of mainland Southwest Asia, the island of Cyprus stands out as an anomaly during the third millennium B.C. While their neighbors in Egypt, Mesopotamia, the Levant, and Anatolia were embarking on ambitious programs of urbanization and state formation, the inhabitants of Cyprus appear to have maintained a village-based society with few signs of institutionalized authority, social stratification, or hierarchically organized settlement systems and only occasional indications of aggrandizing behavior by individuals or households. On this evidence, Cyprus could be taken as a case of stunted development, but an alternative possibility has long been recognized: the villagers of Chalcolithic Cyprus may have been explicitly working to suppress movements toward the accumulation of wealth, power, and authority. The Makounta-*Voules* Archaeological Project is exploring this distinctive developmental trajectory through a consideration of the politics of village life in prehistoric Cyprus. An intensive survey (2017) and two seasons of excavation (2018–2019) at the site of Makounta-*Voules-Mersinoudia* have documented the remains of a Chalcolithic and Early Bronze Age (ca. 2800–2000 B.C.) village on the northwest coast of the island near the modern town of Polis. In this paper, we consider the evidence for household economy, community organization, craft production, and regimes of value at Makounta in order to highlight the viability and the durability of alternative political projects that do not fit easily within the standard narrative of state formation in the region.

**Lindy Crewe (Cyprus American Archaeological Research Institute), “Recent Excavations at Bronze Age Kissonerga-*Skalia*”**

The coastal Bronze Age settlement at Kissonerga-*Skalia* in western Cyprus was a site of exceptional longevity. It remained occupied from the Philia, ca. 2500 B.C., through the entire Early–Middle Cypriot Bronze Age until ca. 1600 B.C., the threshold of the Late Cypriot Bronze Age. During the final phase, a large building complex was constructed, with evidence of large open spaces delineated by a monumental wall and industrial-scale cooking/heating facilities, including a malting kiln associated with beer manufacture. This paper will report on the 2019 season of excavations as we work towards understanding the sequences of construction of the complex, its functions, and why it was only occupied for a short period of one or two generations before the entire site was abandoned.

**Paula Waiman-Barak (University of Haifa), Teresa Bürge (Austrian Academy of Sciences), Ruth Shahack-Gross (University of Haifa), and Peter Fischer (University of Gothenburg), “Provenance Analysis of Ceramics and Stone Anchors from Hala Sultan Tekke: Evidence for Intra-Island and Interregional Trade Connections during the Late Bronze Age”**

Provenance analysis of 250 ceramic vessels and 14 stone anchors found at the harbor site of Hala Sultan Tekke was conducted to investigate trade systems of Late Bronze Age societies. The analytical method is based on petrography of artifacts and raw materials collected around the island that provided comparable data used for the identification of production centers. Our choice of assemblages and analytical method enabled identification of ceramics locally produced on-site that include all forms of White Painted Wheel-Made, Plain White Wheel-Made wares, Bucchero jugs and White-Shaved juglets. Other specialized wares such as cooking pots, White-Slip, Base-Ring and possibly Red Lustrous Wheel-Made spindle bottles and platters were transported to the harbor from elsewhere on the island. The flow of ceramics to Cyprus included abundant imports shipped from the Aegean, the Levant, and Egypt. Analysis of stone anchors shows that most analyzed anchors are made of limestone or chalk that could have been obtained from quarries either in the close vicinity of Hala Sultan Tekke or elsewhere. One exception in this assemblage is an anchor made of greywacke, a metamorphic rock foreign to the local environment. Its provenance may be in the west of Cyprus or from the Aegean. Results of this study provide a framework for elucidating direct and indirect exchange of goods and allow for a better understanding of connectivity between Late Bronze Age societies revealed not only in the durable goods but also in perishables invisible to the archaeological record, as well as the movement of information and ideas.

## **6B. Archaeology of Israel II**

CHAIR: Rachel Hallote (Purchase University)

**Rosaura Sanz-Rincón (Universidad Anáhuac México) and Ma. Luisa Vázquez de Ágredos Pascual (Universitat de València), “The Magdala Ritual Area Mosaic under the Light of Spectrometry Analysis”**

Art is a human expression that helps to approach both the beliefs and the socioeconomic structure of ancient inhabitants of archaeological sites. For the early and middle Roman Galilee, art began to appear frequently in public or semi-public spaces. Ancient Magdala



is not an exception, as it was built with mosaics floors, frescoes, and even small discoveries identified as art fragments that once belonged to an elaborate artistic expression in the specific sociopolitical, religious, and economic context that dated to these periods.

Non-figurative design alludes the beliefs of the ancient inhabitants, but manufacturing technique and quality of materials used in mosaics also give information about the community who ordered the placement of the artwork and the craftsmen who created it.

A recent spectrometry analysis done at the site gives information about the stone used in the production of the ritual area mosaic of Magdala. The proper selection of the stone, the shape and number of tesserae, as well as the style of the non-figurative design all explain the complexity or simplicity of the artistic production of this mosaic. The results of this analysis, and comparison of the mosaic from the synagogue with others in the region for the same period, are significant for the study of the origins of *ars musiva* in the Galilee.

**Andrea Garza-DiazBarriga (Universidad Anáhuac México), “Understanding the Continuous Chronology of Magdala in the Various Periods through Ancient Coins and the Spatial Distribution of the Jannaeus Coins at the Site”**

From 2010 to 2017, about 2500 coins were collected in the six areas excavated by the Universidad Anáhuac México at the archaeological site of Magdala.

After Gamla, Magdala is the archaeological site in the Galilee with the largest amount of Jannaeus coins. The vast majority of this type of coin was found in the western area of the site: the ritual area, buildings next to this area, and the market close to the synagogue. On the eastern side of the site there is a marked scarcity of Jannaeus coins, but the chronology determined through coins is almost the same as that of the western side. This raises the question: What happened on the eastern side of the site? Why this lack of coins?

Meanwhile, previous work at the site suggested that the ritual and market area were gradually abandoned after the Jewish Revolt (66 C.E.), while settlement continued on the eastern side of Magdala. This theory was supported by the blocked *miqwa'ot* found in the ritual area with garbage material such as animal bones, broken pottery, and stone debris, as well as the blocking of rooms with later walls.

The current research refutes the previous reports about the gradual abandonment of the ritual and the market areas after the Jewish Revolt and is focused on understanding of the continuous chronology of Magdala as well as clarifying the difference in numismatic types between the excavated areas on the eastern and western sides of the site.

**Marcela Zapata-Meza (Universidad Anáhuac México), Ruth E. Jackson-Tal (Tel Aviv University), Luisa Vázquez de Ágredos Pascual (Universitat de València), and Cristina Expósito de Vicente (Universidad Complutense de Madrid), “Magdala-Taricheae, More than Fish: Discovery of Glass and Pigments and New Theories”**

The site of Magdala, or ancient *Taricheae*, is located on the northwestern shore of the Sea

of Galilee (Lake Kinneret), at the foot of the Arbel cliff. Prior to the foundation of the city of Tiberias by Herod Antipas in 19–20 C.E., Magdala a settlement on the western shores of the lake.

The written sources describe a city that prospered economically through activities related to fishing. We know that most of the people who lived in *Taricheae* were economically self-sufficient. The archaeological evidence discovered so far at the site reflects it: high-quality construction materials, a decorated synagogue, ritual baths, mosaics, frescoes, the market, a port, and finds recovered from these archaeological contexts.

In addition to the fishing industry we have two theories about the economic activities of the settlement based on archaeological discoveries, including the latest typological analysis of glass and the archaeometric studies of core pigments: 1) the local production of miniature glass jars; and 2) the production and trade of pigments as raw material or even to produce the colored powder used in cosmetics or textiles. We assume that these activities contributed to the economic development of Magdala during the first and second centuries.

### **Stefania Peluso (University of Haifa), “Bethsaida: Luxury Pottery in a Rural Settlement”**

The results of the past 30 years of excavation present Bethsaida as an important site in Galilee in the Hellenistic period. Imported pottery shed light on the central position of the site in the trade between the Mediterranean and the hinterland of Galilee. Athenian Red Figure sherds demonstrate a rich Hellenized society that used motifs such as symposia and gymnasia as common themes. The Megarian bowls offer evidence for a connection between Bethsaida and Miletus, while the West Slope pottery style displays an extensive trade with Pergamon and the Taurus area. A relationship with the Apulian coast in Italy is also possible, as the black glazed pottery shows.

Unique examples are Black Figure depiction of a kottabos game dated to ca. 525 B.C. and a very rare cup in West Slope Style, an import from the mountain of West Anatolia. Most important is the analysis of the Bethsaida fine ware. These sherds show that there was a difference in imports between Tel Anafa and Dor on one hand, and Bethsaida on the other. At Tel Anafa and Dor, Attic black and red figure pottery are widespread and well documented, but the quality of the sherds of Bethsaida is far higher. Although the analysis of the fine ware is based on fewer sherds, it is possible to conclude that Bethsaida was a recipient of Anatolian imports already in the third century B.C., since these are the most luxurious type of pottery at the settlement.

### **Yonatan Adler (Ariel University; Yale University), “The Jewish ‘Stone Age’ in Roman Galilee: Ritual Purity Observance during the First Centuries C.E. in Light of Excavations at Two Galilean Chalkstone Vessel Production Centers”**

During the Early Roman period (63 B.C.E.–135 C.E.), various types of vessels made of chalkstone, serving as both tableware and storage containers for food and liquids, were in widespread use at Jewish sites throughout Judaea, Galilee, and Peraea, supplementing the usual repertoire of ceramic vessels. This was a uniquely Jewish phenomenon, as remains

of chalkstone vessels are conspicuously absent from non-Jewish sites in Judaea/Palaestina. Contemporary textual sources indicate that these vessels, undoubtedly more unwieldy and costlier to produce than pottery, were prized by Jews for their unique quality of imperviousness to ritual impurity. As such, scholarship has recognized archaeological finds of chalkstone vessels as key indicators of ritual purity observance, and as material evidence for understanding the extent of Jewish purity practices over time and space. Recent archaeological excavations, including at chalkstone vessel production sites, offer important new evidence for the widespread character of ritual purity observance throughout Roman Judaea/Palaestina during the first centuries C.E., and provide for a more precise dating and general understanding of the phenomenon. The present paper will present the results of archeological excavations I have directed between 2016 and 2018 at 'Einot Amitai and at Reina, two Galilean sites that served as quarries and workshops where chalkstone vessels were produced. The paper will explore how the finds at these two sites shed new light on the development of ritual purity observance in everyday life during the first and second centuries C.E., a most formative period in the development of Jewish ritual practices.

## **6C. Cultural Heritage: Preservation, Presentation, and Management I**

CHAIR: Glenn J. Corbett (Council of American Overseas Research Centers)

### **Geoff Emberling (University of Michigan), Raymond Silverman (University of Michigan), and Suzanne Davis (University of Michigan), "From Archaeology to Community Heritage at El-Kurru, Sudan"**

The International Kurru Archaeological Project (IKAP) began work in northern Sudan in 2013. The site of El-Kurru had long been known as a royal pyramid burial ground of kings and queens of ancient Kush, including some who conquered and ruled over Egypt as its 25th Dynasty. IKAP aimed to contextualize the royal burials by investigating structures that had been suggested to be elements of a royal city around the cemetery. In this presentation, we discuss how IKAP grew from an archaeological project with a traditional research focus to a community-engaged project with goals and connections beyond archaeological investigation. We outline the steps that led us in this direction and discuss the challenges of cultural difference, structural tensions, and sometimes conflicting interests. A companion paper in this session will discuss specific approaches to interpretation of archaeology and local culture at the site. Community engagement takes different forms in different settings, but it is essential for archaeology as a discipline to move beyond its colonial origins into a more collaborative endeavor.

### **Caitlin Clerkin (University of Michigan), Shannon Ness (University of Michigan), Sami Elamin (National Corporation for Antiquities and Museums, Sudan), Anwar Mahajoub (Independent Scholar), Hamoud Ibrahim (Independent Scholar), and Geoff Emberling (University of Michigan), "Interpreting Archaeology and Local Culture at El-Kurru, Sudan: A Community-Engaged Approach"**

Since 2016, the International Kurru Archaeological Project has undertaken community-engaged cultural heritage work at El-Kurru, Sudan. In this paper, we describe the development of site interpretation at this royal Kushite cemetery site, embedded in the

modern village of El-Kurru.

After conversations with stakeholders, an initial idea of developing a bilingual walking path was augmented with a plan to build a community heritage center at the site. These discussions answered an early, key question of whether site interpretation would focus exclusively on archaeology or whether it would also incorporate a presentation on local culture. The decision to pursue the latter option—a result of the El-Kurru community’s enthusiasm about the opportunity to present aspects of contemporary life in the village to archaeological site visitors—has significant implications for engagement with the community, for the archaeological team, future visitors to the site, and the residents of El-Kurru.

In this presentation, we discuss how exhibits on archaeology and local culture were developed in conversation with stakeholders. We are informed in these processes by our team’s background in museum studies and by our goals of making space for local agency in this foreign-funded endeavor and of countering the typical alienation of modern communities from ancient archaeological sites in presentation and practice. We also discuss our efforts to view local visitors as well as domestic and international tourists as audiences for the center, and challenges encountered in the course of these processes.

**Nizar Al Adarbeh (American Center of Oriental Research), “The SCHEP Community Engagement Model”**

Jordan hosts a vast number of archaeological sites that are important cultural heritage resources (CHRs) for the country. These CHRs could have substantial tourist appeal if properly developed using a sustainable preservation model that ensures their viability as long-term resources. Implemented by ACOR, the USAID Sustainable Cultural Heritage through Engagement of Local Communities Project (SCHEP) aims to preserve and promote CHRs through site development projects that engage and employ local communities in sustainable site preservation, management, and promotion. In its previously funded projects across Jordan, SCHEP was successful with its partners in demonstrating the substantial benefit of community engagement in nine CHR sites, including Bayt Ra’s, Umm al-Jimal, Madaba, Ghawr as-Safi, Busayra, Bir Madhkur, the Temple of the Winged Lions in Petra, Wadi Ramm, and Ayla in Aqaba.

SCHEP developed its community engagement model based on grassroots empowerment of local communities in participating in site preservation interventions, tourist development, and cultural heritage awareness activities. Through a variety of programs, SCHEP has provided job opportunities and hands-on capacity building programs for local communities, supported establishing community-based enterprises, and worked with the Department of Antiquities and other key stakeholders to mainstream and strengthen the important role of communities in preserving Jordan’s cultural heritage. This paper will present the SCHEP community engagement model and the different ways in which local communities have been engaged in cultural heritage preservation efforts.

**Maria Elena Ronza (Andrews University), “Employment through Heritage—Fostering a Legal Framework within the Jordanian CRM Job Market”**

In June 2018, Sela for Vocational Training and Protection of Cultural Heritage, an all-Jordanian non-profit company, in cooperation with the Department of Antiquities, launched the four-year Employment through Heritage Project (EHP). EHP aims to create and promote a legal framework for the cultural resource management (CRM) job market in Jordan, a framework that will “upgrade” seasonal CRM jobs to the status of skilled employment positions, such as conservation technicians and excavation workers. This paper will present the challenges and successes of the first year of project implementation.

**CANCELLED:**

**Isilay Gursu (British Institute at Ankara), “The Public and Archaeology: Experiences from Turkey”**

Public archaeology, in its simplest definition, investigates the existing relationship between archaeology and communities and seeks to improve this relationship. Community projects, which are grounded on a multi-layered understanding of this relationship, are more likely to create a significant and sustainable impact on the safeguarding of archaeological assets.

The British Institute at Ankara (BIAA), Turkey, is one of the British Academy-sponsored British International Research Institutes. In recent years, the Institute has transformed from being an organization mainly concerned with archaeological research to a research institute that supports social science-related research. As part of this development, it is devoting a significant amount of its resources to issues concerned with cultural heritage and public archaeology in Turkey. The latest of the BIAA monograph series is a publication titled *Public Archaeology: Theoretical Approaches and Current Practices*, edited by the presenter, and it focuses on case studies from Turkey and elsewhere. Additionally, the BIAA has been the leading institution in projects such as “Living amid the Ruins: Archaeological Sites as Hubs of Sustainable Development in Southwest Turkey” (funded within British Academy’s Sustainable Development Program) and “Safeguarding Archaeological Assets of Turkey” (funded by the Cultural Protection Fund).

Starting from these initiatives, this paper will summarize the methods used in examining the public perception of archaeology and archaeological assets in Turkey. It will also focus on the ways in which this understanding is being turned into community projects in the field of archaeological heritage management.

**Bert de Vries (Calvin University), “Integrating the Archaeological and Literary Islamic Heritages”**

As an archaeologist working in Jordan, I have long been aware of a gap of values separating archaeologists and local people. Archaeologists were passionate, about everything from the Stone Age to the Byzantine period, but often treated the Islamic remains as an inconvenient overburden. Conversely, the predominantly Islamic local culture tended to take the pre-Islamic period as a prelude to the coming of Mohammad, the so-called *jahilliyyah* period that was discussed by Islamic-period historians and theologians writing in Arabic, rather than being revealed through archaeology. There

was, therefore, a cultural communication gap separating the work of archaeologists from the historical-cultural traditions of local communities. This was true even though the history of Islamic architecture was glamorized in outstanding popular works by Western scholars studying the so-called “built” heritage of Islamic cities.

In the last 15 years, this situation has been changing steadily in the archaeology of Bilad ash-Sham through serious work in Islamic-period archaeology and epigraphy. However, this rise in the scholarly focus on more recent archaeological heritage has not penetrated modern popular Islamic culture. An important reason for this is that archaeological information has not been integrated into the intellectual and literary heritage rooted in medieval Islamic written sources. This paper proposes that these two streams, archaeological and literary, need to be integrated, and points the way to achieving a cohesive cultural narrative. This integration will pave the way to improved popular comprehension of the evolution of the heritage of Bilad ash-Sham from pre-Islamic to Islamic to modern.

## **6D. New Directions in the Historical Geography of the Ancient Near East II**

CHAIRS: Chris McKinny (Texas A&M University-Corpus Christi), Aharon Tavger (Ariel University), and Kyle Keimer (Macquarie University)

### **Aharon Tavger (Ariel University), “The Border between Manasseh and Ephraim: A New Geographical Explanation in Light of the Geology and the Archaeological Surveys”**

Joshua 17 describes a simple boundary between the territories of Ephraim and Manasseh that descends from Tappuah along the Kana Stream. The detailed description of the existence of separate cities belonging to Ephraim inside the territory of Manasseh, however, presents a problem in understanding on which side of the Kana Stream these cities are located, and who owned the territory in which they are located. In the past, scholars were forced to distort the biblical verses or to assume an historical change in the boundary during the Iron Age, but their explanations are not satisfactory. This paper proposes a new interpretation of the verses in light of the archaeological survey results, without distorting or separating the verses into different periods. According to this proposal, the route of this boundary parallels the geological boundary of the region. The separate cities are located at the southern edge of the Shechem Syncline, a place where the land is more conducive to settlement, and are delineated by a clear topographical border—the Kana Stream. South of them is Mount Ephraim, at the northern end of the Ramallah Anticline, a thickly forested region. These geographical data accord with the biblical description of the difficulty of settlement in the forested region of Mount Ephraim and the data from the surveys concerning early Israelite settlement in the mountains. It seems that the boundary system, which is considered to reflect administrative boundaries, is much more influenced by the geography and geology of the land.

### **Yigal Levin (Bar-Ilan University), “Was Kiriath-jearim in Judah or in Benjamin, and Was Benjamin in Israel or in Judah?”**

The town of Kiriath-jearim, conventionally identified at Deir el-‘Azar, is first mentioned in Josh 9:17 as one of the four towns of the Gibeonites, although this mention serves no narrative function and may be secondary. It is then mentioned in Joshua 15, both as a site on the northern border of the territory of Judah and as one of only two towns in the final hill-country district of Judah. In chapter 18, it is mentioned on the southern border of Benjamin and, ostensibly, as a town within the inheritance of Benjamin. Judges 18:12 tells of the Danites’ encampment “at Kiriath-jearim in Judah”. Kiriath-jearim also features in the “Ark narrative” (1 Samuel 6–7), in the Chronicler’s genealogy of Judah and in his version of David’s bringing of the Ark to Jerusalem, in Jer 26:20 as the home of the prophet Uriah, and finally in the list of towns of Judah and Benjamin in Ezra 2/Nehemiah 7. I. Finkelstein and T. Römer have recently begun excavations at Deir el-‘Azar, and, based on their preliminary finds and on their reading of the biblical texts, they have interpreted an Iron Age II B–C fortified compound on the summit of the site as a northern Israelite fortified compound, “aimed at dominating the vassal kingdom of Judah.” This paper will reexamine the position of Kiriath-jearim on the border between Judah and Benjamin, and then discuss the possible historical implications of this border in the context of the relationship between the kingdoms of Israel and Judah.

**K. Lawson Younger (Trinity International University), “The Location of the City and Land of Qarnē Mentioned in the Esarhaddon Succession Treaty”**

In 2012, with the discovery of the copy of the Esarhaddon Succession Treaty at Tell Tayinat, an important line in the treaty that had been missing was restored: <sup>d</sup>*a-ra-miš* EN URU KUR SI EN URU KUR <sup>r</sup>*az-a-i?* A.MEŠ SIG<sub>7</sub>.MEŠ *li-mal-li-<sup>r</sup>ku-nu* “May the god Aramiš/s, the lord of the city and land of Qarnē/Qarnāna, the lord of the city and land of <sup>r</sup>Aza’i?, fill you with yellowish-green water.” This paper will propose an identification of the city and land of Qarnē based on the available data found in personal names, toponymy, and iconography. It will also discuss possibilities for the identification of the city and land of <sup>r</sup>Aza’i’.

**Dvir Raviv (Bar-Ilan University), “The Identification of Ramathaim-Arimathea and the Area of the Three Toparchies”**

Described in 1 Macc 11:28, 34, 57 (and in Josephus’s *Ant* 13:145) is the transfer of the three toparchies (Ephraim, Ramathaim, and Lod) from Samaria to Judea in 145 B.C.E., as part of the agreement between Jonathan the Hasmonean and Demetrius II. While the identification of Lod-Lyddā and Ephraim is quite solid and accepted in the research, the identification of Ramathaim, also known as Arimathea (Mark 15: 43), is complicated due to the existence of similar names both in literary sources and in the area. Most scholars follow Eusebius and suggest identifying Ramathaim with the village of Rantis. However, this proposal has some difficulties, especially Rantis’s location on the border of the coastal plain and at the fringes of the presumed region of the toparchy. In this paper, I would like to propose a new identification for Ramathaim-Arimathea and to discuss the boundaries of the three toparchies both geographically and ethnically. The discussion will be based on the results of excavations and surveys conducted in the region during recent years.

**Rami Arav (University of Nebraska Omaha), “Josephus’ Military Maneuvers in the Bethsaida Plain”**

Chapters 71–73 (398–406) of Josephus’s *Vita* narrate a military episode taking place in the Bethsaida plain. Today it seems that with the aid of archaeology it is possible to offer an interpretation of this event. In the story, Agrippa II’s mercenaries, headed by Sulla, pitched a camp at a distance of 5 stadia away from Julias in order to blockade the supply routes from Galilee to the Golan. Upon hearing this, Josephus deployed 2,000 men who pitched a camp at a distance of 1 stadion from Julias. With an additional 3,000 men he posted an ambush in a ravine and enticed Sulla to attack. The men in the ambush appeared and caused Sulla’s military a “great uproar.” Josephus’s horse collapsed in the marsh, and Josephus was injured and evacuated from the battle field. For the past three years, Moti Aviam has excavated the site of el-Araj on the plain of Bethsaida. In a notable stratum, a silver coin dating from 65/66 C.E. and remains of a bathhouse suggest that he has discovered the camp of Sulla. This level comes at an unusual depth of -211 m below sea level, 2 m below the preceding occupation level, and appears to be connected to a severe climate change in the mid-first century C.E. noted by geologists. This climate change caused a sharp drop of the level of the Dead Sea and evidently the Sea of Galilee. For the first time we have a military camp of the last Herodian king.

**6E. Isotopic Investigations in the Ancient Near East and Caucasus**

CHAIRS: G. Bike Yazıcıoğlu-Santamaria (University of Chicago) and Maureen E. Marshall (University of Illinois at Urbana-Champaign)

**Suzanne Pilaar Birch (University of Georgia), Brenna Hassett (Natural History Museum), David Wengrow (University College London), and Haluk Sağlamtimur (Ege University), “Stable Isotope Insights into Radical Death and Early State Formation in the Ancient Near East: Results from Başur Höyük, Siirt, Turkey”**

Recent excavations at the site of Başur Höyük have revealed burial contexts that provide insight into the biological, social, and economic dimensions of a population located at the crux of the collapse of the “Uruk world system,” both spatially and temporally, in eastern Turkey during the fourth millennium B.C. Preliminary bioarchaeological identification has made possible the stable isotope analysis of  $\delta^{13}\text{C}$ ,  $\delta^{15}\text{N}$ ,  $\delta^{18}\text{O}$ , as well as  $^{87}\text{Sr}/^{86}\text{Sr}$  and lead in over 40 individuals across three different groups: elite burials, sacrificial burials, and mass burials. This comprehensive analysis sheds light on a number of variables, including access to dietary resources among the population as well as regional mobility dynamics. The analysis of multiple skeletal elements derived from a single individual, including comparison between bone and tooth enamel, elucidates life histories, such as identifying whether an individual was a migrant or a local, and establish dietary change before and after major life events. Evaluation of the stable isotope data in combination with the archaeological and bioarchaeological context at the site allows us to consider broad trends in regional collapse and early state formation, and the utility of multi-isotopic analyses for informing these interpretations.

**Benjamin Irvine (British Institute at Ankara), “Staple Finance Models and Subsistence Strategies in Bronze Age Populations of the Greater Near East”**



This paper presents a hypothesis with which to assess staple finance (i.e., arable agriculture and animal husbandry) in the fourth–second millennia B.C.E. of the greater Near East. This was initially defined as a “subsistence package” for the Early Bronze Age of Anatolia and adjacent regions. Based on stable isotopic ( $\delta^{13}\text{C}$ ,  $\delta^{15}\text{N}$ , and  $\delta^{34}\text{S}$ ) research into the dietary habits of four Anatolian Late Chalcolithic–Early Bronze Age populations (İkiztepe, Titriş Höyük, Bademağacı, and Bakla Tepe), it was noted that there was what could be defined as an “Early Bronze Age isotope signal” for these sites in comparison to earlier and later populations. This phenomenon was also noted for relatively contemporary populations in adjacent geographical regions. The primary isotope data has been evaluated in conjunction with previously published data including isotopic, archaeobotanical, and archaeozoological data from the Early–Middle Bronze Age greater Near East. The conclusions suggest that there was a narrowing in the range of isotopic values, likely resulting from an increased specialization and intensification in arable agriculture from a diverse range in the Late Neolithic and Chalcolithic to a monotonous and specialized range of cultivated domestic plants in the Early Bronze Age. Furthermore, livestock management also became a specialized and intensive endeavor. This included the intensification of secondary resource exploitation, and the prospect that domestic livestock came to be regarded to some extent as commercial commodities.

**Lynn Welton (Durham University), “Isotopic Investigations of Animal Management in Early Complex Societies: The Case of the Jordan Valley”**

Despite the sustained scholarly attention that the dynamics of relationships between mobile and sedentary communities in the ancient Near East have received, isotopic studies in this region have not traditionally focused on changes in animal management strategies that occurred with the development of towns and urban centers in the Levantine world. Instead, isotopic investigations of animal management in the Levant have generally focused on the process of domestication and the shift from hunting to the early adoption of pastoralist practices in the Neolithic period. This paper will discuss the implications of developments that occur in the Levant during the fourth–third millennia B.C.E. for isotopic analysis of animal remains, and will present preliminary data from multi-isotopic analysis ( $\delta^{18}\text{O}$ ,  $\delta^{13}\text{C}$ ,  $^{87}\text{Sr}/^{86}\text{Sr}$ ) of dental enamel from animals, primarily ovicaprines, dating to the Chalcolithic–Early Bronze Ages from the sites of Tell esh-Shuna and Pella, located in the Jordan Valley.

**Elizabeth Arnold (Grand Valley State University), Deirdre Fulton (Baylor University), and James Fulton (Baylor University), “Feeding Ashkelon: An Isotopic Investigation of Animal Resources at the Philistine City during the Iron Age I”**

The Iron Age I (1200–1000 B.C.E.) was a time of great change for Ashkelon, ushering in a new era of Philistine control of the city. Iron Age I animal bone remains from Ashkelon reveal patterns of consumption within the context of domestic dwellings. It has been noted in the archaeology of ancient state economies that the provisioning of food to cities was a fundamental component of urban economies in the past. However, there is little agreement about the nature of animal provisioning in the earliest cities. The archaeological models of animal provisioning that have been proposed for early cities range from generalized to specialized provisioning. Previous isotopic analyses of the cattle indicate the management strategy for the cattle intensified through the Iron Age I

phases at Ashkelon including the possible provisioning of fodder and control of water sources. It may be that issues of keeping cattle adequately fed and watered is a key reason for their declining numbers through time. This paper will present the isotope analyses ( $\delta^{13}\text{C}$ ,  $\delta^{18}\text{O}$ ,  $^{87}\text{Sr}/^{86}\text{Sr}$ ) of tooth enamel from additional key domestic species (caprines, equids, and pigs) from Iron Age I contexts at Ashkelon to reconstruct not only diet but also mobility, seasonality, and management practices.

**Kara Larson (Mississippi State University), Elizabeth Arnold (Grand Valley State University), and James Hardin (Mississippi State University), “Examining Iron Age Administrative Provisioning in the Southern Levant through Isotopic Analyses”**

Khirbet Summeily is an Iron Age II site located northwest of Tell el-Hesi, and excavations have revealed a large, singular structure with an adjoining ritual space. Recent interpretations suggest that the site was integrated into an intraregional and international economic and/or political system and functioned as a potential administrative outpost based on the recovered material culture, dating analyses, and overall architecture recovered from the Iron Age IIA layers. Preliminary isotopic analyses on the Khirbet Summeily Iron Age IIA ovicaprine remains further support this interpretation. This paper will present additional  $\delta^{13}\text{C}$ ,  $\delta^{18}\text{O}$ , and  $^{87}\text{Sr}/^{86}\text{Sr}$  isotopic analyses of samples from ovicaprine remains and include new species (cattle) to further test herd management strategies in connection to administrative provisioning activities. Here, animal remains are contextualized as indicators of political and economic ties through shared foodways and herd management patterns. The isotopic data further test the hypothesis that Khirbet Summeily was an administrative outpost and provides context into the level and identity of the larger political network into which the site was integrated, based on the herd management and mobility patterns.

**Megan Wong (Simon Fraser University), Martin Steskal (Austrian Academy of Sciences), Vaughan Grimes (Memorial University), and Michael Richards (Simon Fraser University), “Pursuing Pilgrims: Isotopic Investigations of Roman and Byzantine Populations at Hierapolis and Ephesos”**

We investigated the mobility of Roman and Byzantine humans from the UNESCO World Heritage sites of Hierapolis and Ephesos (Turkey), using strontium isotope ratio analysis. Results from the Roman and Byzantine individuals show that, while the majority of the population interred at these sites have local  $^{87}\text{Sr}/^{86}\text{Sr}$  values, there are some individuals with values outside the local range, which we identify as migrants. This conclusion agrees in particular with the known history of pilgrimage at Hierapolis in the Byzantine period and with the archaeological evidence of pilgrim badges associated with human burials unearthed during recent excavations. However, the small number of migrants from the Ephesos burial populations was surprising given the site’s multiple pilgrimage centers and the expected high number of transitory individuals coming through the ancient harbor city. In addition, we present the first map of bioavailable strontium isotope ratios ( $^{87}\text{Sr}/^{86}\text{Sr}$ ) in southwestern Turkey.

## **6F. Art Historical Approaches to the Near East II**

CHAIR: Kiersten Neumann (University of Chicago)

**Pinar Durgun (Metropolitan Museum of Art), “‘But Never Was Drawn the Likeness of Death’: The Lack of Mortuary Imagery in the Ancient Near East”**

Certain moments thin the line between life and death: a hunt, a battle, or a ritual. Even though these moments are common subjects in ancient Near Eastern art, images of death, funerals, or burials are rarely depicted. From the Epic of Gilgamesh to the *kiš pum* rituals of ancestor veneration, there is plenty of textual evidence to suggest that death was one of the main concerns of the living. On the other hand, the visual corpus paints a different picture. In this paper, I analyze examples from Mesopotamia and question the reasons for the lack of mortuary imagery in ancient Near Eastern art. Is it, as Gilgamesh is told by Utnapištim, because the likeness of death cannot be drawn, or is it because death is depicted in a different way than in other contemporary Mediterranean cultures? In order to answer this question, I evaluate archaeological evidence on mortuary practices and complement this evidence with ideas about death and dying found in textual sources. This holistic way of looking at ancient Near Eastern art offers alternative interpretations to some iconic images from the ancient Near East, such as the Standard of Ur.

**Maria Gabriella Micale (Freie Universität Berlin), “Form and Function of Architectural Representation in the Ancient Near East: The Case of Neo-Assyrian Art and the Mesopotamian Tradition”**

The research I present is a study on the form and function of architectural representation with a special focus on the Neo-Assyrian period. The premises of this research developed from the consideration that the common approach to the reconstruction and interpretation of Mesopotamian, and in particular Assyrian, architecture has always been based on the use of images in order to fill gaps in the archaeological record. In other words, the image of architecture has always been used in order to explain something else. My approach may seem very simple: how reliable are these images as sources? Starting from the methodology and the results obtained in my first monograph, published in 2011, and in the following research period within the TOPOI Excellence Cluster in Berlin concluded in 2016 and in course of publication, my paper will present Assyrian architecture as image and media of communication for different concepts such as space and time in narrative context, cultural traditions, self-representation, and myth vs. the architectural reality.

**Rachael Maxon (University of Iowa), “Darius I and the Manipulation of Memory: The Susa Cache”**

Darius I, also known as the “Great King” of the Achaemenid Persian empire, rose to power in 522 B.C.E. His claim to the throne was dubious and contested, and as result he focused considerable effort and energy on creating art, policies, and a legacy focused on legitimizing his imperial rule. Root, in her seminal work *King and Kingship in Achaemenid Art* and several subsequent studies, clearly demonstrates Darius’s careful and calculated approach to power through the manipulation of images. Her work emphasizes the conscious mining of past traditions as a crucial element of Darius’s artistic and textual program.

While Root notes the presence of a special cache of earlier Mesopotamian and Elamite sculpture discovered in the vicinity of the Apadana (audience hall) at Susa, this cache (and Susa in general) has never been fully studied, and has not received the attention it deserves in Achaemenid studies. This collection illustrates Darius's intentional, and specific manipulation of mnemonic processes through the preservation and display of these works in his own palace. By directly associating himself with these material remains of past power, he makes purposeful connections between past kings and his own kingship, bolstering his prestige, authority, and legitimacy. In this paper, I examine the context of these sculptures against the backdrop of Darius's wider political and artistic context, and analyze this in the context of current scholarship on cultural memory.

**Bjorn Anderson (University of Iowa), “Rethinking the Camel Relief Group in Petra’s Siq: Monumentality and Memory”**

In 1997, clearing of Petra’s Siq revealed a monumental sculptural group carved in relief on the walls of the narrow passageway. This group comprises two nearly matching reliefs that approach a corner near the eastern end of the Siq, both ca. 3.5m high and 10m long. Each relief shows a drover leading a camel, followed by a second drover leading a second camel. These camels and drovers converge at a sharp corner cut with several cultic niches. These are among the earliest sculptures at Petra; they predate the paving of the Siq and, therefore, most of the monumental development of the city.

Previous scholarship on these figures focused on their religious significance, marking the importance of the Siq as a processional way, as well as the economic importance of Nabataean caravan trade. Scholarly attention has waned since the initial discovery, however. Little has been said about them in the past 15 years. The early date of the reliefs has been noted but not fully appreciated. Their subsequent biography has also been overlooked; the reliefs remained visible for the remainder of the kingdom’s span, 150-plus years to the Roman annexation in 106 C.E., and even afterward through the Roman and Byzantine periods. Given the monumentality of scale and the prominent location they occupied, they continued to shape the experience of passersby for centuries. This paper explores the context and purpose of their original execution and the long-lasting role they played in the formation and perpetuation of cultural memory.

**6G. Archaeology of Egypt I**

CHAIRS: Kerry Muhlestein (Brigham Young University) and Krystal V. L. Pierce (Brigham Young University)

**Victor Gardon (Universitat Autònoma de Barcelona), “The Geometric Pattern of the Royal Architecture in the Ancient Egyptian Third Dynasty”**

The step pyramid of Netjerkhet (Djoser) at Saqqara represents possibly the greatest evolution of royal architecture in the history of ancient Egypt. The solarization of Egyptian culture at this time was growing and its architecture was one of the main tools to show this process. Netjerkhet would use the architectural traditions of his ancestors and would rise it up to heavens. The need to come nearer the powerful solar disc made the architects of the Third Dynasty revolutionize the way of understanding the

architectural design in the royal buildings. The main pharaonic constructions of the Third Dynasty are the mortuary complexes of Netjerkhet and Sekhemkhet at Saqqara and the step pyramid of Khaba at Zawyet el-Aryan. This study attempts not only to clarify the creative architectural process in these constructions, but to justify their location in Saqqara and Zawyet el-Aryan as well.

Netjerkhet was Khasekhemwy's successor and possibly his son. He founded the Third Dynasty and abandoned, for no apparent reason, the tradition of the most Thinite kings to be buried in Abydos. The architecture of his buildings in Saqqara evokes that of Khasekhemwy's funerary temple. On the one hand, the paneled façade of the wall that surrounds the complex of Netjerkhet has an obvious similarity with the walls in the funerary temple of Khasekhemwy. On the other hand, the decentered location of the original mastaba of Netjerkhet, inside his complex, recalls the off-center location of the heap of land within the enclave of Hierakompolis, also related to Khasekhemwy. Apart from these two architectural similarities, there are other specific data that directly relate the funerary temple of Khasekhemwy in Abydos to his son's step pyramid in Saqqara.

### **Jen Thum (Harvard University), "Ancient Egyptian 'Geologies' through the Lens of Living-Rock Monuments"**

This paper uses the corpus of living-rock monuments to explore Egyptian "geologies"—their conceptions of geological forms. What, and how, did Egyptians think and feel about natural rock features? How did the Egyptian views of time and the structure of the world shape and support these thoughts? What are the social, political, and religious implications that arose from these conceptions?

Gods could be present in rock features, and such features could embody them. The sanctity of sacred stone could be retained even when cut away. Bedrock carried a particular sense of permanence and timelessness, through an association with the deep time of the universe. Conspicuous rock outcrops functioned in some of the same ways as Egyptian monumental architecture—and were, in some cases, the *ideal* media for enduring messages.

### **Laurel Darcy Hackley (Brown University), "Social Landscapes in the Egyptian Deserts, 3000–1100 B.C.E."**

This paper examines evidence for human activity in the Egyptian deserts during the Dynastic period. It is often assumed that the arid "Red Land" to either side of the Nile Valley was regarded by ancient Egyptians as dangerous, chaotic, and anathema; a foil to the ordered, fertile floodplain. However, the deserts of Egypt are rich in archaeological evidence for human activity, raising questions about how ancient people understood and interacted with the Red Land. The paper considers the variety of activities attested by the archaeological evidence, as well as surviving artistic and literary references to desert environments. Representation of the deserts in artistic media provides a valuable lens for understanding how ancient people processed and communicated their experiences with desert geographies, ecologies, and peoples. The integration of these data sets creates a framework for understanding how the Egyptian deserts were not only used but also imagined, how they were constructed as social spaces, and how they held and reified

specific ideas about the world. Special attention will be given to the role of desert environments in ritual and magical practices, and the cosmological associations of desert landscapes.

**Sarah Malena (St. Mary's College of Maryland), "Gendered and Sexualized Depictions of Intercultural Exchange"**

Marital alliances have a long history in political and economic interactions between cultures and states. In the relatively rich documentation of the Late Bronze Age, such as in the Amarna letters, we find explicit discussions of such diplomatic alliances that are also tied to economic exchange. Diplomatic marriage had the power to secure alliances, protect territories, facilitate trade, and join ruling families in elite bonds that perpetuated dynasties. At the same time, there were strong reservations about the import and export of wives and other aspects of foreign exchange. Some negative examples illustrate the point. Egypt in the 18th Dynasty prohibited Egyptian princesses from marrying foreign rulers; in the Hebrew Bible, foreign queens (e.g., Jezebel, Solomon's "many foreign wives") are to blame for catastrophic political and social change. Further, spaces of intense economic exchange, such as port cities, receive the most scathing treatment in the Bible, being characterized as promiscuous women whose fate it is to be shamed and punished for their behaviors. This paper explores the cultural and chronological factors recorded in archaeology and text that influenced whether women played an active role in exchange relationships and how such activity was depicted in historic and artistic works.

**Robyn Price (University of California, Los Angeles), "Trading without Traders? Questioning the Existence of the Ancient Egyptian Merchant in the Late Bronze Age"**

The invisibility of merchants both in the ancient Egyptian material record and in published work on ancient Egypt is striking, especially when compared with the data from and publications on contemporary societies in the Levant and Mesopotamia. With knowledge of shipbuilding and access to the necessary resources, in addition to the centrality of the Nile to ancient Egyptian life, one might assume the presence of full-time merchants. When considering the ancient Egyptian evidence for merchants, however, one is restricted to a few tomb scenes, the actual presence of foreign goods, and a few unique texts. Indeed, with such foreign goods as incense and cedar being considered so valuable, it would be logical for those who were responsible for their attainment, transportation, and sale to possess some level of prestige and so leave behind a record of their work. Yet, there are not even any titles from ancient Egypt that strictly deal with the responsibilities of traders. This limited corpus of evidence for ancient Egyptian merchants stands in contrast to contemporary evidence from Ugarit to Mesopotamia in which merchants could achieve, at least, some prestige. This paper will investigate the evidence for merchants moving goods from Egypt abroad using both Egyptian-based sources and non-Egyptian-based sources. In framing this discussion within Liverani's (1990) understanding of the dual nature of the Egyptian state, this paper suggests that the evidence for merchants that does exist can move beyond the simple conclusion: there were no ancient Egyptian merchants.

## **6H. State and Territory in the Ancient Near East: Mapping Relationships and Challenging Paradigms II**

CHAIR: Heidi Fessler (Independent Researcher)

### **Tiffany Earley-Spadoni (University of Central Florida), “Alternative Cartographies: Urartu as Map Narrative”**

Mark Monmonier in his seminal work *How to Lie with Maps* cautions us that not only is it easy to distort reality with maps, it's also essential. To portray a complex, three-dimensional world on a flat sheet of paper or a screen, a map must simplify our physical world. Difficulties in representation are only the beginning of the problems that researchers encounter, since ancient states are not tidy, bounded modern nation-states.

In this paper, I will review the state-of-art in alternative cartographies such as deep mapping and narrative/participatory GIS and demonstrate my own efforts to improve cartographic renderings of the ancient empire of Urartu. I conclude that “flat,” uninflected cartographies can be improved upon by integrating end users into the map narrative.

### **Andrew Danielson (University of California, Los Angeles), “Networks in Edom: Envisioning Political Authority and Social Activity across a Complex Landscape”**

Introductory exposure to the Iron Age southern Levant often visually presents polities as homogeneous totalities spread across an undifferentiated landscape, an exercise that masks the diverse processes inherent in state formation and the social complexities distributed across regions. A poignant case is that of Edom, often portrayed as dominating the semi-arid region of southern Transjordan, and in certain instances extending its influence into the Negev. These depictions, however, mask what is in fact a highly complex and nuanced expression of elite political authority and social activity across a very challenging landscape. Rather, by viewing the region in terms of its topographical, environmental, and economic potential, key strategic centers and locales become visible. Elite investment in controlling these specific centers, whether they are agriculturally productive or geographically strategic, indicates the manners by which these elite actors were able to achieve state authority through the creation and reinforcement of productive and obligatory relationships. These processes may be contrasted with other forms of social movement, by which individuals and communities may be found “outside” of traditionally understood “borders” that do not necessarily conform to elite state programs. In this way, traditional perspectives on a static and undifferentiated form of political authority in polities such as Edom may be better nuanced, particularly with regard to the social actions inherent in these political constructions.

### **Lara Fabian (University of Freiburg), “Mountainous Borderlands and Territorial Control in the Late Iron Age Near East”**

Historiographic tropes dating back to antiquity have cast highlands as natural borders and inherently threatening spaces, largely peripheral to the affairs of the major territorial empires. There has been, consequently, a marked marginalization of highland zones in

the study of antiquity, and a corresponding failure to take issues of topography and landscape affordance seriously in discussions of the development of ancient empires.

This presentation brings together textual and archaeological datasets concerning an important highland corridor connecting eastern Anatolia with the Zagros. The temporal frame of the investigation begins with the end of the Achaemenid Empire in the late fourth century B.C.E., and continues through the rise of the Sasanian Empire in the third century C.E., as the highlands came in to ever-greater contact with pan-regional imperial structures along their borders: first the Seleucid and later the Roman and Arsacid empires.

My project connects the diverse and divergent local histories of polities centered in or near these highlands (for example Armenia, Pontus, Iberia, Commagene, Sophene, and Media Atropatene), which are seldom considered together. To do this, I focus on both the topographic realities of the spaces, and also on the strategies for harnessing these topographic characteristics in the construction and maintenance of local power. Drawing on the later history of these particular highlands and on comparative models developed in other highland regions, I suggest that this highland corridor played an outsized, if historiographically under-recognized, role in the historical trajectory of the empires along its flanks.

**Zach Silvia (Bryn Mawr College), “Hellenism in Bactria and Sogdiana: A View from the Rural Hinterland”**

In the ancient Central Asian regions of Bactria and Sogdiana (Uzbekistan, Tajikistan, northern Afghanistan), the conquest of Alexander the Great and the establishment of foreign hegemony by the Seleucids brought Hellenic culture, ideas, and systems of power to the far east from the Mediterranean. This paper discusses the impact of Macedonian control over indigenous, rural populations during the Central Asian late Iron Age. The character of Seleucid and Greco-Bactrian power and the wider phenomenon of Hellenistic political hegemony in Central Asia have been subjects of much recent debate, especially in Western academia. However, these debates tend to approach the question of Macedonian and Hellenistic-type rule in Bactria and Sogdiana from the perspective of the archaeology of elite culture, numismatics, and textual sources. This is despite a modest amount of Soviet and post-Soviet scholarship published in Russian that speaks to the indigenous archaeologies of the Hellenistic period, now accessible since the end of the Cold War. Recent excavations in Uzbekistan have also provided new evidence for systems of elite control over the rural hinterland, indicating a complex relationship between agro-pastoral and pastoral communities living on the boundaries of lush oases and with those of mountain lands. This paper discusses the interactions of rural populations across diverse topographies and the ways in which these communities engaged with Hellenic colonial powers in the region.

**Owen Chesnut (North Central Michigan College), “The Ammonites and the Assyrians: Religious and Agricultural Practices at Tall Safut in the Iron Age II”**

Six phases beginning in the late Iron Age IIB and ending in the late Iron Age IIC/Persian period were clarified in the building complex found in Areas B and C at the site of Tall



Safut. It is during this time that the site grew to a large size and evidence for large-scale agricultural production is evidenced, including storage rooms with large pithoi and metal tools. These technological advances and agricultural intensification likely resulted from the impact of the great traditions of the Assyrian Empire on the little traditions of the kingdom of Ammon. Pottery and small finds such as seals and bullae show connections with the empires of Assyria and Babylonia, evidence of the little traditions of local elites being influenced by the great traditions of Neo-Assyria. This paper will attempt to understand the role Assyria played at Tall Safut, focusing on aspects of agriculture and ritual evidenced in the archaeological record.

**Neer Lect Ben Ami (Israel Antiquities Authority; Tel Aviv University), “The Limes Palaestinae, the Outlook from Mezad Tamar: Rethinking Paradigms after More than 50 Years of Research”**

Situated west of the Dead Sea, Mezad Tamar was constructed in the Roman period and remained in use until the late Byzantine period. Though first thoroughly excavated in 1973–1976, the site has already been (incorrectly) identified by some scholars with Thamara mentioned by ancient sources.

Mordechai Gichon, the excavator of the site, used architectural analogies and stratigraphic analyses from what he described as Roman “Limes” sites in the Negev, and thus attributed the first phase of construction to the Nabataeans. New and renewed excavations and surveys in the Negev, carried out since the emergence of Gichon’s theory, and the pottery analysis from the site of Mezad Tamar itself, require us to make a revision of the analogies and the historical events which Gichon used to date the different phases of the site and, by proxy, to the chronology of other sites analysed by Gichon.

As the excavation was a fundamental part of Gichon’s thesis on the Limes Palaestinae, as described in his doctoral thesis and publications, it seems that there was no attempt to examine alternative explanations for the structure itself, because of the defaulted assumption that the Mezad Tamar belonged to a “Limes Palaestinae” interpreted as a border protection frontier. That same assumption affected the characterization of Mezad Tamar as a military site, which in turn affected the terminology and documentation of the latter, its association with the essentially military perspective of the excavator, and therefore to the (somewhat circular) argument that led to its attribution to the “Limes Palaestinae.”

## **6I. Archaeology of Mesopotamia**

CHAIR: Darren P. Ashby (University of Pennsylvania)

**Emily Hammer (University of Pennsylvania), “Reassessment of Early Mesopotamian Cities: New Surveys at Ur and Lagash”**

Although southern Iraq was the subject of many seminal regional and site surveys in the mid-twentieth century, the long research hiatus over the last decades has meant that this region missed out on important methodological and interpretive advances in landscape archaeology. In returning to intensively researched early Mesopotamian cities like Ur

(Tell al-Muqayyar) and Lagash (Tell al-Hiba), archaeologists finally have the opportunity to apply the multi-disciplinary landscape research designs that have by now become standard in neighboring regions, including intensive pedestrian survey and surface artifact collection, analysis of historical and modern satellite and aerial imagery, analysis of ultra-high resolution imagery and topography models generated using UAV cameras, landscape-scale geophysics, and geological coring. I discuss the methodology and preliminary results of recently renewed surveys at the early Mesopotamian cities of Ur (Tell al-Muqayyar) and Lagash (Tell al-Hiba), showing how these approaches promise—and are now beginning to deliver—important new information about diachronic urban scale, settlement planning, and hinterland environment. Methodologically, I focus on how the particulars of southern Mesopotamia necessitate adaptation of the standard landscape archaeology “toolkit” and how a standard artifact collection design at Ur and Lagash, modeled after the methodology applied at a number of northern Mesopotamian sites, will enable an unprecedented degree of detailed comparison between early Mesopotamian cities’ urban trajectories and spatial organization. Results-wise, I focus on what the surveys are beginning to show about low density inhabitation on these cities’ fringes and about ancient hydrology and wetlands in their hinterlands.

**Darren P. Ashby (University of Pennsylvania), “The Lagash Archaeological Project 2019”**

This paper presents the results of the inaugural season of the Lagash Archaeological Project (LAP), a joint project of the University of Pennsylvania and the University of Cambridge. Under the general direction of Holly Pittman (Pennsylvania) and the field direction of Augusta McMahon (Cambridge), LAP seeks to analyze early Mesopotamian urbanism at the site of Tell al-Hiba, ancient Lagash, through a multi-scalar approach that utilizes regional environmental sampling, intensive site survey, and targeted excavations. This work expands upon that conducted between 1968 and 1990 by Donald P. Hansen and Vaughn E. Crawford, which established the major periods of occupation and exposed monumental architecture dating to the third and early second millennia B.C.E. The goals of the first season are to collect sediment cores from the site and surrounding region; to survey the site through the use of drone mapping, magnetometry, and surface sherd collection; and to conduct pilot excavations to clarify outstanding questions from Hansen and Crawford’s work and explore under-documented components of life in the city, such as private housing, industrial zones, and trash heaps.

**Marc Marin (University of Pennsylvania), “Early Dynastic Administrative Architecture at Tell al-Hiba, Ancient Lagash”**

Excavations at Tell al-Hiba, ancient Lagash, were carried out between 1968 and 1990 by the joint project of the Institute of Fine Arts at New York University and the Metropolitan Museum of Art, under the direction of Donald P. Hansen and Vaughn E. Crawford. Over the course of the second season a large complex of rooms covering an area of around 1000 sq. m was exposed in the central part of the mound, known as Area C. Textual and artifactual evidence allowed the dating of the building to the Early Dynastic III period, and suggested the complex held an administrative function, with signs of various workshops. Two levels of occupation were distinguished, both presenting a similar spatial layout, and presumably separated by a short period of time. Sectors were identified within the complex on the basis of artifactual distribution patterns, although the shortage of material available for interpretation prevented a clearer functional analysis of the rooms. The recent digitization of the excavation records,

pursued in the context of the Al-Hiba Publication Project, has shed some light on the nature of this complex, by implementing a spatial analysis based on a more extensive corpus of data. Furthermore, the digital reconstruction of the archaeological context has permitted the development of additional graphic documentation in order to better understand the evolution of the building and the coherence of its spatial organization in relation to other examples of Mesopotamian administrative architecture. This paper will present a summary of the results.

**Sara Pizzimenti (University of Pisa), “From the Fourth Millennium to the Third Millennium B.C. in Southern Mesopotamia: The Late Uruk–Early Dynastic I Sequence of Area A at Tell Zurghul/Nigin”**

Transitional phases in archaeology are usually characterized by multiple ruptures and transformations, with recognizable material effects in the cultural, economic, and demographic sectors of past societies. The transition from the Uruk to Early Dynastic period is particularly fraught with these issues, as earlier projects and recent hiatuses in research have left much ambiguity with respect to this defining moment in ancient Near Eastern history. The 2015–2018 archaeological excavation at Tell Zurghul/Nigin shed new light on the Late Uruk, Jemdet Nasr, and Early Dynastic I phases in southern Mesopotamia and the Lagash region in particular. More precisely, work at Area A, at the footstep of the main mound A in the middle of the site, has documented a complex stratigraphic sequence with 11 phases detected, dated from the end of the fourth millennium to the beginning of the third millennium B.C.

As a result of a 2018–2019 Mesopotamian Fellowship, I propose in this paper a careful analysis of the stratigraphic sequence and of the pottery seriation of Area A, together with an analysis of the material and the pottery production from a technological point of view. Furthermore, data will be compared with pottery assemblages from past excavations at Tell Asmar, Khafajah, Kish, Nippur, Ur, Jemdet Nasr, and Eridu, and then processed together with new data from the C14 analysis performed on samples kept from each phase detected in Area A, in order to link the sequence to an absolute chronology.

**Clemens Reichel (University of Toronto; Royal Ontario Museum), “A Tricky Question: How Many Cuneiform Tablets Were Baked in Antiquity?”**

Nowadays, most cuneiform tablets in museum collections established during the 19th and earlier 20th century are baked. In general, however, little if any information is available on whether a tablet had been baked in antiquity or if the baking process was the result of modern-day conservation. This is unfortunate since the fact that a tablet was baked or unbaked would add valuable information concerning its anticipated longevity. The recovery of recycling bins, which essentially acted as ancient “paper shredders,” proves that the life cycle of many tablets was meant to be short. Some tablets from later contexts (notably the library of Ashurbanipal at Nineveh), however, had indisputably been baked. We generally assume that daily economic recordings were recycled quickly whereas *Sammeltafeln*, literary, historical, legal, scientific and lexical texts were meant to be more durable. The rationales for baking tablets quoted by scholars, however, are generally based on assumptions rather than on empirical data.

In my presentation I will describe a chancellery at the Old Babylonian levels of the Palace of the Rulers at Tell Asmar (ancient Eshnunna; 2000–1800 B.C.), which had kilns for tablet baking that had previously been overlooked. By studying the archaeological context of tablets from Eshnunna and other sites (Mari, Ugarit, and Amarna) I will show that indirect evidence for baking tablets in the Middle Bronze Age indeed exists. Moreover, I will highlight some of the unwanted challenges that baked tablets created during the disposal of “classified” information.

**CANCELLED:**

**Arthur Stefanski (University of Toronto), “The Akkadian Period at Khafajah in the Diyala Region: A Chronological Assessment”**

~~Around 2350 B.C., king Sargon of Akkad united the Mesopotamian city-states into a larger political entity that extended from the Persian Gulf into northern Syria. Textual and archaeological sources indicate that the core area of the Akkadian empire was in the Diyala region. This paper will investigate the site of Khafajah (ancient Tutub) in the Diyala region, excavated by the Oriental Institute in the 1930s. Archival sketches and plans were incorporated into comprehensive digitized plans, and artifacts were plotted to their find spots and locus areas. The results show that the latest levels at the site correspond to the early and late Akkadian periods. Plans from the first season of excavation reveal the architectural relationship of the Temple Oval II buttressed wall to the domestic Houses 2 level, with inscriptions of Rimush suggesting early Akkadian dating. A substantial architectural reconfiguration involving the construction of a walled quarter and the “Akkadian foundations” complex on the north of the mound in the latest archaeological levels can probably be associated with the rule of Naram-Sin, based on a fragmentary inscription from a locus below the monumental entrance to the Temple Oval III. There was a development of militarization and martial culture at Khafajah in the Early Dynastic III to Akkadian period, with an increase of weaponry in the assemblage, the advent of objects with artistic depictions of military scenes, the appearance of weapons as grave goods, and the construction of fortifications.~~

**7A. Archaeology of Cyprus II**

CHAIR: Nancy Serwint (Arizona State University)

**Giorgos Bourogiannis (National Hellenic Research Foundation), “Cypriot Connectivity in the Mediterranean (CyCoMed) from the Late Bronze Age to the Classical Period: Archaeology, Texts, and Some Coins”**

Cyprus is one of the few areas where Mediterranean connectivity displays an amplified archaeological documentation over a chronological span. Interacting with nearly every major civilization that influenced the eastern Mediterranean politically and culturally, the easy and direct access to maritime routes, in fostering circulation of people and ideas, helped to shape the island’s cultural features. Extensive excavation and publications have resulted in a rich academic literature, providing a solid ground for further research. However, a marked discrepancy exists in understanding Cypriot evidence produced at extra-insular locations. More specifically, although many groups of Cypriot evidence found on Cyprus and overseas have been the focus of specialized studies, there is no

comprehensive and synthetic assessment of data in the *longue durée* that is geographically comparable. Cyprus is well-known by those working on the island but is often not as well-understood from a broader Mediterranean angle. The new research project Cypriot Connectivity in the Mediterranean (CyCoMed) at the National Hellenic Research Foundation deals with existing limitations in our understanding of Cypriot evidence and presence overseas by providing a synthetic and interdisciplinary approach to the history and archaeology of Cyprus within its wider Mediterranean context. An interdisciplinary, geographical, and chronological strategy will establish diachronically the island's role in Mediterranean connections and intraregional mercantile activities. Given that the island was integrated in numerous intra-Mediterranean networks already by the 16th century B.C., the assessment of Cypriot evidence can improve our understanding of the ancient Mediterranean as a whole.

**Thierry Petit (Université Laval), “The Geometric Period Palace of Amathus, Cyprus”**

Traces of the palace of Amathus were first revealed in 1975. Between 2004 and 2014, a series of excavation campaigns allowed for the establishment with some confidence of the extent of the palace storerooms. The abundant material discovered comes largely from the final stage of the palace, which dates to the fifth and fourth centuries B.C.E. Due to soundings carried out at several spots on the site, it is now possible to determine the chronology of its pre-classical states. The first monumental phase dates from the Cypro-Geometric III period, more precisely the late ninth century B.C.E. We are also able to propose a partial plan of the building and to identify some of its architectural characteristics: column base, well-dressed ashlar, limestone slab floors, etc. Such attributes have at present no known parallels in Cyprus. These must be sought in northern Syria and Anatolia.

**James Torpy (University of Michigan), “The Environmental Context of Rural Cypriot Sanctuaries”**

This study uses GIS to test possible relationships between rural sanctuaries of Cyprus and local economies by comparing the nature of offerings present and the deities identified with a number of environmental factors.

**Pamela Gaber (Lycoming College), “The Final Seasons of the Lycoming College Expedition to Idalion, Cyprus”**

The final season of the Lycoming College Expedition to Idalion, Cyprus, took place during the summer of 2017. The “City Sanctuary,” found in 1998 in the Lower City South, appears now to have been founded in the twelfth century B.C.E. but continued in use at least until the seventh century C.E., when evidence exists of its being a place where Christians paid homage—albeit in a unique form, with a female figure appearing on a cross. This sanctuary, like the Adonis Temenos on the flank of the East Acropolis, was in continuous use, apparently without a break, during that long span of time. During the 2015 and 2017 seasons at Idalion, some gaps in our chronological understanding of the development and use of the City Sanctuary were cleared up. We found several Classical period floor levels (fifth–fourth centuries B.C.E.) during 2015. However, it looked as if there might have been a gap or abandonment between those and the late

Hellenistic/Early Roman levels (first century B.C.E./first century C.E.). During the 2017, final season of excavations, that question was answered. Although the orientation of walls was changed during the Hellenistic period, there was no chronological gap between the floors of the third century B.C.E. and the later floors. In fact, our original perception of continuous use from the Proto-Geometric through the Roman periods appears to have been correct.

## **7B. Approaches to Dress and the Body**

CHAIR: Megan Cifarelli (Manhattanville College)

### **Karlene Shippelhouse (Johns Hopkins University), “Visibility and Performance: Wig Display in New Kingdom Egypt”**

Gay Robins’s work on hair and hairstyles in ancient Egypt has shown that hair was used to demonstrate social hierarchy, age, and gender, as well as to convey magical, religious, and erotic connotations. The body, particularly the head, served as a physical medium for social, ceremonial, and ritual display. Social norms defined the specific contexts in which certain hairstyles were worn, often resulting in an individual owning numerous wigs to signify certain roles at varying points in life. In ancient Egypt, the numerous messages that different hairstyles could communicate were facilitated by the use of wigs. Both wigs and wig boxes have been discovered in tombs, indicating that an individual would require varying hairstyles and adornment in both their life and their afterlife. I argue, however, that the storage of wigs in wig boxes negates the visibility of the social messaging that wigs conveyed to the viewer. Furthermore, a small enigmatic corpus of New Kingdom Egyptian wooden busts calls for a reevaluation of the storage, display, and ritual performance of wigs in a funerary and ritual context. The wooden and stucco life-sized heads have been classified as reserve heads, ancestor busts, or—more controversially—as wig stands. The ambiguity of the functional aspects of these busts requires a reexamination of their physical properties as potential wig stands. Accepting the wig stand hypothesis, this paper argues that a regional trend in funerary assemblages was created in the post-Amarna New Kingdom that used these wig stands to visually accentuate the continued social status of the deceased.

### **Elizabeth Wagner-Durand (University of Tübingen), “Abundance and Modesty: Dressing the Royal Body in Assyria and Babylonia”**

The “Body of the Able Ruler” has been the issue of scholarly debate since the seminal paper written by Irene J. Winter in 1989. Following Winter’s approach to viewing the body as a visual means of communication via images, I will analyze the different conceptions of body and dress in the visual cultures of the Neo-Assyrian and Neo-Babylonian empires in the first millennium B.C.E. By contrasting the neighboring cultures and the differences in perception of body, adornment as well as dress and their intended conveyed message shall be elaborated. This concerns, among others, the questions of which and how royal capabilities are inscribed onto the royal body and how they are veiled and unveiled by the dresses chosen. The paper emphasizes the potential of images to shape reality by their capability to visualize life-worlds and concepts that otherwise withdraw from the human gaze. It applies a comparative view to highlight the

different social designs of body and dress in Assyria and Babylonia. The paper thus contrasts the notions of abundance and modesty as means of self-expression in Mesopotamia.

**Neville McFerrin (Ohio University), “The Constructed Body: Surface, Skin, and Spatial Performativity in Achaemenid Persia”**

The definition and conceptualization of dress articulated by Mary Ellen Roach-Higgins and Joanne B. Eicher in their seminal publication “Dress and Identity” have offered scholars an avenue through which to approach questions of body modification and supplementation structured around communicative potentials. While such formulations productively encourage a shift from approaches focused on garment type and construction, offering terminology that is less culturally and aesthetically biased than previous options, the use of a single term to describe a wide range of modalities has the capacity to elide functional distinctions between them.

This paper reconsiders slippages between modes of dress, utilizing the concept of affordance, the interactions and functions that are facilitated through material properties, to confront distinctions between fabric, metal, and stone, reflecting upon how these materials are used to dress space—both the space of the body and constructed spaces on the site of Persepolis. By simultaneously considering the affordances of bodies themselves, and the ways in which these capacities intersect with those of spaces formed by the manufacture of fabric and stone barriers, the paper suggests that the haptic qualities of these various materials prompt distinct spatial interactions within the structures of Persepolis, and that these modes of interaction are similarly activated when such mediating forces interact with bodies. Proposing a model in which skin and fabric are conceptually equated, it suggests that walls and adornments of stone and metal function in parallel, bounding and redefining interactive space.

**7C. Cultural Heritage: Preservation, Presentation, and Management II**

CHAIR: Suzanne Davis (University of Michigan)

**Glenn Corbett (Council of American Overseas Research Centers) and Will Raynolds (J. M. Kaplan Fund), “Meeting Urgent Cultural Heritage Needs through the American Overseas Research Centers: The J. M. Kaplan Responsive Preservation Initiative”**

Many countries in the Middle East and North Africa continue to be devastated by ongoing conflict and violence. Beyond the catastrophic suffering inflicted in recent years on the people of Iraq, Libya, Syria, and Yemen, the physical traces of their history and heritage are also being deliberately attacked, bombed, and demolished. In situations of armed conflict or sustained political turmoil, there is a critical need to work quickly to protect cultural heritage properties and collections, whether through documentation, preventive preservation measures, or post-conflict stabilization and restoration. When circumstances permit small projects to proceed, cultural heritage professionals working in or near the conflict have often identified such priority interventions but often lack resources to implement them. This presentation will highlight the Responsive

Preservation Initiative, administered by the Council of American Overseas Research Centers (CAORC) and supported by the J. M. Kaplan Fund, which leverages the unique on-the-ground presence of CAORC member centers throughout the MENA region to rapidly assist in locally driven cultural heritage documentation and preservation efforts in war-torn areas. Particular attention will be given to recently supported projects in Yemen, which have aimed to recover, document, catalog, and preserve museum and manuscript collections that remain endangered after more than four years of continuous violence and upheaval throughout the country.

**Stephen Savage (Arizona State University), Andrew Johnson (University of California, San Diego), and Thomas Levy (University of California, San Diego), “The ASOR Cultural Heritage Initiative–TerraWatchers Collaborative”**

It is estimated that the Middle East contains hundreds of thousands of archaeological sites dating from prehistory up through the Islamic period. With such a major concentration of sites, the region provides archaeologists and historians with thousands of years of cultural heritage. Today, the countries of the region are engaged in a series of widespread, inter-related conflicts. Extremist groups such as ISIS, along with other militants, civilians, and natural causes, are putting archaeological sites at risk of destruction. Together with ASOR’s Cultural Heritage Initiative and UC San Diego’s Center for Cyber-Archaeology and Sustainability, the TerraWatchers research project began in 2016 to monitor at-risk sites in the Middle East. Nearly 11,000 site locations were uploaded to TerraWatchers, a crowd-sourced satellite image analysis web platform using Google Maps and DigitalGlobe images. Crowdsourcing, or “citizen science,” has been an emerging method of conducting research over the past decade and has proven to be a useful tool for looking through massive amounts of data. The TerraWatchers mission discussed in this presentation trained about 150 undergraduate students from across the University of California system to make observations of at-risk sites. Students were trained to recognize different observation types, and their work was vetted by the mission administrators. Our results show that crowdsourcing is quite useful for sifting through massive amounts of data in a short amount of time. The TerraWatchers/ASOR CHI mission closed in 2018, but possible future applications of TerraWatchers in Jordan are currently being discussed.

**Yalda Razmahang (Université Lumière Lyon 2) and Tobin Hartnell (American University of Iraq, Sulaimani), “Assessing Ashur after ISIS: A Case Study of Cultural Heritage at Risk”**

This presentation will focus on the most recent field updates from the World Heritage Site of Ashur in northern Iraq. ISIS attempted to destroy several monuments at the site in May 2015 with only partial success. Even with the liberation of Ashur in late 2016, the region remains politically unstable, which leaves the site at risk to looting. Our team initially used DigitalGlobe imagery to conduct a remote site assessment that provided time-sensitive documentation of looting and other damage to the site. This year, the project team built regional partnerships that allowed an on-the-ground site visit. The project used an unmanned aerial vehicle to create up-to-date, high-definition, 3D topographic maps of the site, and we are experimenting with artificial intelligence (AI) in order to systematically analyze these images for traces of surface threats, such as



unexploded IEDs, and other site damage, such as illicit digging. Future seasons will combine aerial survey with geophysics in order to detect buried threats as well as subsurface archaeological remains.

### **Gul Pulhan (British Institute at Ankara), “Safeguarding Archaeological Assets of Turkey (SARAT Project)”**

The *Safeguarding Archaeological Assets of Turkey* (SARAT) project aims to develop the capacities of people involved in various sectors of archaeology and heritage in Turkey while also increasing public awareness of different aspects of the country’s archaeology. The project’s proactive approach works to fill certain key gaps in how archaeology is practiced and perceived in a country which, although not in conflict, nevertheless faces many of the potential threats that affect archaeological heritage in neighboring countries. The overall goal is to contribute to better protection policies and broader public appreciation for archaeological heritage. The project includes four interconnected programs: a free online course on “Safeguarding and Rescue of Archaeological Assets”; a public opinion poll designed to understand public perceptions of archaeology in Turkey; awareness-raising activities among antiquities collectors about the damage caused to archaeological sites by looting; and news-writing workshops to help Turkish media better inform the public presentation of archaeology and heritage. The project uses its web ([www.saratproject.com](http://www.saratproject.com)) and social media sites to actively share its goals and activities and to establish a platform for reliable archaeological information. SARAT is a Cultural Protection Fund project and is carried out by the British Institute at Ankara (BIAA) in partnership with the Research Center for Anatolian Civilizations of Koç University in Istanbul, Turkey (ANAMED) and the United Kingdom branch of the International Council of Museums (ICOM).

### **7D. Bioarchaeology in the Near East**

CHAIR: Sherry C. Fox (Arizona State University; International Committee of the Red Cross)

**Philipp Stockhammer (Ludwig-Maximilians-Universität München; Max Planck Institute for the Science of Human History), Eirini Skourtanoti (Max Planck Institute for the Science of Human History), Choongwon Jeong (Max Planck Institute for the Science of Human History), Murat Akar (Hatay Mustafa Kemal University), Francesca Balossi (Sapienza Università di Roma), Yılmaz Erdal (Hacettepe University), Stefanie Eisenmann (Max Planck Institute for the Science of Human History; Ludwig-Maximilians-Universität München), Marcella Frangipane (Sapienza Università di Roma), Tara Ingman (Koç University), Paolo Matthiae (Sapienza Università di Roma), Giulio Palumbi (Université Nice Sophia Antipolis), Frances Pinnock (Sapienza Università di Roma), Ulf Schoop (University of Edinburgh), Rula Shafiq (Koç University), K. Aslihan Yener (New York University), Wolfgang Haak (Max Planck Institute for the Science of Human History), and Johannes Krause (Max Planck Institute for the Science of Human History), “Population Dynamics in Prehistoric Anatolia from a Bioarchaeological Perspective”**

While Anatolia has been highlighted as the genetic origin of early Neolithic European farmers, the genetic substructure in Anatolia itself as well as demographic changes since the early Neolithic have long remained unclear. Cultural transformations in Anatolia have often been associated with human migration, as the archaeological record reflects influences from the West, the Fertile Crescent, and the Caucasus. In order to better understand population dynamics and associated scales of human mobility through time, we have conducted comprehensive palaeogenetic analyses of human remains and produced full genomic evidence for 74 individuals from key sites in different parts of Anatolia (e.g. Ikiztepe, Arslantepe, Alalakh), northern Syria (Ebla) and the Caucasus. These analyses can now serve as a basis to evaluate the archaeological evidence of possible migrations like the Kura-Araxes phenomenon as well as scales of human mobility during the Bronze Age.

**Michael Navarro (East Carolina University) and Megan Perry (East Carolina University), “Bioarchaeological Analysis of a Late Bronze Age Skeletal Assemblage from Kataret es-Samra, Jordan”**

Late Bronze Age (ca. 1550–1050 B.C.E.) Kataret es-Samra Tombs 1 and 2, found in the Jordan Valley and excavated in 1978 and 1985, have undergone only preliminary analysis. The Late Bronze Age signals a period of transition within the Near East, during which many Mediterranean and Levantine civilizations underwent notable political, economic, and settlement shifts. These changes are theorized to be related to a growing global trade and the impact of the Egyptian empire. Despite many Late Bronze/Early Iron Age cemetery excavations in the southern Levant, little skeletal material has been studied, and those studies that have been conducted provide only nominal descriptions rather than an interpretive and analytical perspective. Bioarchaeological data can provide a novel perspective on both the health and diet effects of social change, and the information derived could provide a new understanding of this period of Jordanian history. This preliminary paper describes skeletal lesions that provide evidence for ratios of physiological stress and malnutrition in addition to morbidity and mortality patterns in light of the Late Bronze Age in the Jordan River Valley.

**Rachel Kalisher (Brown University), “Power and Pathology: Osteological Results from an Elite MB III Chamber Tomb at Tel Megiddo”**

This paper presents the osteological results from an MB III (ca. 1650–1550 B.C.E.) elite masonry-constructed chamber tomb at Tel Megiddo (“Tomb 50”). The tomb contained at least 11 individuals—an adult male, an adult female, and a subadult buried in primary position, as well as a minimum of 8 adult individuals comingled in the back of the tomb. The human skeletal remains tell an interesting story. The deposition of the three primary individuals suggests all three were inhumed in a temporally constricted or related series of events. While childhood health appears to be good overall for those in Tomb 50, several individuals show signs of genetic disease, dental disease, arthritis, healed trauma, enthesal changes, and acquired illnesses. When taken into consideration as an entire corpus, a story of power, disease and kinship becomes clearer, allowing us to glimpse into the lives and deaths of the wealthy in MB III Megiddo.

**Brenda Baker (Arizona State University), “Hyperostosis Frontalis Interna in the Ancient Nile Valley”**

Hyperostosis frontalis interna (HFI) is a condition that involves thickening of the internal aspect of the frontal bone. Although the cause is unknown, it is much more common today in older adult females than in males and typically associated in the literature with hormonal changes related to menopause and diet. It is thought to have been much less common before industrialization but, in many bioarchaeological reports, males and younger individuals are affected more frequently than expected based on modern data. Recently, three examples from Naqada III/Early Dynastic contexts at Abydos, Egypt, dating to approximately 3200–3000 B.C.E., prompted review of other Nile Valley cases and elicited information on multiple additional finds that have not been published. The examples from Abydos are among the earliest yet recognized in the Nile Valley. The distribution of HFI in the Egyptian Nile Valley includes mostly elite individuals and a greater proportion of affected males than found so far in the Middle Nile Valley of modern Sudan and southern Egypt. The different patterns suggest potentially different underlying risk factors or causes of this condition. Few systematic studies of crania from different skeletal series have been conducted, however, so most examples are from incidental discoveries in broken crania. This situation hampers our understanding of HFI etiology, whom it affected (age, sex, socioeconomic status), and how its distribution varies across environments. This review prompts a call for systematic endocranial examination of intact crania from large samples and different contexts to test hypotheses about HFI in the past.

**Courtney Olah (East Carolina University), Lori D'Ortenzio (McMaster University), Bonnie Kahlon (McMaster University), Akacia Propst (McMaster University), and Megan Perry (East Carolina University), “Surviving Rickets: Using Dental Evidence to Identify Childhood Vitamin D Deficiency in Adults at Hisban”**

Recent macroscopic analysis of late 19th-century skeletal remains recovered from Hisban, Jordan has revealed that over half of 23 infants and children four years of age or younger died with active rickets. Rickets is most often caused by insufficient UVB radiation exposure leading to improper synthesis of vitamin D in the body. Hisban, located just below the 32nd north parallel, has moderate levels of UVB radiation annually averaging 1800 kWh/m<sup>2</sup> (kilowatt hours per square meter) and thus represents a surprising location for extensive vitamin D deficiency. This may suggest that other factors, either genetic or cultural, prevented proper absorption of vitamin D. Unfortunately, these children dying with rickets provide only a snapshot of the prevalence and pattern of vitamin D deficiency at Hisban, which does not include repeated episodes of childhood deficiency that they may have experienced before death, nor older children or adults who survived the condition but retained no rickets-related skeletal changes. Radiographic and histological examination of teeth can identify repeated periods of vitamin D deficiency throughout childhood dental development in children and adults who survived these episodes of deficiency. Abnormal pulp chamber morphology revealed through radiographs and the presence of interglobular dentine identified in thin sections of teeth indicates that almost all the adult individuals buried at Hisban had at least one mild episode of vitamin D deficiency during childhood. These

data not only suggest that repeated childhood rickets was survivable at Hisban but also identify possible additional factors that led to mortality differences within this group.

**Valentina D’Amico (Hacettepe University) and Yilmaz Selim Erdal (Hacettepe University), “Race’ or Identity: Interpreting Posterior Cranial Flattening”**

Posterior cranial flattening had once been considered a “racial” trait or as a reflection of biological variation. After the 1940s, environmental factors were also taken into account. However, until today, this cranial shape has been accepted in Anatolia as an indicator of the Dinaric/Armenoid “races.” Skeletal materials from Malatya-Arslantepe have revealed the presence of this cranial shape. It has not been observed among newborns, but it is very common in young children. However, its degree and frequency decrease with age, which suggests an environmental effect. Posterior cranial flattening should be interpreted in terms of cultural practices such as cradling and associated with concepts of beauty and/or identity. Hence, posterior cranial flattening in Anatolia should be reconsidered as intentionally performed.

**7E. Career Options for ASOR Members: The Academy and Beyond**

CHAIR: Emily Miller Bonney (California State University, Fullerton)

**Thaddeus Nelson (Stony Brook University), “From Archaeology to Student Affairs: An Experience in Accessibility Services”**

As a graduate student, I saw my funding running out and my rent climbing. In order to continue my PhD research, I took an assistantship position in Disability Support Services. At the time, I never intended to turn this position into a career, but in the years since completing my doctoral research, I changed my path and have stayed on in a full-time capacity. Although academia currently feels like a crowded field, accessibility services is a growing necessity in higher education in which the views of academics and anthropologists are valuable but underrepresented. In this presentation, I will discuss my work in student accessibility, the unique anthropological skills that would benefit others following a similar path, and the potential for experts in this field to contribute to the fields of history, anthropology, and archaeology.

**Trudy Kawami (Independent Scholar), “The Scholar and Private Foundations”**

From the first time I laid eyes on Persepolis in 1963, I was hooked on Iran. But by the time I was finishing my doctoral dissertation, the Iranian revolution of 1979 occurred and institutional/academic interest in Iran withered in the face of politics. After a series of underpaid, ad hoc jobs, I found work with a private foundation having a collection of both Near Eastern and East Asian art. These works were loaned to museums and published in scholarly catalogs. My collaboration on a number of these catalogs and the organization of several exhibitions from its collections stretched my brain in ways that ultimately proved fruitful, but at the time felt like a second doctoral project. Nonetheless, I used the skills that I had acquired in my own area to broaden my knowledge and reorient my own research. This knowledge was particularly useful with regard to provenance, a potentially difficult subject in the world of private collections.

**Diane Everman (Enterprise Holdings Archives), “Museums and Archives: A World Beyond”**

What does one do after completing a PhD in ancient history at a time when there are not many tenure-track academic teaching jobs available in the field? That is a question I struggled with, but I found the answer in what might be considered unusual places. While keeping a hand in the academic world via teaching evening or summer classes, participating in excavations, and writing articles or reports, other opportunities came along that allowed me to expand the teaching that I enjoyed into different spheres of interest, and in a variety of ways. My love of archaeology led me to the related world of cultural resource management and then museums and archives. Now I am more than fully-employed as the Taylor Family archivist, the corporate archivist for Enterprise Holdings Inc., as well as the archivist for the St. Louis Jewish Community Archives and the Holocaust Museum & Learning Center in St. Louis (and there have been many other locations in between). All the while I continued researching and writing, although not strictly about ancient history, as well as doing classical archaeological field research and excavation. Now I get the best of many worlds.

**Karen S. Rubinson (New York University), “The Corporate PhD”**

When I completed my Ph.D. in art history and archaeology in 1976 (ancient history I know!), the academic position which I had anticipated disappeared in response to fiscal issues at the institution. As this occurred well after the annual hiring cycle had ended, I was faced with what to do to support myself, much less what to do with my degree. I first held a series of positions in the corporate world, then ran my own contract archaeology firm (with some corporate history on the side) for 25 years, before becoming a retired academic. Many of the skills from my graduate school years served me well in the corporate world. I maintained involvement in my academic field throughout the years, in fact always self-identifying as an archaeologist regardless of how I was making a living. My trajectory is one choice, out of many, that one can take beyond the academy and I can say it was less deliberate than accidental. I will share the lessons I learned in this presentation.

**Elizabeth Langridge-Noti (University of California, Davis), “Physical and Academic Beyonds: An Odyssey”**

“The Academy and Beyond” has been the title of this session for a number of years now. Its focus has been on examining careers that move beyond what are often perceived as legitimate academic positions—whether tenured or otherwise and whether in the U.S. or not. I use the traditional *cursus honorum* for someone in the academy as an initial jumping off point for reviewing the unusual path of an American staying outside the U.S. at the beginning of their academic and archaeological career—so the physical beyond—to someone who has now returned to the U.S. but in administration—so the academic beyond. Although the story is a personal one, I hope to provide some insight into (re-)framing one’s path both for oneself and also for the outside world—frames of equal importance—as well as considering the support mechanisms—or lack thereof—that guided me on my journey.

**7F. Archaeology of the Near East: The Classical Periods**

CHAIR: Michael S. Zimmerman (Bridgewater State University)

**Irene Bald Romano (University of Arizona), “A Roman Portrait of Alexander the Great from Scythopolis”**

The focus of this paper is an over life-sized marble portrait of Alexander the Great excavated in 1925 in Beth She’an (ancient Nysa-Scythopolis) by the University of Pennsylvania Museum. The head was found in a cistern on the tell, along with parts of three other sculptures. It has never been fully published or recognized for its importance as a Roman portrait of Alexander of the later second or early third century C.E., one of a handful of portraits of the Graeco-Macedonian ruler to be found in an excavated context, and the only one from the Roman East outside of Egypt and Greece. Its probable original setting was in the Roman temple on the acropolis of Beth She’an, where it may have been the focus of a ruler cult for Alexander, provoking questions about Roman engagement with Alexander in this part of the Roman Empire in the Antonine and Severan periods. In the Late Roman/Early Byzantine period, the portrait was subjected to deliberate mutilation (beheading with one eye, nose, mouth, and throat damaged), probably by Christian zealots wanting to exorcize the demons within this pagan image; it was dumped into the cistern in the later fifth or sixth century C.E. Using an object biography approach, we can trace the “life” of this head, its uses, and its interpretations from its ancient past through its discovery and display in various museums in the British Mandate and Israel to its present setting in the Israel Museum, Jerusalem.

**Avraham Tendler (Israel Antiquities Authority; Bar-Ilan University), “Roman Domestic Cult in Rural Judea”**

Recent archaeological excavations at Horvat Ashun (Khirbet el Wasūn) exposed the majority of a rural settlement with strata from the Early Hellenistic period to the Late Roman period. During the Late Roman period (early third century–beginning of fifth century C.E.), an agricultural estate was built above the ruins of the settlement from the Second Temple period: an estate house, an additional building, and an industrial winepress were exposed. The estate house incorporated impressive architecture, from which an architrave and column base were discovered. A burial cave from the period was found within one of the courtyards of the estate house. The examination of the material culture of this period at the site as a whole, and the industrial winepress in particular, testify to the agricultural nature of the site, which seems to have functioned as a *villa rustica*.

The finds included two Roman altars, as well as figurines—evidence that the residents of the estate held Roman polytheistic beliefs. There is no evidence that this changed with the empire’s adoption of Christianity and the transformation of the land to *terra sancta* in the fourth century C.E. One altar was found in each building—an ornamented altar in the estate house and a simple altar in the additional building. These altars may have been parts of *lararia* (shrines for the Roman household gods). Terra-cotta Beit Nattif figurines were also found. These finds pave the way for a discussion of a relatively under-researched issue—the Roman domestic cult in rural Judea.

**Evie Gassner (Ariel University), “Size Does Matter—Religious Compensation and Political Propaganda in Herod’s Landscape Projects”**

Herod the Great built many monuments during his long reign over Judaea, some luxurious and some religious—but all magnificent. These monuments, regardless of their nature, served to make a statement, which was almost always political. Herod’s reign was not without upheavals and drama, and so he had to make the statements subtly and wisely, by building impressive monuments that used the landscape in which they stood to the king’s advantage, thus enhancing the appearance of political power, without outright saying anything controversial. Herod was not, strictly speaking, a legitimate king. He was crowned by Rome and retained the crown by bloodshed and intimidation. He used his wealth, power, and connection to Rome to build projects that spoke of his might. I will present the monuments that reflect imperial propaganda, religious compensation, and politics, as well as explain the significance of incorporating the landscape into the grandiose building projects. From Caesarea by the Sea, to the Second Temple that Pliny the Elder praised, and all the way to the artificial mountain that Herod erected in his own name in Herodium—all monuments were in service of the King and his agenda.

**Shulamit Miller (The Hebrew University of Jerusalem), “Building Hierarchies: Urban Dwellings in Roman Palestine”**

Archaeological research on Roman Palestine has focused predominantly on urban planning and monumental architecture. The excavation of ancient cities has contributed greatly to our understanding of urban transformations due to political, demographic, and religious developments, which included a flourishing of urban centers during the late first and especially second centuries C.E. Nonetheless, the houses of people who made up these societies are often neglected, although they are of the utmost importance in understanding the character of the cities and the lives of their inhabitants.

Several questions may be raised regarding domestic architecture in Roman Palestine, its function, and the social practices of its residents. A study of houses at Sepphoris dated to the second–fourth centuries C.E. was conducted by Weiss, who suggested an architectural typology of domestic units (“Galilean,” “Roman,” and a mixture of the two), which corresponds with the social stratification of the city’s inhabitants.

This paper investigates into the validity of Weiss’s domestic typology at Sepphoris, by surveying the archaeological remains of domestic space in other cities of Roman Palestine and juxtaposing them in relation to each other. It engages the idea of domestic-social correlation, and similarly relies on the domestic repertoire to investigate social hierarchies within the urban centers.

**Simeon Ehrlich (Concordia University), “Eroticism and Infanticide at Ashkelon Reconsidered”**

The Romano-Byzantine phases of Grid 38 at Ashkelon yielded three seemingly salacious finds in stratigraphic proximity: a bath inscribed “enter, enjoy, and...”; a cache of lamps with erotic imagery; and remains of ca. 100 infants (Stager 1991, Stager et al. 2008). The material remains have been used to explain the human: a brothel and the unwanted offspring therefrom (Faerman et al. 1998). Because recent scholarship challenges such an

interpretation (Carroll 2018, Liston et al. 2018), reconsideration of this material is necessary.

Whether the bones themselves show evidence of infanticide is beyond the purview of this paper; rather, at issue are the relationships of the bones, the inscription, and the lamps. What can the material remains tell us about the function of the building and what can this, in turn, tell us about the nature of the human remains?

A thorough review of the excavators' field notebooks shows that the stratigraphy does not affirm the association of the bones with activities transpiring within the bath building, nor do the material remains support its assignation as a brothel. The inscription is salutatory, but not necessarily suggestive. The lamps are unsold inventory of a ceramic shop, and not a collection of erotica. In sum, the inscription and the imagery of the lamps are unrelated to the human remains and, hence, irrelevant to the interpretation thereof.

## **7G. Archaeology of Egypt II**

CHAIR: Louise Bertini (American Research Center in Egypt)

### **Charlotte Rose (University of Pennsylvania), “Beds and Bricks: Birthing Equipment in Ancient Egypt”**

In recent years, scholarship has focused on various objects thought to have been used during the time of childbirth, such as birth bricks and apotropaic ivory wands. While there has been significant work on individual objects and birth in general, previous research has not focused on the extent of change and continuity of practices over time. This work addresses the archaeological and textual evidence of birthing equipment in ancient Egypt through an integrative framework of diachronic change. Objects of study include birth bricks, birthing beds, various amulets, and wands. While certain materials were subject to shifts over time, the overarching religious ideology surrounding birth remained relatively consistent.

### **Anne Austin (University of Missouri), “Recent Evidence for the Practice of Tattooing in Ancient Egypt”**

The practice of tattooing in ancient Egypt is rarely attested. Egyptologists have identified tattoos on only a handful of mummies spanning Pharaonic Egypt's more than 3,000-year history. Textual evidence is virtually silent on the practice and art historical evidence is often ambiguous. In 2014, the mission of the Institut Français d'Archéologie Orientale (IFAO) identified an extensively tattooed mummy from the necropolis at Deir el-Medina, the community of the workmen who cut and decorated the New Kingdom's royal tombs. Since then, we have identified several other individuals with tattoos among the many unpublished human remains at the site. This paper presents these tattooed individuals in addition to the most recent finds from the bioarchaeological team of the 2019 IFAO mission at Deir el-Medina.

The distribution, display, and content of these tattoos reveal how they were used both in religious practice and to forge permanent, public identities. The extensive tattoos on one



female mummy demonstrates the use of tattoos for identifying and enabling this woman to act as a key religious practitioner to the Deir el-Medina community. Additional tattoos found and analyzed during the 2016 and 2019 seasons using infrared photography indicate that many more individuals were likely tattooed at Deir el-Medina. Additionally, the designs and placement of tattoos varied broadly. Coalescing the physical and art historical evidence, this presentation offers some of the most comprehensive evidence we have to date of the practice of tattooing in ancient Egypt.

**Giovanni Tata (Brigham Young University), “Patterned Textiles from Fag el-Gamous”**

The Ptolemaic to late Byzantine cemetery of Fag el-Gamous is situated on the eastern edge of the Fayoum, about 100 km south of Cairo, Egypt. It lies just past the modern limits of irrigation and extends eastward into the desert. Fag el-Gamous has been systematically excavated by Brigham Young University since 1981, with a resulting plethora of textiles finds. The majority of these textiles are plain weave, but hundreds of patterned textiles have also been found. This paper will present all the various techniques found at the site and provide background and interpretive material as a means of increasing the usefulness of the collection for further research. Comparative references will help provide the cultural background of the textiles and place them in a temporal-spatial framework as much as possible.

**Kerry Muhlestein (Brigham Young University), “The Textiles of Life and Death: What Egyptian Burial Textiles Can Tell Us and a New Technique for Analyzing and Conserving Them”**

The Fayoum cemetery of Fag el-Gamous has yielded a very high number of textiles. What can these textiles tell us about life and death in Roman-period Egypt, and how can we better unfold, analyze, and conserve those textiles after they have been excavated? Some of the textiles found at Fag el-Gamous were used in life and then reused in death, but some were created specifically for burial. They tell us that the common person expended a great deal of resources on burial preparation. They tell us that adults and children were treated nearly equally in terms of burial preparation. They may help identify conversion to Christianity. They are beginning to tell us about possible dating methods. Furthermore, in our last excavation season we tried a humidifying technique that we believe has not been used in Egypt before; it made possible the analysis of textiles that we had been unable to examine before, and increased the opportunity for good conservation practices.

**Robert Littman (University of Hawai‘i at Mānoa), and Jay Silverstein (University of Tyumen), “The Egyptian Revolt and Excavations at Tell Timai”**

The Rosetta Stone, erected in 196 B.C., describes the victory of Ptolemy V over a native Egyptian Revolt in the Delta. Although a few surviving texts and inscriptions chronicle the Egyptian revolt, little archaeological evidence has been found. Recent excavations at Tell Timai (Thmouis) provide new evidence of the Revolt. Thmouis, the southern extension of Mendes, gradually became the dominant city in the region in the Ptolemaic period. Recent excavations reveal remains associated with the revolt. A burn level was discovered, dating to the second century B.C. Other evidence suggests that the burn level

was part of an attack on the city. Burnt ballista balls were excavated, as well as the body of a warrior, clearly killed in battle. A skeleton was found on the floor of the destruction layer. The body was dumped with no indications of a burial. It was a robust man in his fifties with signs of combat-related trauma in his youth and at death. There was a healed parry fracture on his left arm and a perimortem parry fracture. There were also blunt trauma fractures to the left fibula, the C1 and C2 vertebrae, and some ribs. Coins located above the layer dated to 180–170 B.C. and below to 205 B.C. or earlier. The pottery assemblage dated to 200–175 B.C. Most likely this warrior was a casualty of the Egyptian Revolt. It is hoped that our further excavations at Tell Timai will continue to elucidate the period of the Rosetta Stone.

## **7H. Prehistoric Archaeology I**

CHAIR: Yorke M. Rowan (University of Chicago)

**Piotr Kolodziejczyk (Jagiellonian University), Marek Nowak (Jagiellonian University), Michał Wasilewski (Jagiellonian University), Jacek Karmowski (Jagiellonian University), Marcin Czarnowicz (Jagiellonian University), Justyna Zakrzeńska (Jagiellonian University), Agnieszka Brzeska-Zastawna (Jagiellonian University), Barbara Witkowska (Jagiellonian University) “Southern Jordan between the Neolithic and Bronze Ages: New Data from the Polish Archaeological Project Conducted from 2014–2019”**

The newly funded archaeological project run by the Jagiellonian University in Krakow, Poland aims to understand the communities living in southern Jordan (understood as the historic land of Edom, the geographic area between Wadi Al-Hasa and the Gulf of Aqaba) at the end of prehistoric times. After a few seasons of survey, a series of sites located in different landscapes were selected for excavation. Field work initiated by the authors in the south of Jordan in 2017 aimed for a better understanding of the settlement pattern and economics of the communities living in the area from the Neolithic period to Early Bronze Age. To date the most important sites researched within the project are Faysaliyya and Munqata‘a where remains of Jericho IX, Chalcolithic, and Early Bronze Age cultures were unearthed. Our field work will continue to test other sites located in the vicinity of At-Tafileh.

For this presentation we will discuss the outcome of our survey as well as the results of excavations conducted at the above-mentioned sites. The sites will be presented in cultural, landscape, and geological context. Results of OSL and C14 dating will be presented. In the latter part of our paper we will try to focus on methodological aspects of the work in mountainous, less-developed regions and the contribution of our project to understanding the late prehistory of present-day southern Jordan.

**Shimon Gibson (University of North Carolina at Charlotte) and Rafael Lewis (Ashkelon Academic College) “Chalcolithic Fields and Cupmarks in the Shephelah Foothills (Israel) and the Origins of Horticulture in the Southern Levant”**

Surveys of Chalcolithic (Ghassulian) sites (small villages/hamlets) in the Shephelah foothills of Israel show they have hinterlands (e.g., at Titora and Taoz) consisting of

rocky outcrops with scattered agricultural patch fields/box fields, and clusters of hundreds of oval/loaf-shaped cupmarks with larger circular vats in demarcated work surfaces. The cupmarks were for the crushing of olives, with the vats for the extraction of oil beneath large stones; taking into consideration that 5 kg of olives can produce one liter of oil, the amount of oil produced at these sites must have been considerable. It is not surprising therefore that a complete “torpedo jar” was found at Titora, similar to examples known from Gilat where they were used to contain olive oil. Investigation of the lower parts of the fields at Modi‘in brought to light marks made by early forms of hoes/digging tools. The horizontal leveling of plots on sloping ground in marginal land reflects an intensified form of agricultural cultivation, which may have inspired incipient terracing in the highlands (e.g., Sataf). The overall evidence suggests an unprecedented phenomenon of agricultural intensification in the Chalcolithic (Ghassulian) period, with horticultural productivity increasing in unit areas of land of relative marginal status through collective extra input; the higher yields of olive oil were used not just for subsistence but also for heightened inter-regional trade. This new evidence is potentially important for understanding the origins of horticulture in the southern Levant and the manner in which olive oil production first developed.

**Chad Hill (Dartmouth College), Yorke Rowan (University of Chicago), and Morag Kersel (DePaul University) “New Excavations at Horvat Duvshan, Israel”**

In this paper we summarize the results of new excavations at Chalcolithic Horvat Duvshan, Israel, located approximately 7 km north of the Sea of Galilee in the center of the Korazim plateau. Following on from excavations and surveys at Marj Rabba, Wadi el-Ashert, and Tell Nes, the Galilee Prehistory Project undertook excavations at this new site to broaden our understanding of the major changes that occurred in the region during this period. Horvat Duvshan was originally identified in the 1970s, surveyed by Yosef Stepansky in the 1990s, and briefly excavated by Howard Smithline in 2005. Our goals for the first season of excavation focused on the construction of high-resolution maps of the site and identifying areas of significant Chalcolithic occupation that would warrant continued work at the site.

**Kathleen Bennalack (University of California, San Diego), Mohammad Najjar (University of California, San Diego), and Thomas E. Levy (University of California, San Diego) “Regional Connections among Late Neolithic Assemblages: Evidence from the Faynan Copper Ore Region of Southern Jordan”**

New interest has sprung up around the Late Neolithic (ca. 8250–7250 cal BP) in Jordan, including in zones that today are environmentally marginal. These sites are often (probably rightly) attributed to pastoralists, due to their marginal nature, while sites in regions with milder climates, like the Jordan Valley, are often attributed to farmers. However, the more arid regions once supported large mixed populations. The question of what happened to the people from the Pre-Pottery Neolithic “megsites” after their hypothesized collapse may have bearing on these discoveries as well.

This paper addresses a recently excavated Late Neolithic site in the now-arid Faynan region of southern Jordan and the implications of its small lithic and ceramic assemblages

in regional and chronological context. The lithic assemblage includes both ad-hoc and formal worked stone types, including denticulated sickle blades, arrowheads, loom weights, and hundreds of borers. Also of interest is one particular raw material present at the site: copper ores brought from other parts of Faynan. In the PPN, the copper ores of Faynan were used to make beads and possibly makeup, of which there are hints of trade found in other regions, but so far we have no indication of what it was used for in the Late Neolithic.

Located at the edge of Wadi Arabah, between the Transjordan plateau, Dead Sea, and Negev desert, Faynan is in an ideal spot for interactions between those regions, as well as the Jordan Valley, the Sinai and Arabian peninsulas, and the eastern desert of Jordan. Comparison of the Faynan assemblages with assemblages from the surrounding regions will be presented and the implications for what we know about the Late Neolithic will be addressed.

### **8A. Archaeology of Cyprus III**

CHAIR: Nancy Serwint (Arizona State University)

**Thomas Landvatter (Reed College), Brandon Olson (Metropolitan State University of Denver), and R. Scott Moore (Indiana University of Pennsylvania), “Investigating Imperialism in the Early Hellenistic East Mediterranean: Recent Excavations at Pyla-Vigla, Cyprus”**

The Pyla-*Koutsopetria* Archaeological Project (PKAP) conducted four seasons of small-scale excavations at the site of Pyla-*Vigla*, located on a small plateau near Larnaca in the Dhekelia cantonment. These excavations have revealed a military fortification site almost entirely early Hellenistic in date (ca. 350–250 B.C.E.), with little evidence of substantive later occupation. While the military nature of the site is evident in the fortification works and in the types of metal finds, the ceramic finds from *Vigla* are perhaps the most significant: excavations in 2012 revealed a deposit with the most complete assemblage of Hellenistic pottery yet discovered on Cyprus. Given the date of the site, *Vigla* has the potential to illuminate the transition on Cyprus from independent city-kingdoms to incorporation into the Ptolemaic empire. Summer 2019 saw the first season of large-scale excavation at *Vigla*, with the following overall goals: 1) determining the occupation history of the site, including whether the site was planned, an ad hoc construction, or intended to be permanent; 2) assessing the composition of the fort’s population, namely whether it was occupied by largely foreign mercenaries or local groups; and 3) clarifying the relative integration of the site with surrounding populations and settlements, both economically and culturally. By answering these questions, the site of *Vigla* will provide an unparalleled view of imperial incorporation strategies and their effects in the early Hellenistic, a period that is otherwise nearly archaeologically invisible on Cyprus and in the wider eastern Mediterranean.

**Martha Demas (Getty Conservation Institute), Leslie Friedman (Getty Conservation Institute), Anthi Kaldeli (Getty Conservation Institute), Demetrios Michaelides (Getty Conservation Institute), and Thomas Roby (Getty Conservation Institute),**

### **“Planning for a Sustainable Future for the Archaeological Site of Nea Paphos, Cyprus”**

The archaeological site of Nea Paphos, best known for its Hellenistic and Roman remains, particularly its outstanding mosaic pavements, has long been an object of scholarly attention. Following the 1974 invasion and loss of the main tourist resorts of the island, the town of Paphos received inordinate attention from developers that put much of the archaeological site at risk. This rapid development and the dispersion of monuments and ancient remains amidst modern development presents planning challenges for understanding, visiting, and physically linking the site. During the last decades, Nea Paphos and its mosaics have been conserved by the Department of Antiquities, but, given the site’s importance for the history of Cyprus and its World Heritage status, it is critical to implement a comprehensive plan to address all present-day challenges. Conservation and presentation of the mosaics and architectural remains, protection of the setting, and development of a cohesive archaeological and research policy are key to protecting its values, enhancing understanding of the site, and continuing to draw tourism to Nea Paphos, which is the most visited archaeological site in Cyprus. The Getty Conservation Institute and the Department of Antiquities of Cyprus have joined together to develop a master plan to guide future conservation and management of the site as part of the Getty’s regional MOSAIKON initiative. Starting with mapping the entire site and incorporating it in a GIS framework, an assessment of the site’s values, conditions, and management context is being carried out to develop responses to the main challenges Nea Paphos faces.

### **Laura Swantek (Arizona State University), and Lucas Grimsley (Southwestern Baptist Theological Seminary), “Changing Tides: Water Usage in Late Antique Kourion”**

Urban centers require a steady and reliable clean water source; this can include a natural source or infrastructure that brings water into the city from a distance away. The city of Kourion, located on a promontory on the south coast of Cyprus, was occupied from at least the Hellenistic through the Roman period and had no natural fresh water source. The construction of two water conduits in the Roman period fed a vast system of pipes, holding tanks and cisterns along with supporting fountains and baths and providing drinking water. In the late fourth century C.E., a series of earthquakes hit Cyprus, destroying many of the buildings within the city and the conduits that supplied its water. Kourion lay in ruins for almost half a century when it was finally rebuilt at a smaller scale. We contend, based on archaeological and epigraphic evidence, that Kourion was not rebuilt until after the city’s water source was reestablished and that the individual responsible for this restoration held a prominent place in society, perhaps reflecting a benefactor relationship to the city. We further argue that socio-economic changes and an ideological shift with the transition to Christianity that followed the destructive earthquakes changed how water was conceptualized and used in this city, linking control of the city’s water with Christian theological perspectives, high economic inequality, and a changing basis for social status.

### **Ann-Marie Knoblauch (Virginia Tech), “How to Poke Fun at Cesnola without Even Mentioning His Name”**

In 1882, the humor magazine *Puck* published a story in their summer supplement titled “Captured at Chios.” The fictional narrative describes the archaeological excavation on the Greek island led by arrogant Professor Toreador Corpodibacco, who is accompanied by several sycophantic and buffoonish assistants. The excavations uncover many questionable works of sculpture, some of which are then sloppily patched together, ultimately ending up in America’s “Great American Museum of Archaeology,” at which, as it happens, the sycophantic assistants are directors. Once on display, the team argues whether a random fragment is a toe or a nose. This story, intended to be an amusing summer beach read for *Puck* subscribers, is a thinly veiled poke at Italian-born explorer Luigi Palma di Cesnola and his exploits on Cyprus. In 1882, Cesnola sold his collection of dubiously-acquired Cypriot antiquities to the Metropolitan Museum and was then hired as its first director. Almost immediately Cesnola was involved in a very public scandal involving his intentionally misleading restorations of limestone sculptures acquired in Cyprus. The Met’s Board of Trustees (the buffoonish assistants of the story) looked the other way and stood behind their director. *Puck*’s “Captured at Chios” never mentions the names Cesnola or Cyprus, but the author’s intentions are obvious and, furthermore, the story is only funny if the reader is familiar with the Cesnola scandal. This *Puck* story illustrates the extent to which Cesnola’s Cypriot sculpture scandal became a topic of household conversation in the 1880s.

## **8B. Landscapes of Settlement in the Ancient Near East**

CHAIRS: Emily Hammer (University of Pennsylvania) and Jesse Casana (Dartmouth College)

### **Elise Jakoby (Dartmouth College), “Agricultural Landscapes at the Mesopotamian-Zagros Interface: Long-Term Land Use Histories in the Upper Diyala Region”**

The upper Diyala River region—located between the well-watered Shahrizor plain, the Zagros highlands, and the irrigated plains of lower Mesopotamia—is an environmentally diverse and agriculturally complex area. The region’s steep environmental gradient, coupled with a settlement history going back to the Pre-Pottery Neolithic, makes it an opportune location within greater Mesopotamia for exploring the long-term dynamics of human-environment relationships.

This presentation discusses the results to date of the Sirwan (Upper Diyala) Regional Project’s (SRP) investigation of agricultural landscapes. Satellite, drone, and ground-based remote sensing analyses reveal a patchwork of land-use features and preservation conditions in the region. Results shed light on the diversity of agricultural strategies along the Diyala watershed during the mid- to late Holocene and represent a complementing link between to Adams’s (1965) work in the lower Diyala and the recent work in the Shahrizor plain.

### **Reed Goodman (University of Pennsylvania), Davide Nadali (Sapienza Università di Roma), and Andrea Polcaro (University of Perugia), “The Evolution of Tell Zurghul’s Landscape in the Mid-Holocene and Its Historical Implications”**

Scholars working in the tradition of cultural ecology have long imagined that southern

Mesopotamia's deltaic setting allowed for the development of complex and densely settled communities at precocious rates. To test the validity of this view with high chronological and spatial control, a geoarchaeological research program has been initiated, including coring in coordination with the analysis of newly declassified HEXAGON imagery and high-resolution topography modeling from UAV and TanDEM-X sources at and around the site of Tell Zurghul, ancient Nigin, in the Lagash region of ancient Iraq. This 50 ha tell once sat where an interior delta debouched into an interconnected network of marshes, estuaries, and sea, providing Zurghul with early and easy access to waterborne commerce and transportation, exemplified by recently excavated temple precincts dating to the fifth and fourth millennia B.C.E. This project's palaeoecological data allow us to hypothesize that as the Tigris-Euphrates delta migrated towards its present position, pushing the head of the Gulf farther south from sites like Zurghul in the east and Eridu in the west, cities to the north usurped primacy. In the case of the Lagash territory, the center of power switched from a maritime port to increasingly upstream marsh and river cities. This paper presents these new datasets, discussing them in the context of the Lagash state's transition from a coastal to riverine landscape, while grounding the conversation in past and current archaeological work in the region.

**Mehrnoush Soroush (Harvard University) and Jason Ur (Harvard University),  
“The Quest for More Water: The Story of the Karez Water Systems on the Erbil Plain”**

This paper presents the results of our research on the *karez* (*qanat*) infrastructure of the Erbil Plain, defined within the broader framework of the Erbil Plain Archaeological Survey (EPAS). The project's goals are to document all visible remains of *karez* systems via remote sensing and/or field survey, to understand when the *karez* technology was adopted on the plain, and to trace the development of the *karez* landscape from its origins to the late 20th century A.D. We have created a high-resolution map of *karez* infrastructures, using CORONA and HEXAGON satellite imagery and U2 aerial photography. Recently we have begun to use drone photogrammetry to investigate the *karez* landscape. Textual sources inform us that *karez* were abundant on the Erbil plain at the end of the twelfth century C.E. Dating the physical remains of *karez* is difficult because they were usually in use for a long time and often originated far from the settlement(s) that they served. We are pursuing a heuristic method for inquiring the date of the relict *karez* systems. We will investigate their potential association with dated settlements, examine their morphology, and investigate possible textual sources that can shed light on the history of individual *karez* systems. Finally, we describe how the construction of the *karez* infrastructures have impacted the preservation of earlier land-use patterns.

**Rocco Palermo (University of Groningen), “Settlements, Demography, and Land Use between the Neo-Assyrian and the Parthian-Sasanian Periods in Mesopotamia”**

Ancient empires transformed physical and cultural landscapes with planned infrastructures, colonization processes, and administrative centralization. These might be archaeologically visible on a regional scale, in particular for peripheral and non-core areas. This scenario is well recognizable in Mesopotamia, and in particular in the period between the late seventh century B.C. and the early centuries of the common era. The

collapse of the Neo-Assyrian Empire (612 B.C.), the end of Neo-Babylonian rule (539 B.C.), and the political hiatus of the Persian period were followed by renewed centrality for Mesopotamia in the Seleucid (ca. 310–100 B.C.) and Parthian (ca. 100 B.C.–200 A.D.) periods. Seleucid rulers established a colonial panel in Babylonia, invested in urbanization, and fostered extensive irrigation features. This urban landscape is counterbalanced by a progressive and intense ruralization in the former heartland of Assyria. Recent archaeological survey projects show a densely occupied region in these periods. In this talk, I will compare urban/rural development, demography, and land use in Mesopotamia with the support of legacy data from central and southern Mesopotamia and new datasets that I have collected in the past years within the framework of the Erbil Plain Archaeological Survey (Harvard University) and the Land of Nineveh Archaeological Project (Udine, Italy), both in the Kurdistan Region of Iraq. I investigate the possibility of determining a strategic top-down intervention of imperial authority not just in city foundations but also in reorganization of the rural landscape.

**Uri Davidovich (The Hebrew University of Jerusalem) and Ido Wachtel (The Hebrew University of Jerusalem), “Modelling Pastoral Nomadism: A Regional Archaeological Study of Bedouin Exploitation Patterns in the Judean Desert”**

Ethnoarchaeological studies of sub-recent pastoral nomads in the southern Levantine deserts have focused on the analysis of individual encampments, using intra-site patterning of architectural features and artifactual remains as keys for decoding ancient sites associated with pastoral societies. A high-resolution field survey conducted in the southern Judean Desert (Masada and Wady Seiyal region) between 2010–2012 offers a new perspective on regional exploitation patterns of semi-nomadic pastoralists. During this survey, ca. 200 sites belonging to several site types (encampments, stations, single-vessel deposits) were identified in random samples of 25 ha scattered across the harsh, arid landscape. Over 80 percent of those sites were dated to the Late Ottoman and British Mandate period, representing the last wave of pastoralism in this region. Spatial analysis and locational modelling of the survey results demonstrate distinct spatial preferences at the regional level, in clear correlation with the regional west-east environmental gradient and with potential resources related to pastoral subsistence economy. Our study thus provides a well-based regional model that can be used for comparative investigation of past exploitation patterns of pastoral nomadic societies in the arid regions surrounding the Levant.

**8C. Cultural Heritage: Preservation, Presentation, and Management III**

CHAIRS: Glenn J. Corbett (Council of American Overseas Research Centers) and Suzanne Davis (University of Michigan)

**Pedro Azara (Universitat Politècnica de Catalunya) and Tiziano Schürch (Eidgenössische Technische Hochschule Zürich), “Building on (and with) Ruins”**

Once exposed, archaeological sites need to be protected. In some cases, shelters are built to partially or totally cover a site. Additional structures, like museums or interpretive centers, visitor access trails, or excavation field houses, are built to meet the needs of various audiences and stakeholders. All these requirements need the intervention of an



architect. New site interventions have to be planned (and built) with extreme care for the antiquities, which are often fragile and poorly preserved, especially when ancient building materials have deteriorated. In designing a site master plan, what are the best criteria to evaluate the design and technical specifications for new constructions? And how will these new constructions relate to and interact with the archaeological remains? Similarly, how do we best integrate new constructions with a site's ancient remains, not only to protect the antiquities but also to focus attention on them? Should the focus be on creating mimetism or contrast, should we use ancient techniques or modern building practices, and how and in what context do we adopt one approach over another? Within Middle Eastern archaeology, we must address these theoretical and practical questions as sites become increasingly impacted by political instability, management and conservation plans, and expanded tourism potential. This paper will focus on these challenges, offer possible lines of investigation, and provide a few examples of architectural site intervention for future consideration.

**Mohammad Bataineh (Politecnico di Milano), “Protecting Jordan’s Traditional Architecture in Light of Current Legislation—Challenges and Perspectives”**

Jordan’s traditional village architecture has undergone a rapid transformation since the Late Ottoman period, as traditional architectural typologies were abandoned in favor of modern styles. Combining these stylistic transformations with dramatic urban expansion and significant population and demographic shifts, much of Jordan’s traditional village architecture has been demolished to make way for commercial and residential development. Other villages have been vandalized or simply neglected and fallen into disrepair.

Influenced especially by Late Ottoman houses in Jerusalem and Beirut, Jordan’s traditional village architecture is characterized by its design and building materials, especially courtyard houses that made frequent use of vaults to support long halls and open spaces. Though these houses are no longer in use, they live on in the memory and minds of Jordanians, reminding them of an earlier, more traditional time and their connection to the land. This architecture also symbolizes a critical era in Jordan’s history, when the country and its people were undergoing significant political, economic, and social change.

The aim of this paper is to investigate why Jordan’s antiquities law, first established in 1922, has failed to protect this architecture from destruction, and will discuss and analyze additional legislation that has been created and its suitability for implementation. The result will provide scholars, researchers, and site managers with a better understanding of the challenges related to protecting this architecture.

**Mohammad El Khalili (Hashemite University) and Nizar Al Adarbeh (Tarmeem Center for the Preservation and Conservation of Cultural and Natural Heritage), “Cultural Heritage as a Driver for Economic Growth through Participatory, Community-Based Tourism: The Case of Matan Heritage Village in Jordan”**

During the last decades in Jordan, many traditional villages have been abandoned, with rural populations increasingly moving to urban areas and abandoning farms that are

suffering from desertification and lack of water. Tourist development and local awareness of the importance of cultural heritage for economic opportunities, however, are changing local attitudes about the potential of these abandoned heritage sites. Located near Tafilah in southern Jordan, Matan Heritage Village is a very interesting example of a traditional village that was abandoned in the 1980s as villagers moved away to nearby towns that offered more services and space for growth. Though having since suffered from a number of deterioration factors, the village is well known for its breathtaking natural landscape and very rich history, having first been inhabited by the Edomites and then later by the Nabataeans. This paper presents a case study of an applied cultural resource management project that seeks to restore and rehabilitate Matan Heritage Village through a tourist development model that directly engages the local community and their tangible and intangible traditions in the preservation of the site's cultural and natural landscape. The project, which is funded by the Embassy of the Kingdom of the Netherlands in Jordan, highlights the role of heritage as a key driver of sustainable economic growth and the critical importance of a fully participatory process that activates the role of the community.

**Mohammad Al Azaizeh (The University of Jordan-Aqaba), “Preservation vs. Use: Comparing Tourism Stakeholder Value Perceptions toward Petra”**

Heritage sites are shared by different stakeholders who may attach different meanings to them, meanings that often lead to different interpretations and uses. Tourism stakeholders play a critical role in developing and planning sustainable tourism plans. However, little research has been done to investigate the value perceptions that tourists have towards the heritage sites they encounter. Using Jordan's Petra Archaeological Park as an example, this paper addresses the value perceptions that tourism stakeholders have towards the archaeological park. It aims to understand how different tourism stakeholders value the park and investigates whether and to what extent differences exist. This study provides useful and practical information for both heritage management professionals and Jordanian and international academics engaged in sustainable tourism.

**Shelley-Anne Peleg (University of Haifa), “The Impact of Conservation Procedures in the Old City of Akko”**

In recent years, the built heritage in the Old City of Akko has been a platform for national conservation studies and a stage for implementing conservation strategies, techniques, and measurements. Sites and traditional homes in the city have undergone intensive development under strict conservation procedures.

The Old City of Akko is situated on a peninsula on the northern coast of Israel alongside a natural harbor, which made it a center of trade in ancient times. Twice in its history, Akko became an international city: in the 13th century, as the capital of the Latin Kingdom of Jerusalem, and in the 19th century, under the Ottoman ruler, El-Jazzar Pasha. Despite the many years that have passed, evidence from these periods remains. At the same time, modern life continues within the city. The main challenge is to enable development of modern life while preserving the archaeological remains and the historical city.

Conservation in the Old City of Akko is implemented through an official management plan. This plan defines unique space, values, building rules, restrictions, and guidelines for construction. This paper will present the impact that these procedures have on the archeological sites in the Old City. It questions the recommended conservation techniques, measurements, and procedures for Akko, as well as the scale of the interventions and how they are implemented. It also asks if these procedures have changed, improved, or even hindered the city's preservation.

#### **8D. Interdisciplinary Approaches to Seals, Sealing Practices, and Administration**

CHAIRS: Sarah J. Scott (Wagner College) and Oya Topçuoğlu (Northwestern University)

##### **Holly Pittman (University of Pennsylvania) and Stephen Tinney (University of Pennsylvania), "Ninurta's Return to Nippur: A Visual Text of the Early Dynastic Period from Nippur"**

An impression of an extraordinary cylinder seal was found in an unreported context during the first Babylonian Expedition to Nippur by the Penn Museum in 1889. The well-preserved image depicts a two-register scene showing five gods of the Sumerian pantheon above a mythological scene with gods and a variety of hybrid creatures. The sealing was first published by Louis Legrain in an inaccurate drawing. In 2005, a new drawing was commissioned and a study ensued which revealed that the seal impression is a pictorial rendition of the returning warrior god mythologies typified by Ninurta's Return to Nippur. This paper will argue on stylistic and iconographic grounds for an Early Dynastic date for this seal and will present the rationale for the identification of the imagery. If correct, this visual document is the earliest attestation of a myth whose earliest textual reference is the turn of the second millennium B.C.E.

##### **Joanna S. Smith (University of Pennsylvania; The John and Mable Ringling Museum of Art), "Object Marking vs. Object Sealing: The Problem of Stamped Loom Weights"**

When is use of a seal to make an impression not a sealing? What is the difference between marking and sealing? Seals impressed in clay or wax were used in administrative and legal contexts, where they sealed either literally by securing an object and its contents or figuratively by creating a binding contract. However, seals could also be used to make a mark in clay, on skin, or on fabric that did not always have bureaucratic intent. One case where there may be a fine line between sealing and marking is when people stamped clay loom weights before firing. In Classical- and Hellenistic-period Cyprus people normally made a single mark on an individual weight, a practice known from the Near East to Greece, rather than multiple impressions, which was common in Italy. The maker of an impression stamped the upper or side surface of a weight. At times the same seal was used on multiple weights; at others each impressed weight reveals the use of a different seal. This paper highlights new evidence for seals used in connection with weaving at Palaepaphos (Kouklia), Marion (Polis Chrysochous), and Kourion (Episkopi), considering the significance of impressions as sealings in relationship to weight and fabric standardization and as marking in connection with

personal identity. It considers original sets of tools, object reuse, and overlaps with inscribed weights. It draws on calculations of the fabrics woven with these objects and the forms and intaglio designs of the rings and other stamp seals.

**Anne Goddeeris (Ghent University), “Just A Matter of Formality: The Sealings in a File of Old Babylonian Harvest Laborer Tags”**

The sealings that will be discussed in this paper are impressed on a number of tiny, nearly cube-shaped tablets (ca. 2 x 2 x 1.5 cm). These documents only contain the name of a harvest laborer and the date, and are all drafted between the 23rd and the 30th of the 12th (harvest) month of Samsuiluna’s tenth regnal year. Impressions of three different cylinder seals cover the surface of the tags.

The cylinder seals are larger than the tablets on which they have to be rolled, and therefore it is very difficult to attribute them to the respective seals. Also, at the time the tags were drafted, it must have been impossible to identify the seals that were rolled on them. Indeed, this cannot have been the purpose of the sealing impressions. The different seals are distributed unevenly over the various tags: none of them is compulsory, and tags may be sealed with any number of different seals.

This paper will investigate the administrative function of these sealings. If they are not impressed to identify the sealing party, why are they impressed at all? The various possible functions of sealing will be critically addressed in view of this administrative practice.

**Steven Donnally (Hebrew Union College-Jewish Institute of Religion), “Hezekiah’s Seals: Implications of Iconographic Variation”**

In 2009, Eilat Mazar’s excavations in the royal quarter of the Ophel uncovered a bulla of the Judahite king Hezekiah. While a number of such bullae have been known for some time from private collections and the antiquities market, this is the first discovery of a bulla or seal of a Judahite or Israelite king in a licensed excavation. A significant feature of this bulla, and of the others, is the Egyptian or Egyptianizing iconography. One group shows a two-winged scarab. The second group, including the excavated bulla, has a winged solar disk with three rays emanating above and below it, flanked on each side by *ankh* hieroglyphs. The existence of these two types of seals is paralleled by contemporary *lmlk* seal impressions on jar handles which depict either a two-winged scarab or a winged solar disk with rays above and below. While various suggestions have been made as to the reason for the two types of seals, this paper will argue that, whatever the reason, the iconography of both types combine the ideas of life and divine protection. The continuity of ideological content indicates that the Judahite(s) responsible for the selection of the designs were not just familiar with these Egyptian hieroglyphs but understood them well enough to make an equivalent substitution.

**8E. Maritime Archaeology**

CHAIR: Caroline Sauvage (Loyola Marymount University)

**Huixin Sha (University of Haifa) and Michal Artzy (University of Haifa), “Late Bronze Age Cypriot Trade Networks as Perceived from the Haifa/Akko Bay and the Carmel Coast”**

Sturt Manning wrote in a 2002 article dealing with the Maroni Area in Cyprus that “a number of underwater surveys have taken place around the coast of Cyprus revealing evidence of sea travel and the transport of goods in many periods, both prehistoric and historic. And of course, archaeological, historical and literary evidence testifies to ample maritime links between Cyprus and other polities throughout history,” yet there is a dearth of evidence from actual anchorages or proto-harbors for the second millennium in Cyprus itself.

We propose that the anchorage of Tell Abu Hawam, abutting the Carmel Ridge on its northern side, situated on or in the estuary of the Qishon River in the Haifa/Akko Bay, is a fitting correspondent to the (so-far) absent Cypriot Bronze Age anchorages. The anchorage was excavated utilizing a geomorphologic stratigraphy made possible by the interchange of coastal sediment and riverine deposits in major natural episodes during the Late Bronze Age. Analyses of the imported ceramics found in the bottom of the anchorage, within the stratigraphic frame, (such as the White Slip Ware and others) lend an additional tool for the understanding of trade networks originating in Cyprus. Following the demise of the anchorage, the small anchorage site of Tel Nami suggests vicissitudes occurring during the Late Bronze Age.

**CANCELLED:**

**~~Chris Monroe (Cornell University), “Moveable Feast: Reading the Commensal Politics of a Bronze Age Shipment”~~**

~~The Uluburun shipwreck assemblage is often integrated into broader discussions of trade modalities and Mediterranean connectivity. Here the subset of feasting equipment and comestibles from the wreck is examined as a window into the commensal politics of the Late Bronze Age. Applying a theoretical assemblage owed to Turner, Helms, Appadurai, and Dietler, the drinking equipment in particular may be conceptualized as a reconstruction of the elite cosmos, or “floating Paris.” The shipment, already understood as a capsule of the international flavor of the times, also provided the means whereby the authority of such distant knowledge could be literally and figuratively consumed and absorbed through commensal practice. The banqueting assemblage thus reveals another means by which maritime traders—as liminal experts—could exert transformative agency within an eastern Mediterranean *koiné*~~

**Meir Edrey (Tel Aviv University; University of Haifa), “Shipwreck or Sunken Votives: The Underwater Site of Shavei Zion Revisited”**

In the early 1970s a cache of hundreds of figurines, as well as pottery vessels and other notable finds, was found in an area spread over 1.5 km off the coast of Shavei Zion, located in northern Israel. Although no evidence of a ship were noted, save for a lead anchor weight, the excavators maintained this was the site of a shipwreck dated to the fifth century B.C.E. However, a reexamination of the relevant pottery retrieved from the site seems to suggest a broader chronological range that spans the seventh–fourth centuries B.C.E., which would indicate a long period of maritime activities rather than a

single cataclysmic event. Furthermore, while the figurines were presented in preliminary publications as a cohesive collection of figurines representing the goddess Tanit, based on emblems attributed to her that were imprinted on the body of the figurine, the reality is more complex. Although the figurines do display homogeneity in terms of production technique and general motif, they also demonstrate a high degree of variability in the size, posture, position of the limbs, headdress, and artistic style. Such heterogeneity does not seem to fit the profile of a merchantman's cargo, which usually displays consistency in its transported wares. Therefore, I maintain that the cultic nature of the finds and the long period of use could indicate that the underwater site of Shavei Zion represents ritual deposits of votive offerings cast into the sea, perhaps in order to secure a successful voyage in the Mediterranean.

**Anthony Tamberino (University of California, San Diego), Assaf Yasur-Landau (University of Haifa), and Thomas E. Levy (University of California, San Diego), “Three-Dimensional Mapping of Archaeological Remains in Land/Sea Transition Zones for Cultural Heritage Monitoring and Preservation—A Case Study from Tel Dor, Israel”**

The primary goal of this three-year study was to explore the limitations of integrating terrestrial, underwater, and drone-based aerial Structure from Motion (SfM) imaging (photography), to create three-dimensional (3D) computer models of the surface archaeological features where the land meets the sea. The anticipated factors which influenced the survey methodology were the sea conditions, time of day, and the tides. The resultant survey at Tel Dor, Israel collected 25,395 images, of which 9,986 were aerial drone images, 9,259 were underwater images, and 6,150 were images taken from the ground. These data, collected in 2017, 2018, and 2019 at Tel Dor, provide a three-dimensional, highly accurate, georeferenced snapshot of archaeological features in the land/sea transition zones 1) prior to restoration, 2) after restoration, and 3) after the archaeological remains and interventions were exposed to aggressive surf from winter storms. When compared, these data provide documentation of coastal erosion to both the restored and the unrestored archaeological remains in the land/sea transition zones. These data will be shared with the local parks authority as a reference to future restoration and preservation efforts. This digital recording methodology provides an important workflow for applying cyber-archaeology to marine environments beyond the applications in this case study.

**8F. Archaeology of Anatolia**

CHAIR: James F. Osborne (University of Chicago)

**Christopher Roosevelt (Koç University), Peter Pavúk (Charles University), and Peter Demján (Czech Academy of Sciences), “Middle and Late Bronze Age Kaymakçı: New Data for Chronology and Connectivity in Western Anatolia”**

Excavations at Kaymakçı on the shore of Lake Marmara in Manisa province, Turkey, have uncovered stratified remains associated with defensive, domestic, storage, and other features over five seasons of excavation under the Kaymakçı Archaeological Project

(KAP) since 2014. Even before excavation, surface finds suggested dates in the second millennium B.C.E. that are now confirmed by excavated ceramics.

While ceramic evidence allows for a local periodization of Middle Bronze Age and Late Bronze Age phases at Kaymakçı, a regionwide re-evaluation of synchronisms and connections across second-millennium B.C.E. western Anatolia is still needed, similar to the ARCANÉ project's goal for the third millennium B.C.E. Imported, locally produced, and imitated Mycenaean decorated wares provide relative sequences for the narrow strip of coastal western Anatolia, yet they have decreasing utility further inland. Absolute dates on samples from Troy, Aphrodisias, and Beycesultan also provide certain chronological anchors, yet they are few and far between. Here we report the results of the first sets of Bayesian radiocarbon analyses of samples from selected stratified levels at Kaymakçı, providing absolute dates for local ceramic developments.

The results broadly confirm recent analyses of ceramic development in western Anatolia, situating the local assemblage among existing data and highlighting Kaymakçı's cultural connections. Considering the periodization of the larger geographic area, we provide definition to the western Anatolian Middle Bronze Age and argue for inclusion of the 17th and 16th centuries B.C.E. in the western Anatolian Late Bronze Age, matching the widespread appearance of various Gray Wares.

**Sharon R. Steadman (SUNY Cortland), Gregory McMahon (University of New Hampshire), and Jennifer C. Ross (Hood College), "5000 Years of Lifeways at the Çadır Höyük Community: Results of the 2019 Study Season"**

After 25 years of nearly continuous excavations, the Çadır team engaged in a study season in 2019. The 2017–2018 excavation seasons were designed to answer many of the questions generated in the previous seasons of work. The accumulated data from our three primary periods of investigation, the Late Chalcolithic (fourth and early third millennia B.C.E.), the second–first millennia B.C.E., and Byzantine period (first and early second millennia C.E.), were analyzed in 2019 with satisfying results. This paper will present our insights into the life of the residents of this rural, enduring, community in these three target periods, each of which see dramatic changes in the world around them. Highlights include how Late Chalcolithic and Early Bronze Age residents weathered the substantial socioeconomic changes of the later fourth millennium and early third millennium B.C.E., how residents responded to the collapse of the Hittite Empire, and how the changing fortunes of the Byzantine Empire impacted those living in this community so distant from the machinations of Constantinople. The study season allowed us to concentrate on material culture data that significantly adds to the more immediately accessible architectural data retrieved from each season of excavation. A more comprehensive picture of 5000 years of lifeways of the Çadır Höyük community can now be presented.

**Güzin Eren (Boston University), "Lydian Ideology Materialized: The Fortifications of Sardis in the Iron Age"**

Ideological messages are disseminated through a wide variety of channels, among which monumental architecture is one of the most prominent. Architecture communicates power

ideologies via size and scale of investment, extent of labor mobilization, elite place-making, spatial organization of royal structures, and placement of visual media within buildings. In this paper, I discuss messages relayed by the use of specific architectural elements and design principles of Iron Age fortifications at Sardis, the capital of the Lydian Empire. As one of the most ambitious building projects in Anatolia, the sheer size of these fortifications manifests the Lydian rulers' emulation of Mesopotamian imperial monumentality, but there is more to their message than size alone. The selective use of architectural elements that are rooted both in and outside of Lydia proper, including Neo-Assyrian-style limestone masonry, Cycladic Lesbian-style masonry, and Anatolian-style mud brick reinforced by wooden beams and stone foundations, typical of the Late Bronze Age defensive systems, all combined in a single structure, emphasizes the Lydian rulers' ties to inherited architectural traditions, as well as their interest in connecting to the customs of subsumed territories and neighboring polities. This eclectic architectural arrangement crowned the capital and demonstrated the self-actualization of Lydian imperial power, displayed as a conscious bridge between the East and the West.

**Arkadiusz Marciniak (Adam Mickiewicz University in Poznań), “The Neolithic Megasite and Its Environs: The Case of Çatalhöyük”**

Studies of the Near Eastern Neolithic remain focused upon settlements and their constituent elements. The corresponding research agendas address issues such as internal space organization, domestic and public architecture, spatial relations between houses, burial practices, and the like. Consequently, the portrayed picture of life at the Neolithic settlement is inevitably unbalanced as it leaves the use and exploitation of the zone around the settlement as well as different areas further afield unexplored. The research project at Çatalhöyük was a representative case of this research strategy.

This paper aims at presenting preliminary results of the renewed work at Çatalhöyük focused upon social geography of the settlement neighboring zone and the character of relations of local groups to the local environment. In particular, it will address the exploitation of the offsite and the edge of settlement zone with an aim of investigating the relationships between them and the settlement itself. This focus will make it possible to recognize the character of existence of the Neolithic community at Çatalhöyük in its full complexity.

**Stephen Batiuk (University of Toronto) and Timothy P. Harrison (University of Toronto), “The Tayinat Archaeological Project: The Challenges of Integrating Legacy Data with Ongoing Field Research”**

Tell Tayinat is a 40 ha site located in the Amuq Valley of the Hatay province in southeastern Anatolia. Now well understood to be Kunulua, the capital of the Neo-Hittite city-state Palastin/Walastin and later Patinu/Unqi, it has been the focus of excavations by the University of Toronto since 2004. Investigations in the north central part of the mound have found remains dating from four major periods of occupation: Iron Age III, Iron Age II, Iron Age I and EB IV. This paper discusses the results of the work done over the past two seasons (2018–2019), as well as the continued work on the publication of the original excavation by the University of Chicago in the 1930s, and examines the changes



in our understanding of the occupational sequence and the spatial organization of the site.

**Michael Johnson (University of Chicago), “Crafting Culture at Alalakh: The Late Bronze Age Metallurgical Industry”**

This paper presents preliminary results of optical microscopic and compositional analyses of slags and metal artifacts excavated from Areas 1 and 4 at Tell Atchana, ancient Alalakh, with an eye toward shedding light on our fragmentary understanding of Late Bronze Age metallurgical practice. Despite the widespread narrative that the Late Bronze Age was a period of technological revolutions in large-scale copper production and the first reliable production of iron, archaeometric evidence for these phenomena comes from only a handful of sites in Cyprus and the Levant, while the textual record is largely silent on issues of production. Given the significance of both of these developments in discussions surrounding the development of wealth economies, territorial states, and increases in human productive capacity, a thorough and detailed consideration of local technological systems is necessary. The selected contexts for the present study embody two very different types of social environment at Tell Atchana, with the former representing the Royal Precinct, originally excavated by Sir Leonard Woolley, and the latter being a segment of the lower mound. New excavations in these areas have revealed several workshop contexts with ample evidence for metallurgical activity, ranging from slags and casting spill to finished objects, spanning the entirety of the Late Bronze Age. In line with recent work conducted in eastern Anatolia, the results of these analyses suggest that a substantial revision of intensification-focused narratives of technological development is in order and the role of small-scale productive enterprises must be reassessed.

**8G. Archaeology of Egypt III**

CHAIRS: Kerry Muhlestein (Brigham Young University) and Krystal V. L. Pierce (Brigham Young University)

**Gary Greenberg (Biblical Archaeological Society of New York), “Enoch and Sothis: Is There a Connection between Genesis Chronology and Egyptian King-Lists?”**

This paper offers evidence that several dates within the 2,300-year birth-death chronology in Genesis can be aligned on an exact year-to-year correlation with the so-called High Egyptian Chronology for dynastic starting dates. If this thesis is valid, it resolves several debates over which chronology most accurately reflects Egypt’s historical record, which, in turn, helps resolve other chronological debates in Middle Eastern and Mediterranean societies. It also provides a tool for expanding our ability to establish precise Egyptian dates for political events that still lack sufficient data.

This paper will review the chronological importance of Egypt’s 1,460-year Sothic cycle as an anchor for Egyptian dating, and what problems and arguments exist with respect to how that cycle is used to calculate Egypt’s chronological history. The paper will then look at the issue of dating the sequence of births and deaths in Genesis by first focusing on the 365-year lifespan of Enoch and argue that his death date points to the accepted starting date for an Egyptian Sothic cycle. The paper will then assign dates to the Genesis

births and deaths based on their chronological distance from Enoch's death date and show several alignments between these Genesis dates and the High Chronology starting dates for several Egyptian dynasties. Implicit in this study is that the author of the Genesis chronology used ancient Egyptian archives to create his chronological record and that the traditional Jewish Creation date of 3761 B.C.E. derives from the Sothic dating used to establish the Genesis chronology.

**James D. Moore (Humboldt-Universität zu Berlin), “Newly Found Elephantine Aramaic Papyri in Berlin from the German Excavations of 1906–1907”**

In 2014 the East and West Berlin museums' Egyptian manuscript collections were merged in the newly built Archaeological Center. During this move an uncatalogued box of nearly 1,000 papyrus fragments was discovered, all of which are provenanced to the German excavations of Elephantine by Otto Rubensohn and Friedrich Zucker over 100 years prior (1906–1907). The box contained over 800 Aramaic papyri fragments, and work is now underway to publish digital and printed editions of these texts. Establishing their provenance required both philological and material analysis along with a detailed review of museum records and excavation reports. The review of the excavators' published diaries and early reports has brought to light a number of observations that stand in contrast to common perceptions of the published Aramaic documents from the site. These new observations lead to a more complex view of the history of the Persian-period Aramaic documents and objects and have implications for future discussions of the history of the Aramaic sources and of the people who wrote, read, and used them.

**Marwan Kilani (Charles University; Swiss National Science Foundation), “Egyptian Group Writing: A New Proposal”**

The so-called group writing or syllabic orthography is a special orthography used in Egyptian hieroglyphic texts starting from the New Kingdom/Late Bronze Age. The nature and function of this orthography, especially the way it notates vowels, has been a topic of debate for more than a century, without any consensus being reached. In this paper I present a new interpretative model that provides a fresh and coherent explanation of how the syllabic orthography notates vowels. My research started from a critical reanalysis of previous suggestions and from a total reassessment of the evidence. I then inferred the functioning of the system by comparing the group writing spelling of Late Egyptian words surviving in Coptic with the reconstructions of their vocalization as it can be inferred from Coptic. As I will show, this approach allowed me to recognize a system based on five basic principles, which not only coherently explains all the spellings attested in the corpus, but which also agrees with current reconstructions of the Egyptian vocalization.

A preliminary description of my research was presented in April at Brown University, and a description of the model has been peer-reviewed and accepted for publication in *Lingua Aegyptia Studia Monographica*. In the present paper I will first introduce the model, and then provide examples of how it can be used to study the vocalization of both Egyptian and foreign words.

**Nassef Abdelwahed (Grand Egyptian Museum), and Nagm El Deen Hamza (Grand Egyptian Museum), “Dating the Colossal Queen’s Statue from Bubastis based on Iconographic and Stylistic Features”**

During the 2001–2002 excavations at Bubastis by a joint Supreme Council of Antiquities (SCA) and the University of Potsdam (Germany) mission, fragments of a granite colossal statue of a queen were discovered in the court of Osorkon I near the entrance of the temple complex. This paper discusses the various methods of dating the queen’s statue and which method can be taken into consideration as a principle way of dating. Major dating methods to be considered are identifying the original owner of the statue from inscriptions, and similarity to other colossal statues. The allegedly original part of the inscription, the list of the king’s titles and names on the back pillar, contains a Horus name *M3at-Ra(.w)*. Kings for whom the Horus name *M3at-Ra(.w)* is attested are Thutmose I, Ramesses II, and Siamun. Of those three the most probable candidate to have ordered a colossal statue for his queen is of course Ramesses II.

The inscription may not solve the problem of the original owner of the statue, however. A careful and complex analysis of some minor stylistic and iconographic details, discussed in this presentation in detail, testifies that the statue was produced long before the reign of Ramesses II.

**8H. Prehistoric Archaeology II**

CHAIR: Yorke M. Rowan (University of Chicago)

**Yorke Rowan (University of Chicago), Gary Rollefson (Whitman College), Alexander Wasse (Yeditepe University), Morag Kersel (DePaul University), Chad Hill (Dartmouth College), Brita Lorentzen (Cornell University), Jennifer Ramsay (The College at Brockport), and Blair Heidkamp (The University of Texas at Austin) “Late Neolithic Buildings at Wisad Pools, Jordan”**

During the 2018 season of the Eastern Badia Archaeological Project in the eastern Black Desert of Jordan, two Neolithic buildings were excavated. Although excavations were initiated at a new structure attached to an enclosure, presumably a pen, our primary focus was centered on completing the excavations of a large building complex, W-80. This building had been excavated during two previous seasons, and the depositional history proved both longer and more complex than we had originally anticipated. In this paper we present the highlights of the earlier deposits, structural changes, and finds of the building.

**Ian Cipin (University of Haifa) and Jennie Ebeling (University of Evansville) “A Weighty Matter: ‘Digging Stick’ Weights from Late Neolithic Tel ‘Ein Jezreel”**

Perforated stone artifacts with a distinctive elongated shape are identified as digging stick weights, anchors, flywheels, and more in reports of excavations at Late Neolithic and Chalcolithic sites in the southern Levant. An unusually large collection of some 75 of these artifacts excavated at Tel ‘Ein Jezreel during the 2013–2018 field seasons offers a unique opportunity to study aspects of the form and function of this enigmatic tool type. As is the case with those collected elsewhere, nearly all of those uncovered at Jezreel are

broken laterally; some show clear evidence of having been broken on purpose. In this presentation, we review the published examples of these artifacts, offer insights gleaned from ethnographic and ethnoarchaeological studies of similar tools, and report on the initial results of a use-wear study of the Tel 'Ein Jezreel assemblage. We suggest that these artifacts represent the earliest evidence for basalt artifact manufacture at the site and argue that the earliest inhabitants were attracted to not only the perennial water source and rich agricultural land, but also the highly-visible basalt outcrop upon which the site was founded. We also suggest some possible explanations for the intentional breakage of these exceptionally well-carved and -finished basalt tools.

**David Eitam (Independent Scholar) “What Was the Impetus for a Sudden Settling of Foragers into Sedentary Settlements? The Natufian Case (15,000–11,500 Cal BP)”**

What was the impetus behind the sudden move of the Natufian people, recognized as hunter-gatherers (15,000-11,500 cal BP), into sedentary settlements? This question is crucial for understanding the Natufian culture, as well as the shift to a sedentary lifestyle by other hunter-gatherer societies.

The improved environment and increase in population during the Levantine Late Epipaleolithic do not seem to have been an impetus towards permanent settlement. Comparisons with contemporary societies are weak analogies because such societies may have been influenced by neighboring agricultural or pastoral societies.

In order to address this critical question, I will first sketch out our current understanding of the characteristics of the culture and its sequence of events. Second, I will discuss the scarcity of botanical finds that hamper our understanding of the essential socio-economic details of Natufian culture. Despite the recent discovery of the earliest remains of Natufian bread at the early Natufian site of Shubayqa 1 and meals made from cereals and legumes in the late Natufian Raqefet Cave, the limited botanical evidence continues to be an obstacle. Third, I will discuss how the study of stone artifacts, which are found in large quantities at many sites, may help to solve this riddle. The results of our study indicate that Natufian people invented an agri-technological system that produced a variety of cereals foods including bread. I will discuss this evidence and suggest that the Natufians were food-producing societies and not hunter-gatherer. Finally, I will suggest that the shift from a hunter-gatherer subsistence strategy into a food-producing economy was the impetus for the sudden transition into sedentary settlements by the Natufians.

**Chantel White (University of Pennsylvania), Kevin McKain (University of Pennsylvania), Liv Nilsson Stutz (Linnaeus University), Aaron Stutz (Emory University), and Eleni Asouti (University of Liverpool) “A New Assessment of Macrobotanical Preservation and Recovery: Results from the Early Upper Paleolithic Site of Mughr el-Hamamah, Jordan”**

The Mughr el-Hamamah (MHM) cave site, located on the Jordan Valley's eastern flanks, contains a single prehistoric layer associated with Early Ahmarian artifacts. AMS C14 dates bracket the Early Upper Paleolithic (EUP) occupation between ca. 45–39 ka cal BP

and are comparable in age to Ahmarian-associated layers in Kebara and Manot Caves. Recent excavations at MHM have revealed a rich assemblage of carbonized wood, nutshell, and seeds. In addition to phytolith sampling, a comprehensive macrobotanical sampling plan was carried out during the 2017 excavation season to collect plant material and to compare two techniques typically used by archaeobotanists to recover macro-remains: flotation and dry-screening. Over 500 L of cave sediment was floated and dry-screened, and these samples were then microscopically sorted and analyzed at the Center for the Analysis of Archaeological Materials at the University of Pennsylvania. Comparative assessment of the carbonized seeds (predominantly small-seeded legumes) and nutshell recovered in the light fraction, heavy fraction, and dry-screened sub-samples has provided detailed information about the rates of macrobotanical recovery from MHM, as well as how techniques such as flotation can result in uneven specimen fragmentation and loss. This research project builds upon previous studies to quantitatively assess recovery techniques and to consider how best to approach very old and fragile assemblages of macrobotanical remains, especially those that might be damaged through traditional large-scale flotation operations.

## **8I. Trade, Economics, and Polity in Tenth-Century B.C.E. Southern Judah/Canaan (Workshop)**

CHAIR: Jeffrey A. Blakely (University of Wisconsin–Madison)

### **James W. Hardin (Mississippi State University), “Interactions Beyond the Hesi Region during the Iron Age I and Iron Age II”**

Recent excavations in the different regions of southern Israel at both newly and previously excavated sites are providing a better understanding of this region during the Iron Age I/II transition. When information from these excavations is combined with that from earlier expeditions, many data become available for addressing the processes whereby states/kingdoms formed sometime in the Iron Age II. In this presentation, some of these old and new data are brought to bear on late Iron Age I/early Iron Age II remains from Tell el-Hesi, particularly its tripartite buildings, and Khirbet Summeily’s large non-domestic building. The intent is to use these data to understand better the way(s) these two settlements may have been integrated into larger socio-political and economic networks made up of both settled and mobile locals who, at this time, may have coalesced into larger and more integrated political entities.

### **Erez Ben-Yosef (Tel Aviv University), “Metal Economy in the Tenth-Century B.C.E. Southern Levant: Regional and Global Perspectives”**

The central role of metal in the economy of the tenth-century B.C.E. southern Levant has become evident as a result of various studies conducted recently at sites from this period by different research groups. The surveys and excavations in the copper ore districts of the Aravah Valley (Faynan and Timna), which reveal that local southern Levantine production peaked in the tenth century B.C.E., are only a few of a growing number of studies related to metal production and trade at this time. These include studies on bronze, iron, and silver, as well as local and regional trade routes related directly to metals. In this presentation, a

synthesis of published results will be presented as a basis for discussion of the place of metals in shaping socio-political processes at the turn of the first millennium B.C.E.

### **9A. Interconnected Communities in the Eastern Mediterranean and Western Asia— The Third to Early Second Millennium B.C.E. I**

CHAIRS: Nadia Ben-Marzouk (University of California, Los Angeles) and Amy Karoll (University of California, Los Angeles)

#### **Walter Crist (American Museum of Natural History), “The *Ludic Lingua Franca*: Games and Interconnections in the Ancient Near East”**

In the ancient world, as today, games facilitate interaction between individuals. Ethnographically, it has been shown that games often serve as a way for people to gauge trustworthiness between one another. The consequences of this assessment then inform the relationship between those people in subsequent interactions. This paper will explore the concept of a *ludic lingua franca*, whereby particular games are popular cross-culturally, making intercultural interaction easier. The distribution of such games mirrors economic interactions, suggesting that they were used to build personal relationships between people who engaged in economic transactions.

During the third millennium B.C.E., there appear to have been two spheres of interaction in the Ancient Near East with their own preferred shared games: the Eastern Mediterranean, with the Egyptian game *Senet* shared between Egypt, the Levant, and Cyprus, and one spanning Mesopotamia, Iran, Central Asia, and the Indus Valley, where the Royal Game of Ur was popular. However, during the second millennium B.C.E., these games were only played in Egypt and Mesopotamia, respectively. At about the same time as this change, the Game of 58 holes, also known as “Hounds and Jackals,” first appeared and rapidly spread throughout the region, including the Caucasus, Egypt, and regions in between, only to decrease in popularity by the Late Bronze Age, when the game “20 squares” became an international game. The changes reflect different mechanisms for the use of gameplay as a social lubricant. This paper explores the mechanisms by which games spread to new cultures and facilitate interconnections between cultures.

#### **Karin Sowada (Macquarie University), “Egypt in the Levant during the Late Third Millennium B.C.”**

Despite political changes at the end of the Old Kingdom, archaeological and textual evidence reveals that state-sponsored Levantine maritime expeditions continued into the long reign of Sixth Dynasty king Pepy II (ca. 2278–2184 B.C). The data show Egyptian engagement with multiple locations in the Levant involving transactional commodity procurement, diplomacy, and cultic activity. In particular, the central Levant continued its relationship with Egypt through the key port of Byblos, contact with a long history stretching back to the late fourth millennium B.C. With the decline of the urban complexes in the southern Levant, a more nuanced situation emerges with the advent of an extended EB IV/Intermediate Bronze Age ca. 2500 BC.

Border management along north Sinai is evident in the titles of officials, and resurgent copper mining activity in the Wadi Feinan may be directed at Egypt. The Sixth Dynasty military activity of Weni (ca. 2300 B.C.) likewise requires reassessment. With the political fragmentation of the First Intermediate Period, evidence for Levantine engagement sharply declines. This likely represents an actual cessation of royal expeditions but the quantity and quality of data is uneven, especially for the Hierakleopolitan kingdom of northern Egypt. The apparent withdrawal of the Egyptian state from Levantine exchange routes had the effect of decentralizing exchange mechanisms to more informal and highly localized direct or down-the-line networks. This may have fragmented the long-term dynamic of international trade despite the reemergence of expeditionary activity with the rise of the Egyptian Middle Kingdom ca. 2050 B.C.

**Caroline Arbuckle MacLeod (University of British Columbia), “Dwelling of the Gods, Throne of the Goddesses: The Significance of the Cedar Trade in Egypt and the Near East”**

In some of the earliest burials in Egypt that might be considered “royal,” fragments of cedar were found among other prestigious, imported materials. From that point on, this timber, imported from the Levant, was considered valuable and desired by the king and the elite. The popularity of cedar becomes much more visible towards the end of the Old Kingdom (ca. 2200 B.C.E.) and into the Middle Kingdom, when we see a greater proportion of the population acknowledging the high status associated with this material. It is also at this time that religious associations of cedar with the king and the god Osiris become more prominent, and reflect the attitudes and beliefs seen in the Near East. In this paper, I discuss the movement of both cedar timber and the social and religious significance of cedar trees from the Levant into Egypt. The ideas that Egypt imported would transform how the Egyptians viewed wood in general, and would have lasting repercussions for both woodworking technology and Egyptian religion, visible through to the Greco-Roman era.

**Jordan Galczynski (University of California, Los Angeles), “Textiles in Transit: Emergent Exchange Networks and Evolving Provincial Fashion in Middle Egypt ca. 2000–1850 B.C.E.”**

The late third millennium B.C.E. was characterized by a true explosion in the scale of both production and distribution of textiles throughout the eastern Mediterranean world. Concurrently, new technologies like the warp-weighted loom and crescent-shaped weights were transmitted across various cultures. Contrary to traditional scholarship, Egypt was not ignorant of such networks, but was in fact an active participant by the beginning of the Middle Kingdom. It is at this time that we see a high number of depictions of weaving installations in tomb scenes and as models in the mortuary assemblage. Such material serves to convey the growing economic importance of textiles to the Egyptian elite. This is best exemplified by the regional governors of Middle Egypt who served as key players in this emergent exchange network. In turn, this gave these men a marked level of independence within the Egyptian state.

This paper argues that these governors were able to maintain such power due to their control over and access to both local and interregional trade networks. Additionally, these exchange networks were influential to such a degree that they impacted the provincial fashion of these local leaders as evidenced in their tomb depictions. I argue that these depictions show a Near Eastern style of dress relating to these men's international interactions. Thus, the evolving provincial fashion exhibited in these regional governors' tombs serves to display the importance of the textiles trade, and its influence over these individuals' identities in the growing international economy.

**Danielle Candelora (University of California, Los Angeles), “Power, Politics, and Identity: Hyksos Manipulation of the Middle Ground”**

The late third through early second millennia B.C.E. were characterized by waves of West Asian immigrants moving into the Eastern Delta of Egypt, creating a complex landscape of interconnectivity between Egyptians and various West Asian groups. In an effort to understand the entangled nature of these encounters, studies have focused on the rich archaeological evidence for hybridity and cultural blending, yet few have questioned the political strategies of the emerging elites who ruled this cultural borderland. Indeed, most investigations have emphasized the ways in which the Hyksos seem to have Egyptianized, and fail to account for the numerous examples in which they actively maintain their foreign identities. Instead, I apply Richard White's Middle Ground Theory to elucidate the conscious identity negotiations employed by the Hyksos as savvy political moves to best rule their hybrid, interconnected Delta context. First I will review the evidence for the apparent “Egyptianization” of the Hyksos, reframed as a Middle Ground effort to appeal to their Egyptian subjects. Then I will present short case studies spanning titulary evidence and administrative practice to demonstrate how the Hyksos negotiated their West Asian origins and Egyptian identity to exploit both local traditions and long-distance networks of power. Finally, because cultural misunderstandings are inherent to Middle Ground interaction, I will explore a potential misunderstanding between these West Asian immigrants and their Egyptian neighbors which resulted in one of the most iconic practices of the Egyptian New Kingdom.

**9B. Archaeology of the Black Sea and the Caucasus**

CHAIR: Lara Fabian (University of Freiburg)

**Siavash Samei (University of Connecticut) and Andranik Gyonjyan (National Academy of Sciences of Armenia), “Pastoralism and the Organization of Prehistoric Societies in the South Caucasus”**

Investigating human-livestock interactions is a powerful tool that provides critical insights into the organization of Neolithic and post-Neolithic societies. How animal husbandry as a subsistence adaptation shaped the economic and social organization of communities, and how pastoralists modified their natural and built environments, negotiated access to resources with farmers and other pastoralists, and shaped the long-term trajectories of human development depended on their herd mobility strategies and production goals. Decisions regarding herd mobility and production are informed by specific social and environmental variables, including demographic pressures, farming



intensity, climatic factors, and environmental carrying capacity. These decisions are directly reflected in the structure of herds and herd management strategies. Thus, investigating herd management strategies can provide us with critical insights into the type of demographic and climatic factors that may have shaped social and economic dynamics in the past. In this paper we synthesize existing zooarchaeological data from across the South Caucasus and examine them using a number of zooarchaeological indices, including relative taxonomic abundance, sheep-goat ratios, and cattle and caprid survivorship and mortality data, to explore long-term trends in herd management strategies in the prehistory of the region spanning the Neolithic, Chalcolithic, and Early Bronze Age (ca. 6000–2500 B.C.). The long-term diachronic focus of this paper allows us to detect patterned variations in herd structure and animal exploitation through time, corresponding with periods of major climatic change and cultural turnover.

**Nicola Laneri (Center for Ancient Mediterranean and Near Eastern Studies; University of Catania, Catania, Italy) and Bakhtiyar Jalilov (Azerbaijan National Academy of Sciences), “A Preliminary Report on the Archaeological Work of the Ganja Region Kurgan Archaeological Project (GaRKAP)”**

The GaRKAP (Ganja Region Kurgan Archaeological Project) is a joint Azerbaijani-Italian project in western Azerbaijan that aims at investigating the spread of the tradition of burying the dead in large funerary chambers covered with circular tumuli (i.e., kurgans) in the southern Caucasus during a period ranging from the fourth to the first millennia B.C.E.

This paper will present the results of the first two seasons (2018 and 2019) of the archaeological work performed in the two areas investigated by the project: directly north of the modern city of Ganja (i.e., the northern section of the Heydar Aliyev Park), where numerous kurgans of the Late Bronze and Early Iron Ages are located; and the steppe region of Uzun Rama along the valley of a creek affluent of the Kura river in the Goranboy district where the preliminary reconnaissance survey has identified ca. 230 kurgans dating back to the Kura-Araxes period as well as to a Late Bronze/Early Iron Age archaeological phase.

**Maureen Marshall (University of Illinois at Urbana-Champaign), “The Bioarchaeology of the Gegharot Kurgans: Preliminary Results”**

Between 2005 and 2016, Project ArAGATS team members excavated six monumental tumuli, or kurgans, outside of the village of Gegharot in the Tsaghkahovit Plain, Armenia. These kurgans are noted for their elaborate construction and the sumptuous deposition of rich materials and faunal remains interred alongside the deceased. In form, placement, and some material inclusions, the Gegharot kurgans reflect the Middle Bronze Age (ca. 2500–1550 B.C.), a period where archaeological remains are limited to kurgan burials and a few, mainly ephemeral, sites in the South Caucasus, suggestive of a highly mobile lifestyle. However, the presence of Lchashen-Metsamor ceramics and the results of radiocarbon analysis date the Gegharot kurgans in Late Bronze Age (1550–1100 B.C.), a presumably more sedentary period replete with fortress architecture and numerous smaller “cromlech” burials that contained fewer materials and were constructed on the slopes of the surrounding mountains. The Gegharot kurgans thus create an intriguing

question: who were these people in Late Bronze Age society and the communities of the Tsaghkahovit Plain? As a step towards addressing this question, this paper examines whether the differential treatment in death of the Gegharot kurgan individuals was a reflection of a different lived experience. Using the preliminary results of bioarchaeological analysis, including analysis of age, sex, non-metric traits, and disease, I compare the Gegharot kurgan individuals with other Late Bronze Age populations. These analyses provide the foundation for a contextual interpretation of the lived experience of the individuals interred in the Gegharot kurgans.

**Hannah Lau (Koç University), Lara Fabian (University of Freiburg), Jeyhun Eminli (Azerbaijan National Academy of Sciences), Selin Nugent (University of Oxford), and Emil Iskenderov (Azerbaijan National Academy of Sciences), “Lerik**

**Azerbaijan-America Project 2019: Regional Perspectives on LIA Highland Life”**

The work of the collaborative Azerbaijani-American “Lerik Azerbaijan-America Project” (LAAP) explores a highland landscape in the Taliş Mountains, an archaeologically understudied space in the south of Azerbaijan. Previous work here has revealed a rich mortuary landscape spanning the Late Iron Age (Antik, or Hellenistic and Roman-Parthian periods). This is best exemplified by the large necropolis of Piboz Təpə, excavated since 2012 by Jeyhun Eminli (Azerbaijan National Academy of Sciences). Comparatively little previous work in the region, however, has focused on understanding where and how those interred in necropoleis like Piboz lived. Since 2016, LAAP has investigated the lifeways of one such population through archaeological survey and excavations of settlement and agricultural features in the valley system surrounding Piboz. Previous seasons’ work resulted in the excavation of one domestic structure in close proximity to and occupied contemporaneously with the necropolis—the first systematically excavated non-mortuary context from this period in the region.

This presentation describes the results of the 2019 fieldwork season during which we expanded our knowledge of ancient inhabitants’ lifeways. This phase of our fieldwork grows beyond the earlier work at Piboz, investigating other candidates for settlement sites within the valley system. Our goal is to develop a comparative perspective on micro-regional patterns, as ancient inhabitants negotiated with both the physical environment of the Taliş highlands, and the sociopolitical environment of a region at the edges of large pan-regional political entities: the Achaemenid Empire, the Hellenistic world, and the Roman and Arsacid empires and later regional powers.

**Lauren Ristvet (University of Pennsylvania), “Domesticating Power in the South Caucasus in the Iron Age and Classical Periods: Archaeological Investigations in Naxçıvan, Azerbaijan”**

Most excavations in the Caucasus have focused on imposing hilltop fortresses or rich cemeteries, many of them characterized by kurgan mounds. Few excavations, particularly in the Iron Age and later periods, have focused on settlements. As a result, although we have a good idea of how power, status, and ritual were materialized, particularly by the elite, we know very little about how most people lived. How did differential access to political power affect the lives of ordinary people? Did political inequality affect housing

or diet? Did individuals ignore, reproduce, or contest unequal relationships in their everyday lives?

Recent excavations in Naxçıvan—at the fortress site of Oğlanqala—have investigated settlement dynamics and their relationship to political authority in the South Caucasus during two periods, the Middle Iron Age and the Classical period. Fieldwalking and magnetometry survey of the fields around Oğlanqala have found evidence of an extensive boundary wall and sherd scatters, possibly related to Iron Age farmsteads or pastoral camps. Excavations in 2019 will target this area and investigate the nature of Iron Age domestic life near this fortress. Similarly, magnetometry survey and earlier excavations have exposed several small houses and a small sample of one large “villa” dating from ca. 200 B.C.E.–200 C.E. Further excavations in 2019 will target this villa and investigate spatial variation in domestic life in this small Classical-period town.

### **9C. The Early Bronze Age in the Southern Levant: New Discoveries and Implications from the Greater Hesi Region and Beyond**

CHAIRS: Kara Larson (Mississippi State University) and Geoffrey Ludvik (University of Wisconsin–Madison)

#### **Geoffrey Ludvik (University of Wisconsin–Madison), “The 1973 Excavations of Field IV at Tell el-Hesi: A Final Report”**

During the 1973 campaign of the Joint Archaeological Expedition to Tell el-Hesi, a small probe was excavated in Field IV of Tell el-Hesi. A 2 m by 2 m square trench was placed in the modern agricultural fields surrounding the acropolis at Tell el-Hesi to its west with the express goal of determining the vertical extent of the stratified remains on the western terrace of the lower city and their chronological character. The excavations, which lasted only from July 31 to August 9, 1973, were supervised by John Peterson and excavated by Mike Hammond, Jeff Schwartz, and Lydia Newcombe with support from Frank L. Koucky and reached a maximum depth of 2.25 m, but not the end of cultural deposits. The Field IV probe revealed a narrow but good stratigraphic record preserving evidence of Early Bronze Age domestic activity within a house structure as well as evidence for non-sedentary activities in the lower city in subsequent periods heavily disturbed by modern plowing. However, the discoveries from Field IV were never published by the Joint Expedition and remained unanalyzed until the present. This paper will provide a final report on Hesi’s Field IV, emphasizing evidence for late EB IIIA occupation in Tell el-Hesi’s lower town and interpreting later activity in the vicinity. The stratigraphy, material culture, ceramic corpus and its parallels will be presented to provide a thorough discussion of the evidence from Field IV and its relationship to larger questions of chronology and different patterns of cultural occupation at Tell el-Hesi.

#### **Erika Niemann (Mississippi State University), “Tell el-Hesi: A Test Subject for the New Paradigm of the Early Bronze Age Chronology and the Implications on the Regional Narrative”**

Traditionally, we archaeologists artificially bracket segments of time into different eras or

periods by lumping and splitting the material record into these parcels of time in which each segment is characterized by a trait list. We do this for convenience.

Recently scholars have proposed a new chronology for the Early Bronze Age and the third millennium B.C.E. Evidence used to suggest such a shift in chronology are C14 dates from sites in the southern Levant that come from archaeological strata believed to be from an era in the millennium in question. Tell el-Hesi, a site in the northern Negev of modern-day Israel, is known to have had a large EB III occupation, which is traditionally understood to range from 2700–2300 B.C.E. Presently, two C14 samples have been processed. These were taken from strata in which phasing correlates to the EB III material record at neighboring EB III centers.

The C14 dates from EB III contexts at Hesi have thus far not been readily available or included in the mass of data for the southern Levant. Tell el-Hesi provides a way to test the new paradigm by utilizing both relative and absolute dating methods at a major site in the southern Levant that has not been previously integrated into the chronological model. This paper presents preliminary implications of accepting the new paradigm for the framework of understanding Tell el-Hesi and the Greater Hesi region during the EB III. It further adds to the growing collection of C14 dates used to reshape the narrative of settlement in the southern Levant.

**Kara Larson (Mississippi State University), Sara Cody (Mississippi State University), and James W. Hardin (Mississippi State University), “From the Herd to the Dinner Plate: Contextualizing Butchery Practices from Early Bronze Age III Tell el-Hesi”**

Archaeological excavations from Tell el-Hesi have shed light on the EB III city’s economic presence as a vital grain-producing and trading center. Materials from the EB III occupation are evident from multiple phases and fortification walls across several excavated fields. Along with grain production, animal husbandry was a main industry for the settlement, and an abundance of faunal remains from EB III contexts were recovered. The majority of the animal remains originated from Field VI, an EB III residential and domestic area located off of the tell. It has been suggested that Field VI contained local work areas with associated butchery areas in the courtyards, evident by stone slabs and large bone deposits. The faunal remains from Field VI were previously identified in 2006, and several samples were subjected to collagen isotopic analyses. However, additional analyses have yet to be conducted. This paper will further explore butchery practices at Tell el-Hesi by conducting a thorough re-examination of the faunal remains from Field VI to test the assumption of animal processing at the domestic courtyards. Further suggestions will be made regarding differential roles in connection with animal herding and processing activities.

**Sarah Richardson (University of Manitoba), Tina L. Greenfield (University of Saskatchewan), Haskel J. Greenfield (University of Manitoba), and Aren M. Maeir (Bar-Ilan University), “Spatial Distribution and Interpretation of Bone Tools at Tell es-Safi/Gath during the EB III”**

Most studies of activity areas in early urban households focus on architecture,

installations, and a few special finds. Yet, there is a wealth of other informative data that are collected by most excavations. This is particularly true of bone tools, where usually only the best (whole) examples are segregated and listed as special finds, while the majority of fragmented remains are only identified during the faunal analysis and not inventoried with the special finds. Hence, their spatial locations are rarely considered in analyses. In this paper, we explore the implications for understanding activity areas by conducting a spatial analysis of the distributions of an entire bone tool corpus (both special finds and those from the faunal assemblage) from an early urban domestic neighborhood.

The excavation data from the EB III residential neighborhood (Area E) at the site of Tell es-Safi/Gath have been intensively digitally recorded using ArcGIS. An integrative GIS approach provides the opportunity for detailed spatial analysis by both locus and artifact basket, allowing for changes in the spatial distribution of material remains to be recognized and analyzed across the excavation area.

The integration of spatial and artifactual data provides a broader understanding of the behavior. The integration of bone tool data with other archaeological data (architecture, installations, etc.) allows for a greater understanding of not only the faunal material, but also the range of activities associated with the inhabitants of the non-elite Early Bronze Age neighborhood of Tell es-Safi/Gath.

**Jon Ross (University of Manitoba), Kent Fowler (University of Manitoba), Haskel J. Greenfield (University of Manitoba), and Aren M. Maeir (Bar-Ilan University), “Reconnecting Pots with Potters at Early Bronze Age Tell es-Safi/Gath: A New Perspective on Vessel Manufacture for Identifying Production Groups”**

The organization of production in early state societies in the Near East is often assumed to involve the development of specialized workshops. Yet little attention has been paid to the organization of production and service provision in non-elite domestic contexts. In this paper, we use the classification of shaping techniques to investigate the organization of pottery production in an Early Bronze Age non-elite neighborhood in the southern Levant. Rather than limiting the analysis to conventional macroscopic or microscopic approaches, this study uses an alternative method for identifying production groups by classifying traces of vessel shaping on freshly cut sherds. These are scanned at high resolution onto a computer and enhanced using standard photo-editing software to visualize new diagnostics of vessel construction. Continuities and discontinuities in forming techniques provides a reliable index to track the degree to which technological knowledge, skills, and learned behaviors were standardized, routinised, shared, or constrained to 1) particular vessel types in the repertoire; 2) within and between individual households; and 3) across occupational horizons. Data from the Early Bronze age stratum at Tell es-Safi/Gath are employed to illustrate the utility of this approach for identifying “producer specialization” at the spatial scale of the household.

**Marcin Czarnowicz (Jagiellonian University), Ianir Milevski (Israel Antiquities Authority), Yuval Yekutieli (Ben-Gurion University of the Negev), Agnieszka Ochal-Czarnowicz (Jagiellonian University), Jacek Karmowski (Jagiellonian**

**University), and Marcelo Campagno (University of Buenos Aires), “New Implications to the Process of Urbanization and Foreign Relations during the Early Bronze Age in the Southern Levant As Seen from Tel Erani”**

Tel Erani is one of the major Early Bronze Age sites located in the northern Negev. It is known from large-scale excavations carried out by S. Yeivin in the 1950s and 1960s. His work revealed a large EB I occupation as well as part of massive wall of possible defensive character. Unfortunately, the lack of proper publication of the finds led to misunderstanding of the project’s results. Different scholars presented their own interpretations of Yeivin’s research, sometimes denying his thesis, stratigraphy, or even chronological arrangements. Another project, started at the site in the 1980s by Kempinski and Gilead, focusing mostly on the Chalcolithic–Early Bronze Age transition, did not explain all of the aspects of Yeivin’s excavations.

In order to verify previous statements, a new multidisciplinary project was initiated. A joint project of Jagiellonian University in Krakow and Ben-Gurion University of the Negev, established in 2013, has recently been expanded by researchers from the Israel Antiquities Authority and University of Buenos Aires. The aims of the project are to verify the stratigraphy of Yeivin’s excavations, his understanding of the Egyptian presence at the site, and the role of Tel Erani in process of early urbanization.

In our presentation, we would like to focus on results of our field work, especially on the finds from Egyptian building located in area D3. We would also like to discuss the defensive system discovered at the foothill of Tel Erani, dated to the Erani C period, and its implications for understanding socioeconomic processes in the Early Bronze Age southern Levant.

**9D. Archaeology of the Byzantine Near East**

CHAIR: Melissa Bailey Kutner (University of Maryland, Baltimore County)

**Sean Leatherbury (Bowling Green State University), “The Lives of Artists in Late Antique Syria: Epigraphic Evidence from Houses, Churches, and Synagogues”**

Hundreds of carved and mosaic inscriptions survive from the interiors of houses, churches, and synagogues built in greater Syria from the third through the seventh centuries. While these texts have been mined for the raw information that they provide the contemporary archaeologist, historian, or art historian—including names of patrons and patron saints and dates of completion—their mentions of artists, especially mosaicists, involved in the construction and decoration of buildings has been overlooked. This paper uses this rich trove of evidence to reconsider the place of these individuals in their communities. After a brief survey of what the Greek and Syriac inscriptions can tell us about patrons—including their diverse social statuses and the common practice of donation by subscription, i.e., paying for part of a building—the paper focuses on the epigraphic traces of artists in the houses, churches, and synagogues of the region. Some artists, like Zosimos of Samosata, a mosaicist active at Zeugma, “signed” their work, indicating at least a regional level of renown, as well as a degree of itinerancy. However, while traveling masters and their workshops were undoubtedly a feature of the landscape,

other inscriptions indicate that artists were more deeply rooted in their localities. Based on their inclusion in dedications placed in prominent locations within churches especially, this paper suggests that artists were valued members of faith communities and argues for a reconsideration of the categories of “patron” and “artist,” recovering important facets of the lives of late antique artists.

### **Israel Korenfeld (Israel Antiquities Authority), “Mansion or Monastery? Parameters for Differentiation”**

A salvage excavation conducted on a hill on the outskirts of the city of Shoham, Israel revealed a large building that incorporated several rooms built around an internal courtyard and an olive press. Two rooms, paved with a plain mosaic floor, were found in the eastern wing of the building, and fragments of a marble column and ecclesiastical altar-table were found in one of the rooms. The exposed building follows the plan of typical Byzantine farmhouses of the region.

The excavation at Shoham raised the question of how to classify comparable rural complexes: as agricultural estates or rural monasteries. The question of the distinction between farmhouses and rural monasteries is of great interest to scholars. The problem stems from the basic similarity of architecture that includes a set of rooms around a central courtyard. Hirschfeld pointed out three criteria for identification: 1) ecclesiastical remains—fragments of marble, furniture, mosaic and tile fragments; 2) a typical plan—a multi-room structure around a central courtyard; and 3) strategic location.

Based on these criteria, and considering the finds—marble architectural items, chancel columns and a leg of an altar-table characteristic of churches—it can be determined that the structure at Shoham is a monastery that was incorporated into the settlement system of the area. In my talk, I will discuss parameters for differentiating between Byzantine monasteries and agricultural estates based on recent excavations and surveys in the central Israel region. The excavation at Shoham will be analyzed as a case study.

### **Daniel Schindler (Texas Tech University), “Settlement and Trade in Late Roman-Byzantine Galilee: The Evidence from Imported Pottery”**

Ceramic tableware was an integral part of daily life throughout the ancient Roman world; as it is ubiquitous at archeological sites and easily quantifiable, it serves as a valuable tool to investigate the mechanisms of social interaction and the ancient economy. Late Roman Red Wares are a particular group of fine tablewares (i.e., vessels used for serving and consumption of food) covered by a red slip and of a high production quality as compared to locally produced (or common) pottery vessels. They are an excellent reference point to track developments in the direction and volume of trade on a large scale due to four significant traits: they typically follow narrow chronological periods, are easily identifiable in survey and excavation, were widely traded, and do not require contextually secure archaeological contexts for quantitative or qualitative analysis.

Using the sites of Huqoq, Meiron, and Wadi Hamam as case studies, this paper presents an analysis of the published and unpublished pottery evidence, in particular imported red-slipped tableware. It is argued that the ceramic data from these sites present a clear

picture of gradual diachronic shifts in the use and provenance of luxury vessels. The paper concludes with a brief discussion of the potential implications for our understanding of Jewish settlement in Late Roman Galilee with regard to spread of Christianity and economic interactions between Galileans and the Mediterranean.

**Walter Ward (University of Alabama at Birmingham), “In Imitation of Hadrian’: Memory and Urban Construction in the Late Antique Near East”**

An honorific inscription originally set up in Scythopolis (Beth She’an) honors a late fourth-century governor Silvanus: “In imitation of Hadrian, Silvanus the most distinguished and *spectabilis* count and governor has built his own mother city...” Leah Di Segni, who originally published this inscription, questioned to what extent the people of Scythopolis would have known about Hadrian’s building activities in the Near East.

It was under Hadrian that earthquake damage in Antioch and Apamea were repaired. This enabled the completion of the first true monumentalized colonnaded axis in those cities, which were imitated by almost every other city in the Near East. Hadrian personally visited Palmyra and Gerasa, which led to an expansion of both cities. Gerasa’s monumental arch was a visible reminder of Hadrian’s importance to the city. In addition to this, his founding of Aelia Capitolina (and its growth in the fourth century) would have been known to the people of Scythopolis. Thus, when Silvanus rebuilt portions of Scythopolis after the city suffered earthquake damage, he could rightfully claim to have been in imitation of Hadrian. This paper evaluates Hadrian’s impact on the Near East. It seeks to understand what someone from the late fourth century may have known about Hadrian’s building activities, using the structures that would have been extant in the fourth century which dated from the time of Hadrian.

**Marica Cassis (University of Calgary), “Medieval Continuity, Modern Confusion: The Rural Environment in Medieval Anatolia”**

Understanding the development of rural medieval Anatolia during the transformative period of the seventh and eighth centuries C.E. is a daunting task. The material culture for the period has traditionally been poorly or incompletely excavated, and there is still no universal agreement over precisely how the Late Roman world shifted to one more medieval in scope. In part the problem has been exacerbated by the long-held narrative of the so-called Dark Ages, which, although now largely debunked, has left us with a lacuna in the archaeological record. However, more recent work at a number of early Byzantine sites in Anatolia shows that it is possible to capture the material from this period through very careful excavation, and that there was an important and definable change in rural economy and material practice as people adjusted to smaller communities and increased isolation. Excavations at Çadır Höyük, for example, illustrate continuous occupation throughout these difficult years in a settlement characterized by local production and a more vernacular architecture. The change is significant, as it marks the move to a more rural and more local economy—one that would become further developed in the subsequent Middle Byzantine period. It is in these small changes that we can begin to identify the shift from the Late Roman world to the medieval one, and these changes need further exploration if we are to understand the complete story of Byzantine Anatolia.



**Anthony Lauricella (University of Chicago), “The Fortification Wall at Çadır Höyük in its Rural Context”**

Many scholars have noted that the study of Byzantine Anatolia is focused on the remains of monumental architecture, usually located in a handful of urban centers. This leads to an over-privileging of literate, urban, and elite communities and identities in the archaeological record. The paucity of evidence for rural life in Anatolia not only leaves blank spaces on the archaeological map but causes us to attempt to understand rural space in reference to urban space. Consequently, the diversity and distinctiveness of both rural regions and individual rural sites is lost. This paper will present a discussion of the Middle Byzantine fortification wall at Çadır Höyük (Yozgat) as evidence of a distinctive style of defensive architecture. This unique, communally organized project shows a particular community’s pragmatic adaptation to an external threat, and the particular environmental constraints of the region. I propose that this focus on local identity helps locate our site in its immediate context and deepens our understanding of rural Anatolian landscapes.

**9E. Study of Violence from the Region of the Ancient Near East and Its Neighbors**

CHAIRS: Vanessa Bigot Juloux (École Pratique des Hautes Études; Andrews University) and Leann Pace (Wake Forest University)

**Roselyn A. Campbell (University of California, Los Angeles), “Violence and Non-Violence: The Case for Human Sacrifice in Ancient Egypt”**

The occurrence of human sacrifice in ancient Egypt has been much debated by scholars. The primary evidence for human sacrifice in ancient Egypt is derived from the subsidiary burials surrounding the tombs and funerary enclosures of the kings of the First Dynasty, dating to the third millennium B.C.E. First excavated in the early 20th century, these subsidiary graves are constructed simply and tend to contain single inhumations with few grave goods. The original excavators suggested that all of the subsidiary graves, in some cases numbering in the hundreds for a single king, were closed simultaneously, suggesting that those interred did not die natural deaths over time. Such graves appear with the beginning of the First Dynasty and quickly end with the same dynasty. The interpretation of human sacrifice has either been accepted without question or ignored, if not denied.

When considering the social, political, and economic context of the First Dynasty in Egypt, it seems clear that human sacrifice was almost certainly practiced by these earliest kings of Egypt. This paper examines the evidence for human sacrifice in ancient Egypt, combining data from assessment of the physical remains of the supposed victims with textual and artistic references related to the practice. This research explores how and why the practice of human sacrifice in Egypt was initiated and then abandoned, and attempts to understand how the Egyptians themselves would have perceived this practice with regards to royal power and ideology in the fledgling Egyptian state.

**David Falk (Vancouver School of Theology), “Violence in Ancient Egyptian Religious Iconography”**

The iconography of violence in Egyptian religion leads to some profound considerations

of religion in general. The question of violence in Egyptian religion was deemed resolved until the recent discovery of an executed slave beneath the foundation of the temple of Mut at Luxor. The ancient Egyptians featured scenes of wars and prisoner decapitations upon the walls of their temples. The Egyptians portrayed victories of their battles upon the temple pylons and used war metaphors in the explanation of the daily solar cycle. Conventional war became idealized and incorporated into the mythological cycle, becoming elevated through analogical thinking.

This paper will take the approach of evaluating how violence functions in a temple context. The results of this study show that the mythopoeic function of violence is not so much the glorification of violence as much as its recognition of violent times. Violence and violent iconography act as restorative of the cosmographic balance, setting right a world that upsets the balance of the universe out of Maat, “order.” By portraying violence in iconography, the Egyptians were re-enacting the mythological cycle in perpetuity. Thus, violent ritual becomes a vicarious instantiation that restores the world even after the initial causes and use of the actual violence has long ceased.

**Kenton Williams (Trinity International University), “Divine Warfare Imagery in the Ark Narrative: Iconographic Exegesis of 1 Samuel 4–6”**

This paper argues that, in order to best understand the narrative of 1 Samuel 4–6 surrounding the capture of the ark by the Philistines and the ultimate victory of Yahweh, it is helpful to view it in light of comparable iconographic representations of warfare in the ancient Near East. When viewed in this light, Yahweh is neither capable of manipulation by the Israelites, nor a captive of the Philistines in the temple of Dagon, but a warrior slaying his enemy in very descriptive terms that ancient readers of this narrative would have recognized.

**Robert Kashow (Brown University), “The Violent Imagination: The Agency of Representation in Zechariah’s Seventh Vision”**

This paper will further theorize understandings of violence by looking beyond modern ethnographies to include data from an ancient society—namely, ancient Judah, via a text they produced—and by considering a category of violence which to my mind is yet to be investigated—namely, violence depicted in a dream/vision. I will do so by using the seventh vision within the book of Zechariah as a test case. The prophet recounts a violent scene from his vision in which a woman, who represents a particular wicked act that the prophet’s audience was practicing, is victimized. Here I will argue that the prophet was being politically tactical: by crafting a metaphysical/otherworldly act of violence by means of a prophetic vision and not performing a physical act of violence, the prophet was able to accomplish some of the things violence typically accomplishes—e.g., ideological persuasion, shame of a victim, disaffiliation from a particular practice, creating the threat of future (physical) violence—while eschewing escalation and complete social and political disaffiliation, which are typically consequences that accompany a violent act.

**Anthony SooHoo (Pontifical Biblical Institute), “The Presentation of Violence in Ashurbanipal’s Royal Historiography”**

Violence communicates symbolically and has a surplus of meaning that goes beyond the threat or imposition of harm. Often, the exercise of violence and its representation embody and convey power relations. Accounts of violence can be employed in the articulation of identity and the creation (or destruction) of cultural memory. Frequently, they were incorporated in the historiography of the Neo-Assyrian rulers for these purposes. Ashurbanipal's scribes and craftsmen documented his victory over the Elamites at the Battle of Til Tuba in both visual and written media at different times during his reign. This event occupies a central place in versions of his royal inscriptions composed early on during his reign. Moreover, episodes of violence directed against defeated Elamite officials feature prominently in these accounts. In Ashurbanipal's royal self-presentation, the characterization of the enemy and the accounts of violence directed against them contribute to a narrative of divine justice and vengeance. This paper will explore the strategies used in the narrative to justify royal violence and to express power relations. The leitmotif of beheading the enemy links the various episodes of violence in the narrative and provides the lens through which the Neo-Assyrian conflict with Elam is interpreted. Historical and political circumstances, namely Assyria's setbacks in Egypt, conditioned the way that accounts of violence were strategically employed in the construction of royal self-presentation in Ashurbanipal's narrative.

**Josephine Verduci (University of Melbourne), "Death and Intentional Destruction in the Ancient Near East"**

Although some breakage or damage might be the result of post-depositional disturbance, certain objects offer conclusive evidence for intentional destruction. Most often, such destruction manifests as the breaking, bending, or burning of objects. Deliberately damaged objects from the southern Levant have often been viewed as the result of an Aegean or Anatolian influence, although the archaeological record clearly indicates that intentional destruction was a widespread phenomenon that is associated with a range of contexts. The presence of incised markings on objects might indicate additional evidence for destruction, but while these markings call attention to the objects, their symbolic meaning is not readily apparent.

In this paper, I present four explanations for the damage to, and marking of, metal objects. These explanations include 1) ritualistic aggression to maintain harmony in the community; 2) the transferal or substitution of impurity on behalf of the individual or the community; 3) the creation of a symbolic link between the object and its owner; and (4) a symbol of suffering. Based on these discussions, I attempt to address whether local or foreign conventions governed these practices, and whether we can view incised markings as ritual acts.

**9F. Houses and Households in the Near East: Archaeology and History I**

CHAIR: Laura Battini (French National Center for Scientific Research [CNRS]; Collège de France)

**Elizabeth Stone (Stony Brook University), "Houses and Households in the New Excavations at Ur"**

The Isin-Larsa and Old Babylonian houses excavated at Ur by Woolley show that households differed considerably in how much they invested in domestic architecture. This can be measured by the widths of walls and rooms and by the number of courses of comparatively expensive baked brick used in the lower parts of walls otherwise made of mud brick. Since 2015 we have been excavating in two domestic areas adjacent to Woolley famous neighborhood AH: Area 3 is a large, well-built house with extensive use of baked brick which, according to an associated tablet archive, was owned by a general in the early second millennium. Area 4 has early Old Babylonian levels with some of the narrowest walls and room widths and the fewest baked brick courses of all the contemporary houses at Ur. In short, these two areas are at opposite ends of the spectrum of architectural elaboration. The Spring 2019 field season will explore the earlier history of these areas by deepening the soundings and exploring architecture, artifacts, and plant and animal remains from the Ur III period. Our exploration of Ur III domestic remains and comparison of the materials from the Isin-Larsa period is intended to produce an assessment of the degree of continuity and/or change in broader society that accompanied collapse the powerful Ur III state and the emergence of the less centralized polity that followed it at Ur.

**Kim Shelton (University of California, Berkeley; Archaeological Society of Athens), “Late Bronze Age ‘Houses’ at Mycenae: Domestic and Industrial Complexity in the Palatial Period”**

This paper presents current archaeological work and ongoing research of the excavation at Mycenae, Greece of “Petsas House,” as a case study for the often large-scale architectural complexes that occur in the settlement of the palatial center. The building, destroyed late in the 14th century B.C.E. (Late Helladic IIIA2 period), was used for habitation, ceramic production, and large-scale storage and is one of the few examples of multi-use space in a palatial settlement during this period of expansion and centralization on the Greek mainland and in the broader Mediterranean world. Other structures such as the so-called “Ivory Houses” exhibit the same kind of architectural and functional complexity during the 13th century B.C.E. at Mycenae, indicating a diachronic phenomenon.

The paper examines the physical remains, artifacts, and ecofacts recovered and the preliminary findings of the evidence for the social and economic life in a settlement context, including its relationship to the palatial citadel, especially through the examination of the evidence for ceramic production on an industrial scale in a domestic structure, and the demographics of a workshop and storage facility in the settlement of Mycenae. The creation and organization of space for a multi-use structure is considered, especially the technical details that provide information for modes of production, organization of inventory, and individual elements of style. Finally, I analyze the relationship to the settlement, to the palace and its centralized administration, and to the world of trade, all within the social dimensions of production.

**Paul Zimansky (Stony Brook University), “Houses and Households in Seventh-Century Urartu”**

The textual record has predisposed scholars to look for evidence of planned communities in the highly militaristic kingdom of Urartu, but recent excavations reveal a quite different picture. Domestic architecture at Ayanis, the only site at which the whole extent of settlement around an Urartian citadel has been explored, indicates that the urban environment was characterized by a great variety of residential structures. Some of these may well fall into the category of state-organized barracks while others seem to have housed large, independent households. Evidence for planning and cultural uniformity, so often presumed in Urartu, is conspicuously lacking. This paper will illustrate the range of house types by presenting the results excavations conducted between 1997 and 2009 currently being prepared for publication.

**CANCELLED:**

**~~Margreet Steiner (Independent Scholar), “A Closer Look: The Houses on the Southeastern Hill of Jerusalem in Economic Perspective”~~**

~~Since the 1990s household archaeology has become an integral part of archaeological research in the Levant. For the Iron Age II in Israel most research has been directed to the smaller provincial towns such as Tell en-Nasbeh, Tell Halif, and Beer Sheba.~~

~~Surprisingly, the city of Jerusalem has not yet been touched by this research, although some 17 Iron Age II house complexes with some 50 rooms were uncovered by Kenyon and Shiloh, most of which have been published. Jerusalem’s evidence shows that there is a difference between the houses in the small towns and the capital’s houses. Many dwellings seem to have functioned not only as living quarters but as workshops or shops as well. And unlike the house configuration in the smaller towns where complexes of several houses joined walls and courtyards, the Jerusalem houses stand alone, with streets between them. This may be caused by the steep slope on which these houses were built, or it may indicate a different function of the buildings and/or a different composition of the households inhabiting the houses.~~

~~My interest lies specifically in the economic life of the inhabitants of Jerusalem and in the function of the city in the local, national, and global economic system of the later Iron Age. This paper will address some of the questions that investigating houses and household of Jerusalem may put forward.~~

**9G. The Archaeology of the Kurdistan Region of Iraq I**

CHAIR: Jason Ur (Harvard University)

**Antonietta Catanzariti (Smithsonian Institution), “Recent Excavation Research at Ban Qala in the Qara Dagh Valley of Iraqi Kurdistan”**

Located in the Qara Dagh Valley of Iraqi Kurdistan, Ban Qala has been the subject of archaeological research by the Qara Dagh Regional Archaeological Project (QDRAP) team since 2017. The valley, which is generally associated with the Darband-i Gawra relief, also known as the “Naram-Sin relief,” was surveyed in the 1940s by Iraqi archaeologists and in 2015 by the QDRAP team. There, 22 sites have been documented,

ranging from the 6th millennium B.C.E. to the 18th century C.E. The surveys in the valley and the excavations at Ban Qala have revealed a long occupation history that has improved our knowledge on this scarcely explored region.

This paper will present the results of the 2017 and 2018 seasons, which focused on the excavation of Ban Qala's southern slope to reconstruct its stratigraphic sequence, and on the upper mound to expose the site's third-millennium occupation levels. Preliminary studies on the material culture exposed and collected indicate that Ban Qala, during the Late Chalcolithic period (ca. 4500–3100 B.C.E.) was part of the same cultural environment of the settlements located in the neighboring northern regions that were engaging in interactions with the south. These settlements, however, produced and retained their own material culture. The excavation of the third-millennium levels, with the exposure of a pottery waste, has improved our knowledge of the ceramic typology of the Qara Dagh Valley region. Future research will focus on exploring more of the Late Chalcolithic and later occupation levels in the lower mound.

**Jesse Casana (Dartmouth College) and Claudia Glatz (University of Glasgow),  
“Where Is Everybody? The Paradox of ‘Missing’ Historical Time Periods in Survey  
Data from the Upper Diyala/Sirwan River Valley, Kurdistan Region of Iraq”**

Archaeological survey in the upper Diyala/Sirwan river valley undertaken as part of the Sirwan Regional Project from 2013–2019 has documented more than 500 archaeological sites across a wide range of environmental zones in this previously poorly known region. While the survey has recovered a robust record of settlement in most periods from the Pre-Pottery Neolithic to the present, several key phases, including the Early Bronze Age/Early Dynastic period and the Iron Age/Neo-Assyrian period remain poorly evidenced, with very few recognizable occupations in the entire region. The apparent absence of evidence for settlement during much of the third and first millennia B.C. could be interpreted as either a result of an actual depopulation and abandonment, or could alternatively be the product of our incomplete knowledge of highly regionalized, idiosyncratic material culture assemblages that can be characteristic of isolated communities. This paper presents our efforts to resolve the paradox of “missing” historical periods in the upper Diyala region and more broadly discusses the relevance of these issues to interpretation of regional surface survey data in the Near East and beyond.

**Claudia Glatz (University of Glasgow) and Jesse Casana (Dartmouth College),  
“Colonial, Local, In-Between? Recent Excavations in the Upper Diyala/Sirwan  
River Valley”**

The Sirwan or upper Diyala river valley forms a critical communication and transportation corridor connecting lowland Mesopotamia with the Zagros highlands, and features prominently as a contested political space in the historical record from at least the mid-third millennium B.C.E. Since 2013, the Sirwan Regional Project has explored this strategic highland-lowland borderland using a combination of regional archaeological survey, remote sensing, test soundings and large-scale excavations. From 2016, excavations focused on the Khani Masi site cluster, a sprawling series of low mounds covering more than 50 ha, which was occupied primarily during the second millennium B.C.E. In 2019, we started large-scale excavations at the fourth-millennium

B.C.E. site of Shakhi Kura. Both sites show strong material culture connections with Mesopotamia. This paper presents the results of ongoing excavations at Khani Masi and Shakhi Kura and begins to explore the long-term thematic of recurring colonial encounters and how they may have shaped the region's cultural identity and relationship with Mesopotamia and the Zagros highlands over time.

**Glenn Schwartz (Johns Hopkins University), “Kurd Qaburstan 2019: Recent Results at a Second-Millennium B.C. Urban Site on the Erbil Plain”**

In the 2019 field season, excavation and geophysical survey were conducted by a team from Johns Hopkins University at Kurd Qaburstan, a 109 ha urban site south of Erbil in the Kurdistan Region of Iraq. The main focus of attention was the second millennium B.C. (Middle Bronze Age) occupation, when the site achieved its maximum dimensions and was circumvallated. Excavation results included evidence derived from large-scale architecture on the northern slope of the high mound as well as from investigations of an apparent monumental temple on the lower town, in addition to other areas. Radiocarbon results as well as continuing research on ecofactual remains will also be discussed.

**Petra Creamer (University of Pennsylvania) and Jason Ur (Harvard University), “Middle Bronze Age Settlement Patterns in Upper Mesopotamia: A Perspective from the Erbil Plain”**

The Middle Bronze Age (ca. 2000–1500 B.C.) has been characterized as a time of shifting socio-political factions within the ancient Near East. This is particularly true of Upper Mesopotamia, where control of cities and countryside alike shifted between “tribal” polities known to us through historical and archaeological material. The Erbil plain is one of the most densely occupied regions in Mesopotamia, comprised of a 3,200 sq. km area stretching from the greater Zab in the northwest to the hilly regions in the south and east. During the Middle Bronze Age, self-governing settlements were brought under the hegemony of developing kingdoms and alliances, undoubtedly affecting patterns of subsistence and settlement.

Using a combination of remote sensing and surface artifact collection, the Erbil Plain Archaeological Survey (2012–2018) has been able to identify over 500 archaeological sites in this region. Using the results of this fieldwork (including data from the 2019 season), this paper presents a broader view of the shifting settlement patterns of the Erbil plain during the Middle Bronze Age. This research has the potential to elucidate the effects of socio-political events on the landscape and settlement strategies of those residing within the Erbil plain specifically, and Upper Mesopotamia more broadly. These data are then compared to settlement patterns of both periods book-ending the Middle Bronze Age to further understand the effects that different phases of power expansion and contraction had on the growth and occupation of settlements.

**Andrew Creekmore III (University of Northern Colorado), “A Magnetometry Study of Urban Form and Space at Middle Bronze Age Kurd Qaburstan, Iraq”**

In Upper Mesopotamia the Middle Bronze Age (ca. 2000–1600 B.C.E.) marked the regrowth of cities following the decline or collapse of cities at the end of the Early Bronze Age. Researchers question the degree of continuity in urban space across these

periods and some have suggested that Middle Bronze Age cities were “hollow,” containing relatively small built-up areas alongside large areas of unbuilt space. In this model, powerful rulers with great aspirations built city walls around vast areas but urban growth failed to fill the space. The present study tested this model with a magnetometer survey at Middle Bronze Age Kurd Qaburstan near Erbil, Iraq. The results reveal a high-density built environment with a semi-structured street plan, systematic fortifications, and a range of public and private, small-scale and monumental structures scattered throughout the city. These spatial characteristics echo Early Bronze Age urban planning, and suggest that there was socio-political, economic, and demographic continuity across time in the Bronze Age. This paper offers a tour of the Kurd Qaburstan magnetometry data collected from 2013–2019 that illustrates urban form, planning principles, and selected structures.

## **9H. Ecstatic Experience in the Ancient World**

CHAIRS: Sarah Kielt Costello (University of Houston–Clear Lake) and Diana Stein (Birkbeck, University of London)

### **Sarah Kielt Costello (University of Houston–Clear Lake), “Contextualizing the Study of Ecstatic Experience in Ancient Societies”**

Our study and understanding of the practices associated with an altered state of consciousness have been shaped, in part, by larger intellectual, cultural, and legal trends. For example, responses to the modern discovery and use of psychedelic drugs have cast a shadow of suspicion on the study of drug use in past cultures. Similarly, the study of cross-cultural shamanic practices has led to accusations of cultural appropriation and generalization. New Age interest in shamanism and practices of neoshamanism have arguably damaged the credibility of studies of the historical subject. This paper sketches developments and responses in the various fields that intersect with the study of “ecstatic experience in the ancient world.” An historiographic analysis of the topic can assist us in recognizing biases and pitfalls as we endeavor to advance our understanding of this intrinsic and influential element of ancient lives.

### **Anne Porter (University of Toronto), “Beer, Beasts, and Bodies: Shedding Boundaries in Bounded Spaces”**

This paper compares the sensory possibilities of circular spaces at three Neolithic sites: Göbekli Tepe, Jerf al-Ahmar, and Wadi Faynan 16. It proposes that all elements of these structures situate and promote transcendence of earthly bounds for one, some, or all those of who take part in activities within them. Attributes like shape, relationship to ground surface, and the depiction of animals or geometric designs intersect with the production and consumption of alcohol and the deployment of dead bodies, whole or in part, to draw participants into specific otherworldly experiences as described by the prevailing images.

### **Emily Miller Bonney (California State University, Fullerton), “Altered States on Bronze Age Crete”**

The organizers of this session challenge us to reflect on the evidence for ecstatic rites, which were inherently transitory and intended to transport individuals into a different reality. Ecstasy alters perceptions of the material environment and challenges efforts to



capture that experience in material form. On Bronze Age Crete, the evidence, particularly as explicated by Peatfield and Morris, points strongly to the importance of ecstatic or shamanic elements in ritual activities from the end of the Early Bronze Age through the time of the palaces. Both peak sanctuaries and caves have yielded a range of objects that appear to speak to the importance of altered states, whether through hallucinogens or some other means. Altered states would seem particularly salient for a culture that, as Hamilakis and others have emphasized, placed a premium on intense sensory experiences that lowered the barriers of individualism. This paper considers the predecessors to the activities at the peak sanctuaries and looks to the tomb complexes and settlements that were the centers for ritual activity prior in the first centuries of the Early Bronze Age. An array of different objects, including most notably the terracotta Goddess of Myrtos, provide evidence for a well-developed reliance on ecstatic conditions as part of spiritual behavior well before the transition to the peaks.

**Caroline Tully (University of Melbourne), “Understanding the Language of trees: Ecstatic Experience and Interspecies Communication in Late Bronze Age Crete”**

Minoan gold signet rings dating to the Neopalatial period (1700–1490 B.C.E.) are well-known for their depiction of ritual events. Thirty-one ring images portray scenes of tree cult in which human figures interact with trees in various types of ritual capacity. The majority of figures in the scenes approach the trees in a calm and seemingly reverential manner; however, seven examples portray the ritual participant clasping and vigorously shaking the tree. These images have traditionally been interpreted as depicting components of a seasonal fertility festival; attempts to encourage the trees to bear fruit; fruit-gathering; the harvesting of psychoactive plant materials; or parts of initiation rituals. This paper argues that the images are evidence of an animistic ontology whereby aspects of the natural world such as trees were perceived to be sentient and able to be communicated with. Further, it argues that, in order to partake in such interspecies dialogue, the human participant entered into an altered state of consciousness, through physical exertion and imbibing of mind-altering substances, which aided receptive listening to, and interpretation of, the sounds emitted by the tree. That trees were believed to speak in a mantic capacity in the ancient world is evident from Near Eastern and Greek literature and oracles. The paper concludes that Minoan images of tree shaking depict part of the process of translating the auditory transaction between the human ritual participant and the sentient tree.

**David Ilan (Hebrew Union College-Jewish Institute of Religion), “The Kernos and Psychotropic Substances”**

Bronze and Iron Age kernos rings found in eastern Mediterranean contexts have been interpreted as artifacts used for liquid libation. In this paper I will make the case that they were used for the ingestion of psychotropic substances in the form of filtered smoke. The mechanism of ingestion will be reconstructed (though not demonstrated). I will also examine the archaeological context of kernos occurrence in an attempt to discern contextual patterns and perhaps to reconstruct ritual use.

**Nassos Papalexandrou (The University of Texas at Austin), “Vision as Ecstatic Experience in the Ancient Mediterranean”**

In religious studies, *ecstasis* is usually understood as an overwhelmingly strong psychological state of departure from one's consciousness to an alternate realm of wondrous experience. This state is often accompanied by possession and a radical alteration of personality. These states are usually induced in the context of complex rituals whereas their intensity and capacity to transform individuals or groups is culturally conditioned. I argue that it is no less important to explore the role of individuals (or their multifarious avatars) as active viewers than the capacity of objects to actively entangle their viewers in ecstatic viewing. This approach requires attention to phenomenological dimensions of visuality and materiality in the context of the ecstatic condition.

My case study is ritual practice at the Idaean Cave on Crete, a sanctuary that witnessed strong connections with the eastern Mediterranean and the Near East during the Early Iron Age. The most famous artifacts are a series of exquisitely crafted bronze shields, whose figurative and material constituents suggest that their primary cultic function was to induce alternate states of mind to their viewers. This hypothesis seems to be underscored by two principal considerations: first, the overall set up of the cave as a setting of rare and wondrous experiences; second, the psychosensory elements of the shields themselves. The latter feature protomes of wild predatory animals in the midst of a richly historiated circular field. I argue that these physically and psychologically aggressive elements played a pivotal role in inducing active vision and ultimately ecstatic experiences.

## **9I. Environmental Archaeology of the Ancient Near East**

CHAIRS: Melissa S. Rosenzweig (Northwestern University) and Madelynn von Baeyer (Harvard University)

### **Alison Damick (The University of Texas at Austin), "The Microbotanical Evidence for Storage Landscapes in Early Bronze Age Lebanon"**

This paper presents the comparative microbotanical evidence from storage compartments at two Early Bronze Age (ca. 3200–2400 B.C.E.) settlements along the Lebanese coast: the small site of Tell Fadous-Kfarabida in the north and the larger administrative center of Sidon in the south. Centralized storage structures are commonly understood to be a key archaeological indicator of increasing societal complexity; at the same time, storage technologies are understood to be the effects of other kinds of socio-economic developments (for instance, intensifying agriculture and trade, and/or population growth, which require storage to be developed). This paper explores the different scales at which those systems operated in small and large settlements in the study area.

The phytoliths from storage contexts at the study sites shed light on different kinds of agricultural processing pathways present at each site, and the ways in which settlements at different scales worked together to produce complex crop processing networks along the Lebanese littoral in the third millennium B.C.E. The comparison between the two sites demonstrates the differences between the ways that agricultural products (particularly cereal crops) were stored for re-planting and only partially processed for transfer at a small "satellite" settlement in the north (Tell Fadous-Kfarabida), versus the

ways in which they were broken down for a variety of uses at a large administrative center in the south (Sidon). These results can be used to tentatively model Early Bronze Age administrative relationships to cultivated landscapes over the course of the third millennium B.C.E.

**John Marston (Boston University), and Peter Kováčik (Boston University), “Wood Use at Chalcolithic Çamlıbel Tarlası”**

The Late Chalcolithic site of Çamlıbel Tarlası, located in north-central Anatolia, provides a rare glimpse into the economy and landscape of a small, short-lived prehistoric community. Measuring less than 0.25 ha and occupied for roughly 120 years (ca. 3590–3470 cal B.C.E.), Çamlıbel Tarlası includes four distinct occupation levels, allowing us to distinguish specific activities associated with features used for only a decade or two.

In this paper, we focus on the wood charcoal assemblage recovered from flotation of 73 soil samples that span the occupation of the site and the range of features used during each period. Together with recently published data on the seed assemblage, we aim to reconstruct fuel acquisition strategies used for both domestic activities and metal production at the site. In contrast to contemporary Chalcolithic sites in lower, drier regions of Anatolia, animal dung does not appear to have been a major source of fuel at Çamlıbel Tarlası, where abundant wood charcoal represents the primary fuel input. The charcoal assemblage consists nearly entirely of hardwoods, with deciduous oak (likely Turkey oak, *Quercus cerris*) providing the majority of fuel burned. Notably, small twigs representing easily collected dead wood comprise a large percentage of the assemblage, suggesting that fuel collection was generally low effort and represented selective procurement of high-quality fuel wood. In ongoing work, we assess whether differential deposition of wood exists among features, which would suggest that different fuel sources were accessed for specific purposes, and we give preliminary insights into this question here.

**Brita Lorentzen (Cornell University), Brady Liss (University of California, San Diego), Matthew D. Howland (University of California, San Diego), Mohammad Najjar (University of California, San Diego), and Thomas E. Levy (University of California, San Diego), “The Garden of Edom: Woodland Use, Landscape Management, and the Iron Age Copper Industry at Faynan, Jordan”**

The Faynan region in southern Jordan was a key area for copper production in the Near East from the Early Bronze Age, with the Early Iron Age marking the beginning of industrial-scale production at the sites of Khirbat en-Nahas (KEN), Khirbat Faynan (KFN), and Khirbat al-Jariya (KAJ). Large quantities of wood were needed to fuel Faynan’s burgeoning copper industry, which posed a challenge given that the region’s arid environment lacked dense woodlands. In order to understand the strategies that Faynan’s inhabitants used to procure and sustain sufficient quantities of wood fuel for processing copper, we examine wood charcoal data from Iron Age Faynan. We concentrate especially on a new archaeobotanical assemblage from Khirbat al-Jariya, which we collected and analyzed as part of the Edom Lowlands Regional Archaeological Project. Our results reveal that KAJ’s inhabitants procured wood from a wide variety of plant taxa, and particularly those like tamarisk which grew nearby in the dry, brackish

wadi channels and substrate around the Wadi al-Jariya catchment. The KAJ assemblage also contains wood from several taxa with edible fruits, including carob, date palm, fig, grape, olive, and pomegranate. Preliminary analysis of non-wood macrobotanical remains collected from KAJ found seeds of at least some of these taxa at the site, indicating that KAJ's inhabitants had access to, and derived multiple products from, fruit trees growing in runoff agricultural systems in one of Faynan's well-watered drainage basins.

**Zuzana Chovanec (Slovak Academy of Sciences), "Mythical Beasts and Where to Find Them: Interpreting the Distribution of Animal Symbolism in the Ancient Near East and Beyond"**

This paper presents new perspectives on the aesthetic and symbolic aspects of the human-environment relationship by investigating the ways in which animals were represented in art. In previous research on animal depictions in Bronze Age Cyprus, it was determined that the repertoire of figural representations on elaborate mortuary vessels illustrates an organized, symbolic system that incorporates elements of a shifting, natural environment with which humans maintained diverse sets of real and perceived relationships that were maintained by ritual practice in multiple domains. The symbols depicted include deer, mouflon, goats, cattle, birds, snakes, and a sacred tree. Contrary to previous suggestions that the animals were so represented due to their economic importance, the figures appeared in particular arrangements and in some cases involved motifs that had a much wider distribution in the iconography of not only the eastern Mediterranean, but also the Europe and the Caucasus, spanning several millennia. While animals frequently serve as an economic resource, the human-animal relationship is diverse, dynamic, and frequently in contradiction to conceptions of the natural world. Specific animals often serve as totems by different social groupings, are the focus of taboos, or are attributed protective properties. Such associations are frequently represented in diverse mythologies that incorporate underlying symbols that persist, adapt or transform with a deeper history in the imagination and inform practices that pertain to animals. These themes are examined with particular reference to deer represented in rock art from Azerbaijan, ceramics in Cyprus, and broader connections in the ancient Near East.

**Howard Cyr (University of Tennessee, Knoxville), "And This Is Why We Can't Have Nice Things: How Flawed River Management May Have Led to the Abandonment of the Late Roman Fort of 'Ayn Gharandal, Southern Jordan"**

Landscape reconstructions of the Late Roman military site of 'Ayn Gharandal (Arieldela), located along the eastern margin of the Wadi Arabah desert in southern Jordan, indicate that both local and regional environmental conditions strongly influenced site selection. The fort and bathhouse complex sits at the mouth of the Wadi Gharandal, an ephemeral river prone to severe flooding from seasonal rains falling along the neighboring Shera'a mountains. The stabilized channel bar upon which the fort was constructed served to raise the military safely above the reach of catastrophic floodwaters. However, portions of the bathhouse built within a side channel of the wadi would have been directly impacted by seasonal flooding. A recently developed hydrological model suggests that Roman engineers may have built a barrier across the small channel to protect the bathhouse. This paper uses geoarchaeological, geophysical, and archaeo-spatial data collected in previously unexplored sections of the site to test this

hypothesis. The data suggest that Roman changes to the river system may have resulted in severe landscape destabilization that over time made the site uninhabitable.

### **10A. Interconnected Communities in the Eastern Mediterranean and Western Asia—The Third to Early Second Millennium B.C.E. II**

CHAIRS: Nadia Ben-Marzouk (University of California, Los Angeles) and Amy Karoll (University of California, Los Angeles)

#### **Marta D'Andrea (Sapienza Università di Roma), “Connectivity, Interculturality, and Socio-Cultural Transformations in the Levant between the Early and Middle Bronze Ages”**

From ca. 2500 to ca. 1900 B.C., the Levant underwent socio-cultural changes and transformations accompanied by the appearance of a homogenous cultural suite. Interpretive constructs for socio-cultural transformations during those centuries have thus far pivoted around migrations triggered by climatic and political crises or cultural transfer within core-periphery models. Lately, however, connectivity within the Levant and beyond between the Early and Middle Bronze Ages is being analyzed in relation to mobility of individuals crossing interregional corridors periodically and smaller-scale migrations of people involved in economic activities (specialists, artisans, intermediaries, and/or traders).

Moving from these insights, this paper will re-examine the temporal and spatial scales of inter-regional interactions from ca. 2500 to ca. 1900 B.C. In this way, it will be possible to observe changes in material culture patterning through this long time-span and to isolate different phenomena connected with the construction and definition of social identities (mirrored by their archaeological correlates) at a higher chronological and geographical resolution. Finally, this paper will examine the ancestry of visual canons for social identity construction progressively codified in the Levant and beyond between the Early and Middle Bronze Ages, their relationship with the cultural tradition of the preceding periods, and their correlation with key economic activities emerging from ca. 2500 B.C. onward. Thus it will be possible to explore socio-cultural transformations connected with the critical nexus between the Early and Middle Bronze Ages from a novel perspective.

#### **Amy Karoll (University of California, Los Angeles), “Between Collapse and Mobility: Environmental Refugees in the Third-Millennium B.C. Southern Levant”**

The EB IV (ca. 2500–2000 B.C.) in the ancient Near East is a period of rapid and systemic change. Towards the end of the third millennium B.C., the majority of the population left or abandoned sites across the southern Levant. This study examines how local populations adapted to changes in socio-political systems, specifically changes in trade routes and subsistence regimes, from the so-called “urbanization” of the EB II–III (ca. 3100–2500 B.C.) to a drastic shift in the EB IV. Alternative explanations will be explored that situate people as active agents in a resilient socio-economic system. The changes in economic and political systems were conscious choices, shaped and limited by outside factors. Rather than a sudden collapse of society due to catastrophic climatic

change disrupting agricultural production, it appears that the EB IV transition was the logical consequence of people actively responding to their steadily changing environment. Geographic Information Systems (GIS) is used to show that settlement locations in the Levant were strongly influenced by environmental factors and trade networks. Results illustrate that populations during the EB II–III became so entrenched in their previous modes of living, overexploiting the landscape and available resources, that it was no longer sustainable and communities moved into different environmental niches to survive.

**Ron Lev (Weizmann Institute of Science), Shlomit Bechar (University of Haifa), and Elisabetta Boaretto (Weizmann Institute of Science), “Radiocarbon Absolute Chronology of EBIII–Intermediate Bronze Age–Middle Bronze Age Sequence at Tel Hazor, and its Synchronization with the Northern Levant”**

The Intermediate Bronze Age (IBA) in the second half of the third millennium B.C. is an enigmatic period in the history of the southern Levant. The time frame of the IBA and its relationship to the preceding urban culture of the EB III are still open questions. Tel Hazor is one of the only sites in Israel where IBA architecture was found on top of EB III remains, and not as an isolated single-layer rural site, as are most IBA settlements.

In 2017, the Kimmel Center for Archaeological Science (Weizmann Institute of Science), in collaboration with Hazor Excavations (Hebrew University), excavated a probe at Hazor adjacent to a location where an IBA floor with *in situ* vessels had been excavated 12 years earlier. The high-resolution probe included the Middle Bronze Age, IBA, and EB III levels. It focused on microarchaeological proxies of the archaeological record. We located the IBA floor, in addition to a plastered installation with an embedded IBA jar. Many organic samples from secure contexts were collected for <sup>14</sup>C dating. The excavation results and the absolute dates generated from it are presented. They point to a chronological gap between the EB III city of Hazor and the following IBA occupation. The results also add information related to the “Black Wheel-Made Ware” which was found in large numbers at Hazor, and its relation to similar vessels found in the northern Levant.

**Aaron Gidding (University of California, Santa Barbara), “The Intensification of Rural Industrial Production at the End of the Early Bronze Age: Copper Production in Faynan”**

In the later third millennium B.C.E. the copper production facility at Khirbat Hamra Ifdan in the Faynan district of southern Jordan briefly flourished (ca. 2600–2300 B.C.E.). Khirbat Hamra Ifdan produced copper at a greater volume than any previous copper production site in the region. This production includes evidence for the creation of unique forms, such as the bar ingot. The timing of this fluorescence coincided with the collapse of many of the “urban” settlements of the southern Levant. The irony of this timing—that copper production increased at Khirbat Hamra Ifdan while large settlements are abandoned in other parts of the southern Levant—highlights the disconnect of the Faynan production system from social processes in the immediate vicinity. Rather, it coincides with the development of the Old Kingdom state in Egypt. The simultaneous development of intensive production of bar ingots and the development of the state in the Old

Kingdom highlights a local, rural response to increased demand for copper through a more easily transferable form. This paper will consider the role of the bar ingot to appeal to a wider marketplace through processes of long-distance exchange and address its relationship to local, rural processes within Khirbat Hamra Ifdan.

**Aaron Burke (University of California, Los Angeles), “Insecurity, Mercenarism, and the Emergence of Amorite Power”**

Historical and iconographic sources for the late third and early second millennia B.C. expose the role that military service played in the positioning of Amorites within the state. However, the decline of large territorial states, Ur in Mesopotamia and the Old Kingdom in Egypt, created a power vacuum and with it a region-wide decline in security. As in the case of other foreigners who served these states, military service afforded a rise of not only military but, more importantly, political power when these states collapsed. Furthermore, in the absence of large territorial states such transitional periods also created considerable space for brigandage and banditry that ultimately necessitated a privatization of security efforts, wherein non-state actors such as tribes, clans, and families were compelled to provide for the defense of their own endeavors in interstate trade. Despite the challenges posed in the use of any single line of evidence in reconstructing this process, archaeological, iconographic, and textual data for the period between 2200 and 1800 B.C. suggest an increasing reliance upon “strong men,” more often referred to as warriors, whose function was paramount throughout this transition. This paper seeks therefore to reconsider the archaeological evidence of this transition by placing it in the context of these historical developments.

**10B. The Secret Lives of Objects: Museum Collections, Hidden Histories, and Repatriation Efforts I**

CHAIRS: Lissette Jiménez (San Francisco State University) and Kiersten Neumann (University of Chicago)

**Kiersten Neumann (University of Chicago), “A Dialogue with Past and Present: Curating the Assyrian Reliefs at the Oriental Institute Museum”**

Reading the label of an unfamiliar object in a museum provides a viewer with one entry point to an object, the installation being driven by a curatorial team’s subjective reaction to and action towards that particular artifact. As curators, we have the opportunity to select the story that a label will tell, the angle at which an object will be viewed, the physical and spatial context within which it will be experienced, and the narrative and material-culture company it will keep. The recent museum-wide gallery renovations at the Oriental Institute Museum of the University of Chicago have given me the opportunity to delve into the archives and to add to the display visuals and materials that respond to timely questions of context, acquisition, and object experience. This paper will present the discovery, installation, and reception of the Assyrian carved wall reliefs in Chicago in the 20th century, and my recent re-curation and engagement with the reliefs in the 21st century. I consider the choices that were and continue to be made with respect to display, and the connection these choices have with the reliefs’ own histories and their place in contemporary discourse.

**Liat Naeh (Metropolitan Museum of Art), “Examining the Legacy of an Early Biblical Archaeology Exhibition: Judith Krause-Marquet’s Finds from Ai, 1936”**

The archaeological exhibition opened at the agricultural school of Miqve Israel in January 1936 was a historic landmark in more ways than one. Showcasing the finds from Judith Krause-Marquet’s excavation at Ai (Et-Tell)—now between Ramallah and Jericho—the exhibition presented the public with the discoveries made during the first excavation headed by a woman who was a *Sabra* daughter of Jewish pioneers. Baron de Rothschild, a key supporter of Zionist settlements, funded the excavation to expose evidence of Joshua’s conquest of Canaan as told in the Bible; the Baron’s portrait in the exhibition was said to be of “a conqueror who wanted to discover the ways of a previous conqueror.” Indeed, Jewish visitors to the exhibition were moved by what they perceived to be a material illustration of biblical daily life, set against the backdrop of renewed Jewish-led agriculture and evoking claim over the land. Yet, at the same time, Krause-Marquet’s exhibition represented something else to the international academic community: a groundbreaking scientific endeavor that came to question biblical narrative, convincingly concluding that during Joshua’s supposed conquest, the tell was in fact already abandoned. This paper aims to revisit the exhibition—first of its kind, but now forgotten—and review how it embodied those seemingly opposing concepts of bringing the Bible to life while also criticizing its claims on truth. Following 1936, the exhibition’s objects were incorporated in archaeological museums around Jerusalem, reflecting British, Palestinian, Israeli, and Jordanian contention over ownership and archaeological interpretation.

**Gabrielle Sines (University of Michigan) and Jay Crisostomo (University of Michigan), “Population Groups Represented in the Ancient Near East and Mediterranean Museum: The Exclusivity of Artifacts and Impact on Visitors”**

From the curators to the docents, the staff at museums diligently work to contextualize the ancient world for visitors, carefully choosing objects to craft a narrative of the population groups connected to them. The narratives on display then communicate which population groups are significant from the ancient Near East and Mediterranean, excluding population groups from the same region and era that are not represented by an object. Furthermore, there is an absence of the modern narrative that is now attached to the objects from its excavation.

In this paper, we examine permanent exhibitions in the ancient Near Eastern and Mediterranean museum setting by looking at the selection and display of objects to understand their influence on the visitor’s perspective about the ancient Near East and Mediterranean world, using the Kelsey Museum of Archeology at the University of Michigan as our primary resource in conjunction with other U.S. museums. Furthermore, I present methods of how to expand not only the ancient but also the modern narrative to present a fuller representation of objects.

**Elizabeth Minor (Wellesley College), “Curating Sacrifice: Power and Legitimization through Violence and Collection in the Ancient Nubian Classic Kerma Kingdom”**



The practice of mass inhumation of sacrifices upon the death of Nubian Classic Kerma (1750–1500 B.C.E.) kings was an action of collection and curation. As the Kerma king selected community members to accompany him in the afterlife by curating a set of key personages, he also collected Egyptian sculptures obtained through military conflict. Laid together in the same burial context, were the sacrificed individuals objectified? Or were the sculptures personified?

By considering the objectified person and personified object within the same conceptual model, as actors in the same (Latourian) social network, the way in which collection and curation can be used to build power structures becomes evident. The Egyptian sculptures, in part due to their human form, acted as inalienable markers of control of distant resources while being layered with new meanings as subjugated actors. At the same time, the sacrificed Kermans were valued for their personal biographies and roles in the community, but were ultimately objectified and commodified through their death, collection, and arrangement within the king's burial.

This ancient example of the violence inherent in collection and curation can be put in conversation with contemporary practices. The history of collection and interpretation of this—and other—ancient African material culture was also subject to displaced or directly violent conditions. Collected only 15 years after the bloody defeat of Mahdist forces by the British, this ancient Nubian material elucidates power structures inherent in the control of objects.

**Emily Cole (University of California, Berkeley), “‘Studied in Splendid Isolation’: The Ownership and Publication of Ancient Text-Objects”**

In this paper, I discuss how the distinction between text and object has affected the contemporary lives of ancient text-objects. Rather than categorizing written work as museum-worthy art, 19th- and early 20th-century archaeologists and collectors prioritized the written word. As a case study, I will draw on my archival research into the collection of the Center for the Tebtunis Papyri at the University of California, Berkeley.

Originating from the excavations in Egypt of Bernard Grenfell and Arthur Hunt (1899–1900) and George A. Reisner (1899–1905), the papyri now constitute the largest collection of Egyptian texts in the western United States. The papyri were conserved and studied in Europe before being sent to the U.S. during the 20th and early 21st centuries, eventually ending up at The Bancroft Library in Berkeley. The language of correspondence between the players in the acquisition of the papyri—including the financiers, excavators, institutional administrators, and scholars—shows how they conceived of the ownership of texts, especially in their discussion of conservation needs, the urgency of publishing content, and the eventual deposition of the pieces in institutional collections. I highlight the ways in which current dialogues about papyri, and ancient texts more broadly, remain rooted in this historical treatment of text-objects in contrast with material culture objects. I suggest how institutions might address these issues through the integration of text into the archaeological record, the demystification of ancient languages among public audiences, and the removal of restrictions on access to the materials.

## **10C. Technology in Archaeology: Recent Work in the Archaeological Sciences**

CHAIR: Andrew Koh (Massachusetts Institute of Technology)

### **Golnaz Hossein Mardi (University of Toronto) and Branden Cesare Rizzuto (University of Toronto), “An Analysis of the Black Paint on Seh Gabi Painted Ware Using Petrography, pXRF, and SEM-EDXS”**

A distinct type of pottery, known as Seh Gabi Painted ware (SGP), has been discovered at the site of Seh Gabi, located in the central Zagros, Iran. Dated to the mid-Middle Chalcolithic period, the Seh Gabi Painted ware is characterized by a vitrified black paint on a buff or greenish-buff surface. The luster of the paint is quite distinctive. Petrographic analysis carried out on SGP thin sections demonstrates that the paint has a unique glassy structure with considerable inclusions of feldspar and quartz. The presence of these minerals and the glassy structure motivated us to conduct further analysis on the paint in order to further characterize its material composition. Preliminary analysis using handheld energy-dispersive X-ray fluorescence spectrometry (pXRF) on the Seh Gabi Painted ware indicates that the lustrous black paint is characterized by elevated concentrations of iron, zirconium, and manganese. In order to build on these preliminary results, scanning electron microscope-energy dispersive x-ray spectrometry (SEM-EDXS) will be employed to further investigate the paint's material structure and chemical composition. This paper presents the results of these analyses and their respective contributions to characterizing the unique black paints on Seh Gabi Painted ware.

### **Sahar al Khasawneh (Yarmouk University), Andrew Murray (Aarhus University), and Lutfi Khalil (University of Jordan), “Luminescence Dating of a Transitional Chalcolithic/Bronze Age Site in Jordan”**

In this study we test the applicability of luminescence dating to geo-archeological sediments from a tell (mound) formation. Combined quartz optically stimulated luminescence (OSL) and K-feldspar infrared stimulated luminescence (IRSL) dating were applied to eight sediment samples taken from the Tell al-Magass archaeological site in southern Jordan. The site is made up of a sequence of multiple sandy and ash layers covering architectural features of stone and mudbrick. OSL samples were collected from layers previously dated by  $^{14}\text{C}$ .

Both quartz and alkali feldspars (KF) were measured using, for quartz, blue OSL and, for feldspar, IR<sub>50</sub> and pIRIR<sub>290</sub> signals. The pIRIR<sub>290</sub> signals required the subtraction of residual doses (measured using prolonged stimulation in a daylight simulator); in contrast the IR<sub>50</sub> signals did not include a significant residual dose but did require correction for anomalous fading. The resulting agreement of the ages from the two IRSL signals with those from quartz confirms that the quartz was fully reset before or during the last daylight transport event. This is further confirmed by the satisfactory comparison with previous published  $^{14}\text{C}$  dates from the same section. We conclude that luminescence is likely to be very suitable for dating “Tell” sediments from this region.

### **Catherine Scott (Brandeis University) and Christopher Roosevelt (Koç University), “Sediments and Citadels: Using Geochemistry to Explore Spatial Organization at Kaymakçı, Western Turkey”**

Archaeological sediment geochemistry is a valuable yet underutilized tool for elucidating the use and organization of archaeological sites. The method is based on the understanding that many human activities deposit chemical residues in the sediments upon which they are conducted, and these residues can be recovered archaeologically and mapped to reconstruct past uses of space. Here, we present the results of an innovative multi-scalar sampling strategy for archaeological sediment geochemistry, designed for the second millennium B.C.E. citadel of Kaymakçı in western Anatolia. The results of this study contribute both to the method and to our understanding of spatial organization at Kaymakçı. First, the study demonstrates how samples that are collected at multiple scales of analysis (e.g., intra-site survey versus features sampled during excavation) inform and contextualize each other and improve holistic understandings of sites. Second, results specific to Kaymakçı provide valuable insights into the internal organization of the site, interpreted in combination with data from geophysical survey and excavation. New findings include possible evidence for specialized activities such as metalworking, and patterns that suggest relatively heterarchical social organization. Such conclusions challenge assumptions about the nature of citadels in second millennium B.C.E. western Anatolia. These results also demonstrate that sediment geochemistry is a powerful tool for building comparative datasets that would contribute to our growing understanding of this important region.

**Kamil Sari (Israel Antiquities Authority), “Is It Phoenician Metallurgy? Archaeometallurgical Research of Metal Objects”**

Historical sources describe the Phoenicians as excellent metal craftsmen who imported copper from Cyprus for their metal production, especially for metal bowls. However, there has been no research (for the Persian period at least) attempting to explore the veracity of this idea.

In this study, a group of metal objects dated to the Persian period was tested by chemical analysis (specifically X-ray fluorescence, XRF) and some by metallurgical analysis to answer two objectives. First, can we identify any difference or any cultural signs in the metal objects that belong to different cultures along the coast vs. inland? As we know from the historical sources, during the Persian period the Levantine coast was under the influence of the Phoenician cities Tyre and Sidon. For this reason, I tried to see if there is any evidence of Phoenician culture that can be detected in the metal objects found along the coast, and if there is any difference from the group found in the inland parts of the region. More than 1,000 metal objects have been found during archaeological survey and excavations. Most of them were tested by previous researchers and arranged in a catalogue. Second, can we date metal objects by chemical analysis? Can we identify differences between periods by testing the chemical composition of the objects? The main objective was to utilize chemical analysis procedures in finding specific characteristics of a specific phase in the Persian period. For this purpose, metal finds from Nahariya were examined by XRF and analyzed as a case study. The results will be introduced during the presentation.

**Kathleen Birney (Wesleyan University) and William Gilstrap (Massachusetts**

**Institute of Technology), “Hellenistic Unguentaria from Ashkelon: Insight from Combined Organic Residue and Materials Analysis”**

This paper presents the preliminary results of a comprehensive study of 15 Hellenistic perfume vessels from the site of Ashkelon, Israel, excavated by the Leon Levy Expedition over the last 20 years, and undertaken as a collaborative project between the OpenARCHEM Project and the MIT Center for Materials Research in Archaeology and Ethnology. By setting organic residue analysis of the unguentaria contents alongside petrographic and scanning electron microscopy (SEM) analysis of the vessels themselves, the study sheds light on patterns of branding and explores the degree to which sourcing and technological choices made by potters might help us to reconstruct economic patterns or use life.

**Carl Savage (Independent Scholar), Molly Crowther (Drew University), Laurel McEllistrem (University of Wisconsin-Eau Claire) and Jonathan Luczak (University of Wisconsin-Eau Claire), “Bethsaida, Magdala, Jerusalem: ICP and XRF data examining Herodian Oil Lamps”**

This paper presents data from compositional studies of Herodian oil lamps obtained from archaeological excavation at three sites (Bethsaida, Magdala, Jerusalem) undertaken at Drew University and the University of Wisconsin–Eau Claire. It revisits the generally held consensus that there is likely a centralized source for this type of lamp in the Jerusalem area. It also explores what this might mean for understanding the relationship between the Galilee and Jerusalem.

An ICP (inductively coupled plasma) study of Jerusalem-provenanced lamps will be presented along with studies of Magdala- and Bethsaida-provenanced lamps. These ICP studies will then be correlated and contrasted with an XRF (X-ray fluorescence) study of lamps and pottery from Kefar Shikhin, Kefar Hananiah, Yodefah and Bethsaida. Analysis of the data will show that there is still a plausible case to be made for a Jerusalem source of production for all the Herodian lamps found in first-century B.C.E. contexts in the Galilee. However, additional study needs to be made with greater numbers of lamps and sites to explore further how depositional factors may lead to variation in the recovered lamp fabrics.

**10D. Talking About: Jobs, Fieldwork, and Family (Workshop)**

CHAIRS: Beth Alpert Nakhai (University of Arizona) and Jennie Ebeling (University of Evansville)

This ASOR Initiative on the Status of Women workshop explores ways in which people, especially women, who work in Near Eastern archaeology manage the challenges of jobs, fieldwork, and family. In this workshop, individuals (whether engaged in fieldwork or not) will reflect upon the ways in which they have accomplished or modified their goals, the ways in which they have succeeded, and the ways in which they have been stymied by personal and/or professional obstacles to success. Short personal statements, solicited in advance through the ISW Facebook page and elsewhere, will be read by Ebeling and Nakhai at the beginning of the workshop. This will be followed by an open-mic session

focusing on opening conversations, sharing ideas, and considering solutions to problems shared by many of us.

## **10E. Archaeology of the Near East and Video Games**

CHAIR: Tine Rassalle (University of North Carolina at Chapel Hill)

### **Matthew Winter (University of Arizona), “Beyond the Tomb and Relic: Video Games as Artifact and Culture for the Representations of Archaeology in Popular Culture”**

Archaeology has long garnered interest in popular culture, from the tomb raiding antics of Indiana Jones to pseudoarchaeological speculation on connections between ancient civilizations and extraterrestrials. The rise of digitization and mass availability of electronic devices has made an indelible impact on how people engage with digital media. Nevertheless, video gaming has received far less scholarly attention than other popular culture genres such as music, film, and literature. Specifically lacking are studies on how video games represent the sister disciplines of archaeology and anthropology. Two prominent video game franchises, *Uncharted* and *Tomb Raider*, have “archaeology” as core premises, while another franchise, *Assassin’s Creed*, attempts to merge historical realism into games. Critical examination of these three franchises, but not necessarily limited to them, yields promising avenues for scholarship and active engagement between academics and the public. This paper explores several interconnected ideas: 1) the consideration of gamers as active agents in historical but artificial landscapes and their relationship to practice theory; 2) the role of archaeologists in functioning as advocates for archaeology and cultural heritage and their relationship to game developers; and 3) the potentiality of video games as avenues for popular pedagogy in the consumption of mass media by an interested but lay public. In so doing, I will highlight the intersections between archaeological and anthropological practices in video gaming and games as an artifact, environment, and a culture, one that scholars can use to interact with the past digitally and simultaneously reach a modern audience.

### **Shannon Martino (School of the Art Institute of Chicago), “Might, Culture, and Archaeology in *Sid Meier’s Civilization*”**

*Sid Meier’s Civilization* is a game that tens of thousands of people play around the world, and for many it is often their first introduction to the history, culture, and art of previous civilizations. While it has been criticized in the past for its cultural biases in presentation, today’s version VI has been lauded for making necessary changes to promote a more diverse acknowledgement of advances. This diversity is reflected in a wider array of cultural wonders and achievements as well as relics and artifacts that are both easily spotted and unearthed by archaeologists. At the same time, the game’s designers have made choices in the play of the game that continue to reflect cultural biases and biases against non-aggressive play. This paper will examine the judgments inherent in a game designed to duplicate real world relationships between civilizations in the omnipresent battle of wills between military and cultural supremacy.

**Christian Casey (Institute for the Study of the Ancient World, New York University), “Assassin’s Creed as Time Machine: Why Scholars Love this Game, and What It Can Teach Us about Academic Creativity”**

A year ago, I set out to review the game *Assassin's Creed: Origins* from an Egyptological perspective. I had done substantial research, including interviewing the game’s creators, but I still wondered how the academic community would respond to a lecture about a video game. Older and wiser professors insisted that the subject would not be received positively, regardless of the quality of the work, because video games are not yet accepted as a proper academic subject. So I was pleasantly surprised when Egyptologists welcomed and celebrated the topic. Many professors told me that they had enjoyed playing the game themselves, and some even said that they had begun to use it as a teaching tool in the classroom.

This happy outcome allows us to consider new and exciting questions: Why were so many people (myself included) wrong about this subject in the first place? What about this game enabled it to win over skeptical Egyptologists? What can the success of *Assassin’s Creed* teach us about our own academic work? In this paper, I will address these and other questions by considering the way in which video games allow us to interact with fictional worlds. In the process, I will suggest new ways of thinking about scholarship and some possibilities for expanding our reach to broader audiences.

**Dominique Langis-Barsetti (University of Toronto) and Aleksandra Ksiezak (University of Toronto), “Rebuilding Ancient Kunulua Block by Block: Exploring Archaeology through *Minecraft*”**

In preparation for a planned exhibit on Neo-Hittite culture at the Royal Ontario Museum (ROM), the Computational Research on the Ancient Near East (CRANE) Project is working on an outreach program designed to familiarize the general public with the little-known Neo-Hittite world. The popularity of *Minecraft* as well as its interactive elements make it a highly engaging way to communicate archaeological data to the wider public with an efficiency that other, more conventional methods struggle to attain. In the first step of this program, we focused on recreating an archaeologically accurate version of Iron Age Tell Tayinat (Kunulua), complete with richly documented interactions and mini-quests, before expanding to other CRANE-affiliated sites in the Amuq Valley and beyond.

**Sara E. Zaia (Harvard University) and Katherine E. Rose (Harvard University), “Video Games and Archaeology Outreach”**

Video games involving archaeology-inspired narratives have been popular since the 1990s. In the last few years, thanks to the growth of graphic video game engines, some companies and designers have used clearly Egyptological inspiration for their stories and environments. Recent examples include *Assassin’s Creed Origins*, released in 2017. While certain adventure-based video games with obvious archaeological influences depict the discipline as an antiquated form of treasure hunting, some recent attempts have been made to use video games as educational tools. What are the aspects of archaeology that appeal the general public and gamers? How can we, as professionals, engage more effectively with audiences using video games as a tool? AR/VR and other gaming

applications, when applied to museum collections, provide insights on interactive aspects of educational outreach that capture interest. Specially, we present a pilot study of the general public's experience with AR/VR representations of Egyptological collections at Harvard University's Semitic Museum and Peabody Museum of Archaeology and Ethnology, based on 3D scans of different types of artifacts. Our research presents potential strategies for the development of more interactive experiences to enhance education, preservation of cultural heritage, and archaeological scholarship.

## **10F. Houses and Households in the Near East: Archaeology and History II**

CHAIRS: Aaron Brody (Pacific School of Religion) and Sharon Steadman (SUNY Cortland)

### **Stephanie Selover (University of Washington), Laurel Hackley (Brown University), and Sharon Steadman (SUNY Cortland), "Variability in Work and Domestic Spaces from Late Chalcolithic Çadır Höyük"**

Excavations at the site of Çadır Höyük have uncovered a broad horizontal expanse of a Late Chalcolithic settlement, revealing a variety of buildings and spaces, both domestic and communal. An artificial terrace split the Late Chalcolithic settlement into a Lower and Upper Town. The extensive excavations of this settlement allow for a nuanced understanding of how space was created and used across the Late Chalcolithic community, exposing both commonalities across the settlement, in terms of orientation and building style, as well as differences, in terms of a high variability of uses of space. Within the Late Chalcolithic settlement, workshops, domestic spaces, and even mortuary spaces have been uncovered in close proximity to each other, revealing an intriguing view of how the Late Chalcolithic inhabitants of Çadır Höyük interlaced aspects of work, domestic life, and even the deposition of the dead into their built environment.

### **Gabrielle Borenstein (Cornell University), "Home is Where the Hearth Is? Elements of Ritual and Religion in the Early Bronze Age Kura-Araxes Horizon"**

One of the most salient features of Bronze Age Kura-Araxes communities (ca. 3500–2400 B.C.E.) is their commitment to a particular suite of material culture, from ceramic assemblages to architecture. The *chaîne opératoire* of Kura-Araxes practices show variability in technological and aesthetic choices at multiple stages of production; however, it is clear that despite this diversity there are patterned similarities in how and where material culture is used throughout the Kura-Araxes world. This paper employs a multi-scalar approach to examine correlations between object type, surface decoration, and context of use to argue that *being* Kura-Araxes culture was more than a commitment to particular ways of making. It was a distinct *habitus*. Using the site of Gegharot in central Armenia as a case study, this paper examines the role of the house in structuring communal dynamics, dispositions, and beliefs. Given the paucity of evidence for either highly visible spaces of public ritual or closely guarded enclaves of esoteric practices, this paper evaluates how domestic spaces served as locales of intensely meaningful community-building rituals. It explores how Kura-Araxes identity was tied to a set of ritual practices that, in contrast to their neighbors in Mesopotamia, were ensconced in the

comparatively private space of the hearth and the home.

**Noor Mulder-Hymans (Independent Scholar), “Comparative Analysis of Oil Lamps and Limestone Vessels from Tell Abu Sarbut”**

Excavations at Tell Abu Sarbut in the eastern Jordan Valley were conducted from 2012 to 2015. A building with several rooms around a courtyard was excavated as well as part of a larger courtyard which probably belonged to another building. Both buildings dated to the Early Roman period. Occupation from the Abbasid and Mamluk periods was also found.

Almost fifty fragments of pottery oil lamps were retrieved, mainly dating to the Early Roman period. Most oil lamps were of the Herodian type, characterized by an “everted” nozzle and “volutes” on both side of the nozzle. These lamps were wheel-made. Some of these lamps were found in connection with special types of stone cups, bowls, and plates. These Herodian lamps and limestone ware have also been found on the west side of the Jordan river. Other Early Roman lamp types were made in a mold and displayed a decoration of lines and geometric representations.

This paper will focus on some questions raised by the find of different types of oil lamps in these buildings along with the stone vessels. Were they made for daily use or for special occasions?

This analysis will shed new light on the inhabitants of Tell Abu Sarbut, which is located in the former Peraea, an area where people from the west side of the Jordan river were relocated by the Hasmonaeans.

**10G. The Archaeology of the Kurdistan Region of Iraq II**

Topaz

CHAIR: Jason Ur (Harvard University)

**Maria Grazia Masetti-Rouault (École Pratique des Hautes Études – PSL University), “Assyrians and Other People at Qasr Shemamok: Recent Excavations in the Erbil Region”**

During the last campaigns, the excavations carried out by a French team at Qasr Shemamok, a site in the Erbil region (Iraqi Kurdistan) traditionally identified as the city of Kilizu, have tried to highlight the complex relations connecting the local urban society and culture with the invading presence of the Assyrian empire, since at least Adad-nirari I’s reign. From another perspective, this period is also marked by the passage from Late Bronze Age state organization and management to Iron Age political systems, perceived both in the changes as well as in the continuity of the occupation pattern of the city and of its environment. A description of the main archaeological operations, and of the situations met at the different levels of the citadel and in other parts of the site will offer new data and materials that may be helpful to more critically consider the factors and the events defining this historical period, and the impact of an imperial policy over a specific territorial and social landscape.



**Lisa Cooper (University of British Columbia) and Lynn Welton (Durham University), “2019 Excavations of the Assyrian- and Sasanian-Period Remains at Bestansur, Kurdistan”**

An overview is provided here of the continuing excavations of the Neo-Assyrian period remains at the site of Bestansur in the Shahrizor Plain of the Sulaymaniyah Governorate, Iraqi Kurdistan. Excavations by the University of British Columbia team in the spring of 2019 resumed clearance in Trench 14 to the southeast of the central mound, where several domestic units, separated from one another by alleyways and open areas, had been uncovered in previous seasons. Along with fixed features such as hearths, pebbled floors, and benches, the quantities of pottery vessels found smashed *in situ* in these contexts have helped to determine the range of activities carried out in these spaces, and provide clues as to the date of their use. It is hoped that ongoing excavations, both in Trench 14 as well as additional small soundings on the central mound, will refine the date of this Assyrian-period occupation. The project also continues in its aim to shed further light on the identity of the occupants of Bestansur and their relationship to the Assyrian imperial power through the analyses of pottery production technologies and vessel functions, foodways, the agro-pastoral economy, and considerations of built architectural space.

**Shinichi Nishiyama (Chubu University), “A Neo-Assyrian Border City: Yasin Tepe Archaeological Project in Sulaymaniyah Governorate, Iraqi Kurdistan”**

Yasin Tepe is one of the largest tell sites in the Sulaymaniyah Governorate of the Kurdistan region of Iraq. The site is located in the Shahrizor Plain and its vicinity is well watered by a large spring at Bestansur. The site consists of high acropolis mound and the concentric lower town. The site was previously excavated by American and Iraqi expeditions which focused on the acropolis mound and identified a thick accumulation of the Islamic-period layers. The Yasin Tepe Archaeological Project (YAP), which was initiated in 2015, began investigating the site using UAV, satellite images, and ground surface survey. Based on the results, excavations commenced in 2016.

The paper discusses the latest results of the YAP between 2016 and 2018. In the Lower Town, we have identified firm evidence of Late Iron Age occupation dated to the eighth and seventh centuries B.C.E. We have unearthed a large house with “reception suites” and an underground brick tomb with vaulted ceiling. The tomb was unlooted and contained both local and Assyrian-style artifacts. In 2018, we conducted a magnetometer survey that shows dense accumulations of built structures in the Lower Town. Thus we can conclude that Yasin Tepe (whose ancient name is still unknown) was a major Iron Age settlement during the height of the Neo-Assyrian empire and was strongly influenced by Assyrian culture.

**Jeanine Abdul Massih (Lebanese University), “The Stone Quarries of Khinis (Dohuk, Iraqi Kurdistan)”**

The site of Khinis, located in the Dohuk Governorate in the northern part of Iraqi Kurdistan, is established in a cliffy environment surrounding several spring supplying the Gomel river. It is in this naturally rich and fruitful environment that the Khinis-Khosr

canal was dug as a part of the impressive hydraulic system built by the Assyrian king Sennacherib to supply water to the royal palaces and gardens of his new capital Nineveh. The site, famous for the rock-cut reliefs and inscriptions dedicated to the Assyrian ruler, is located in a huge mountainous area where a limestone quarry was first identified, by Bachmann, Jacobsen, and Lloyd, as the source of all the stones used for the construction of the hydraulic system. The petrographic analysis conducted by the Land of Nineveh Archaeological Project (LoNAP) on the stones of the quarry and the blocks of the Jerwan canal confirmed this hypothesis.

In 2017, a systematic investigation was conducted on the Assyrian quarry. The LoNAP 3D Mapping was used as a support to document the different traces of tools, techniques of extraction, and methods of lifting and transportation. The quarry was studied and some observations were made on the carving techniques of the famous reliefs. On a wider scale, the entire surrounding area was surveyed, revealing several stone exploitations and a wide area of production implemented all around the site. The identification of a wide production area and developed techniques of carving and shaping stones that were intended for a monumental construction program is a unique archaeological testimony to the skills and savoir-faire of the craftsmen in the Assyrian empire.

**CANCELLED:**

**Jean-Jacques Herr (Ludwig-Maximilians-Universität München) and Andrea Squiteri (Ludwig-Maximilians-Universität München), “The Iron Age Zagros Pottery Tradition: A View from the Dinka Settlement Complex in Iraqi Kurdistan”**  
The expansion of the Neo-Assyrian empire (ca. 900–600 B.C.) into the Zagros area of Iraqi Kurdistan has been known mainly through the Neo-Assyrian texts dealing with the conquest and administration of this region. However, little was archaeologically known until recently, when a wealth of new data became available from Iraqi Kurdistan. In this paper, we want to focus on the pottery assemblage of the reference site of the Dinka Settlement Complex, located in the Peshdar Plain (Sulaymaniyah Governorate), excavated since 2015 by the Peshdar Plain Project. The Dinka Settlement Complex has yielded a pottery repertoire coming from stratigraphic contexts that can be safely dated to before the Assyrian conquests as well as contexts dated to after this event, which took place at the end of the ninth century B.C. This repertoire appears to be different from the proper Assyrian pottery tradition of northern Mesopotamia. Rather, it has links to other sites of Iraqi Kurdistan located close the Zagros chain, as well as sites located beyond this chain, i.e., in western Iran and in the mountain regions of southeastern Anatolia. Our argument, based on both morphological and technological analyses, is that the site of Dinka Settlement Complex has started to reveal an Iron Age pottery tradition typical of the mountain areas surrounding Mesopotamia, one that was only slightly affected by the influences coming from the northern plain of Mesopotamia (i.e., Assyria) despite the Assyrian conquests.

**Jason Ur (Harvard University) and Rocco Palermo (University of Groningen), “The Creation and Collapse of Imperial Landscapes in Northern Mesopotamia”**  
Northern Mesopotamia was home to one empire and a core component of several subsequent empires. The Erbil Plain Archaeological Survey has documented the

settlement landscape of 3,200 sq. km in the core of the Assyrian empire, and later in the realms of the Seleucid, Parthian, and Sasanian empires. All show radically different patterns of urbanization, ruralization, and land use. This presentation will describe the expansion of cities, rural settlement, and monumental water systems under the Assyrians, the stark ruralization under Seleucid power, an expanding urban pattern in the core of Parthian Adiabene, and the appearance of spatially large low-density places under Sasanian political control.

**Hasan Qasim (Duhok Directorate of Antiquities), “The Prehistoric Paintings at the Bilêcan Rock-Shelter (Duhok, Kurdistan)”**

The rock shelter site discussed in this paper is located in the north of the Autonomous Region of Kurdistan in Iraq, overlooking the Khabur river valley. Containing rock shelter paintings, unprecedented in this region, this site represents a surprising new discovery. The rock shelter contains a total of ten figures, depicting humans, animals and symbols. The thematic seems to be linked to the natural environment, ideas, and beliefs important to the region’s inhabitants at the time. Interestingly, a relationship between the paintings at Bilêcan east of the Tigris and those found in southwestern Turkey’s Latmos Mountains can be observed.

The rock shelter, published for the first time in this article, was discovered in the summer of 2014 in the Autonomous Region of Kurdistan, 70 km north of Duhok near the village of Bilêcan. The site is located in the Bamernê sub-district of the Amêdî district in Duhok province. This is the northernmost part of Duhok province, close to the border with Turkey. The site can be found west of the main street linking Duhok to the sub-district center of Kani Masê. The closest modern village is Gereguh.

This find is unprecedented in the field of Mesopotamian archaeology. The author carefully documented the paintings and the surroundings. It was upon his return to Duhok and a closer examination of this documentation that the magnitude of the discovery became evident.

The discovery of this rock shelter was a stroke of luck, discovered by chance while overlooking the valley with its meandering river. This could be cause for optimism regarding the probability of similar discoveries in the future.

## **10H. Archaeology of Arabia I**

CHAIR: J. Mark Kenoyer (University of Wisconsin–Madison)

**Charlotte Cable (University of New England; Michigan State University), Jennifer Swerida (Penn Museum), Eli Dollarhide (New York University Abu Dhabi), Asma al-Jasassi (Ministry of Heritage and Culture, Oman), and Suleiman al-Jabri (Ministry of Heritage and Culture, Oman), “New Directions for the Bat Archaeological Project: The 2018–2019 Field Season”**

The Bat Archaeological Project (BAP) has conducted research at the UNESCO World Heritage Sites of Bat, al-Khutm and al-Ayn since 2007. In previous years the focus has

been on either the Bronze Age “towers” or the architecture arranged along its “Settlement Slope.” Between these features, however, is a wealth of architectural and artifactual remains that has yet to be studied in full. The “Bat heartland” encompasses a ca. 1 sq. km area along the northern edge of Bat and includes five Bronze Age towers, the “Settlement Slope,” numerous contemporary tombs, a series of undated dams and bunds, and a host of other, previously unidentified features. This paper presents the results of the 2018–2019 BAP field season, which combined intensive survey and focused excavations to identify changing landscapes and land use patterns from the Neolithic to the Modern period. The survey area was a 35 ha space within that Bat Heartland, in which 40 features had been previously noted. An additional 180 features were identified, of which 60 were dated to the Bronze Age. Artifact densities in 42 transects, each 25 x 100 m, indicate shifting patterns of land use over time. Targeted excavations identified: 1) Hafit-period mud brick architecture east of Matariya tower; 2) intact Umm an-Nar deposits across from the Settlement Slope; and 3) varying ancient topography in the center of the site. Future fieldwork will focus on understanding the relationship between settlement, subsistence, and sociopolitical organization in prehistoric Bat and its environs.

**Jennifer Swerida (Penn Museum) and Eli Dollarhide (New York University Abu Dhabi), “Unraveling Umm an-Nar Chronology: Architecture, Ceramics, and Stratigraphy at Bat, Oman”**

The Umm an-Nar period of southeastern Arabia, spanning 700 years (ca. 2700–2000 B.C.E.) and 150,000 sq. km, is widely recognized as an important phase of blossoming socioeconomic complexity and cultural development. Yet, despite the ever-increasing body of excavated contexts on the Oman Peninsula, archaeologists of the region struggle to define phases within this period that are recognizable beyond a single site. This chronological ambiguity limits scholarly ability to understand the developmental processes at play within the Umm an-Nar period.

The UNESCO World Heritage Site of Bat is the ideal location to address this issue due to its continuous occupation throughout the third millennium, broad stratified contexts, diverse material culture, and regional comparanda. This paper presents the foundations of a phased Umm an-Nar chronology developed from these materials. Excavations conducted on the Bat landscape since 2008 support the existence of three sub-phases within the site’s Umm an-Nar occupation. Major indicators of phase changes are: shifts in ceramic styles and production techniques; changes in architectural construction strategies and building layouts; and temporal markers such as breaks in stratigraphy or construction episodes. Phases are, when possible, anchored with radiocarbon dating. When combined with phasing developed at other stratified sites, such as Hili, the defined trends in Umm an-Nar material culture at Bat become cornerstones in a regional chronology that has the potential to refine archaeological understanding of the Umm an-Nar period.

**Eli Dollarhide (New York University Abu Dhabi), Charlotte Cable (University of New England; Michigan State University), and Jennifer Swerida (Penn Museum), “Connecting Communities: The Changing Landscape of Ceramic Production in the Bronze Age Bat, Oman Region”**

A wealth of recent archaeological fieldwork has shed new light on the Bronze Age occupation of southeastern Arabia. Research has focused particularly on the region's mortuary traditions and connections to external polities, leaving settlement contexts, and especially the relationships between different settlements within Arabia, less well understood. The variety of domestic areas evident at the UNESCO World Heritage Site of Bat, in the Al-Dhahirah Governorate of central Oman, offers an opportunity to remedy this situation.

During winter 2018–2019, a new phase of fieldwork began at Bat, with a goal of building a more coherent picture of the site's disparate Umm an-Nar period elements. Part of this endeavor includes understanding Bat's relationship with neighboring communities through spatial and ceramic analyses. In this paper, we present the preliminary results of the petrographic analysis of Umm an-Nar period ceramics from the Bat area in the context of this new fieldwork program. Ceramic samples analyzed as part of this research were selected from excavations at Bat; survey collections from ad-Dariz, al-Khutm, and Bat South; and Beatrice de Cardi's 1974 excavations at 'Amlah. The results suggest a single group of ceramic production for the early Umm an-Nar period and the development of an additional production group in the southern portion of the Bat region during the late Umm an-Nar. This ceramic evidence indicates a dynamic landscape of production and exchange between communities in central Oman.

**Abigail Buffington (The Ohio State University), Kyle Olson (University of Pennsylvania), Joseph Roe (University of Copenhagen), Joy McCorriston (The Ohio State University), and Ali Ahmed Al Kathiri (Ministry of Culture and Heritage, Oman), "Homesteads, *Holcms* (Households), and Villages: Results of the 2018 Ancient Socio-Ecological Systems in Oman (ASOM) Project's Settlement Survey and Excavations"**

This paper presents the results of settlement survey and excavation undertaken in Dhufar, Oman as part of the ASOM project, 2016–2021. This project aims to clarify the settlement history of the Dhufar Mountains, framed by climate cycles associated with the Indian Ocean summer monsoon through the Holocene. Defined by a series of five biogeographic zones from southwest to northeast, Dhufar's habitats available for settlement were the cultivated, urbanized coastal plain; a wooded highland band with dramatic seasonal variation in vegetation; the plateau; the Near Nejd wadi region; and the vast desertic Rub al-Khali. Much of Dhufar's prehistory appears to have been defined by nomadic pastoralism—potentially present in the region as early as 7000 years ago—but multiple scholars have observed stone-lined circular-form structures, understood as permanent (i.e., non-nomadic) settlements. Our study tests the hypothesis that settlement was patterned primarily by zone, and less influenced by chronology or inter-settlement distance. We selected a 20 x 7 km area in the northeastern Wadi Darbat drainage for study. This transect crosses the intersection of the escarpment, plateau and Nejd regions and therefore affords a test of the relationship between settlement location, size, structural complexity, and spatiotemporal dimensions. We conducted small-scale excavations at three sites documented in this region, the results of which advance the current synthesis of regional settlement history in Dhufar. As a result, we found that zone was a significant factor in settlement patterning.

**Christoph Schwall (Austrian Academy of Sciences) and Sabah Abboud Jasim (Sharjah Archaeology Authority), “Revisiting Kalba: New Investigations at a Bronze Age Coastal Site at the Gulf of Oman (Emirate of Sharjah)”**

From the Early Bronze Age extended supra-regional networks can be attested, reaching from the Aegean to the Indus. In this context, the Arabian Peninsula offers, due to its geostrategic location, optimal conditions for nodes of these networks and probably functioned as a mediator between east and west. New fieldwork was started at the settlement of Kalba, situated in the alluvial plain in the coastal region of the Gulf of Oman, to assess the impact of these networks on local and regional social structures. Apart from occupation layers of the second and first millennia B.C., Early Bronze Age structures, like the remains of a massive tower construction as well as tombs in the vicinity of the site, have been known since the 1990s.

Information about the dimension of the site and its geomorphological situation is still lacking. As a result, systematic investigations, starting with detailed topographical documentation and basic geophysical analyses, have been performed. The results of these first analyses of the site of Kalba have been taken to conduct a small-scale trial excavation with the aim to provide more detailed information on the Early Bronze Age remains. New insights from Kalba should offer the potential to assess the settlement’s function as well as its position on the Musandam peninsula and, moreover, within the framework of third millennium B.C. trading networks.

**Hasan Ashkanani (Kuwait University), “A Choice of Late Neolithic and Bronze Age Potters from the Arabian Gulf: A Characterization Study of Ceramic Assemblages from Kuwait, Mesopotamia, and Bahrain, Using Non-Destructive pXRF”**

The Ubaid culture, named for Tell Ubaid in southern Mesopotamia, has been a dynamic area of research of interest in the Arabian Gulf as it is the oldest evidence of permanent settlement in the region. Representing the late Neolithic period starting about 6500 B.C., the Ubaid Culture can be identified by its massive fine, plain, and painted ceramic assemblages. On the other hand, Ubaid-period is also characterized by local “Gulf” red coarse pottery.

Both the late Neolithic Ubaid Mesopotamian tradition and local pottery assemblage, in addition to Bronze Age ceramic shreds from Kuwait, Bahrain, and Mesopotamia, have been the subject of archaeometric study. Non-destructive portable X-ray fluorescence has been performed to obtain chemical components of both Ubaid and local ceramic assemblages, for the construction of a chemical database, possibly fingerprinting provenance, and examining the continuation of similar recipes during the Bronze Age. A total of seven trace elements (Ba, Rb, Sr, Y, Nb, Th, and Ti) were isolated as they are useful to differentiate among clay-based artifact groups. A statistical assessment, using SPSS, was also performed to confirm the clustering and maximum variance between ceramic groups.

The results show the choice of ceramic recipe changed from the late Neolithic potter to the Bronze Age one. The results of this research are useful and encouraging for carrying

out further analyses in the future (e.g. petrographic thin section) to study the mineralogical components and ancient technology.

### **11A. Tracing Transformations in the Southern Levant: The Transition from the Middle to the Late Bronze Age at Tel Lachish and Beyond I**

CHAIRS: Felix Höflmayer (Austrian Academy of Sciences) and Katharina Streit (The Hebrew University of Jerusalem)

#### **Katharina Streit (The Hebrew University of Jerusalem) and Felix Höflmayer (Austrian Academy of Sciences), “The Austrian-Israeli Expedition to Tel Lachish—Results from Three Seasons of Excavation”**

Since 2017, a joint team of the Austrian Academy of Sciences and the Hebrew University of Jerusalem have been excavating at Tel Lachish as part of the project “Tracing Transformations in the Southern Levant” hosted by the Austrian Academy. A key aim of the excavation is to gain a better understanding of the Middle–Late Bronze Ages at the site. Two areas, Area P in the northern and Area S in the western part of the tell, are currently being excavated.

Noteworthy finds dating to the Late Bronze Age include a monumental building uncovered in Area S, radiocarbon-dated to the 15th century B.C. While only a small part of the structure has been explored so far, associated finds, such as the Cypriote sherd bearing a proto-Canaanite inscription, attest to the non-domestic nature of the building. The building further fills an alleged settlement gap at Tel Lachish suggested by earlier expeditions and proves substantial activity at the site contemporary to the Papyrus Hermitage 1116A.

The Middle Bronze Age at the site is marked by a palace structure uncovered in Area P. The current excavation expands the eastern palace wing further. First results suggest an additional set of rooms towards the east, greatly enlarging the building. Radiocarbon dating indicates that the palace was destroyed in two episodes in the early and mid-16th century B.C. Future investigations will focus on the identification of possible factors that could have caused the decline of Tel Lachish in the 16th century, such as internal crises and signs of dwindling power of the Canaanite city.

#### **Lyndelle Webster (Austrian Academy of Sciences), “The Middle to Late Bronze Age Transition from a 14C Perspective: The Contribution of the Tracing Transformations Project”**

Until recently, radiocarbon data in the southern Levant pertaining to the Middle to Late Bronze Age transition have been very limited, hindering our ability to develop and utilize a 14C-based local chronology and to check synchronizations with the Egyptian historical chronology, Tell el-Dab‘a, and the Santorini eruption. A goal of the Tracing Transformations project has been to expand and develop new radiocarbon datasets for southern Levantine sites, such that Middle to Late Bronze chronological conundrums may be better addressed both within the Levant and beyond.

The purpose of this paper is to report on the status of the project's radiocarbon research endeavor, presenting the latest available data from Tel Lachish along with pertinent new data from other southern Levantine sites. I will discuss new perspectives on local Middle–Late Bronze Age chronology, and summarize the current 14C southern Levantine contribution to the wider chronological concerns of the eastern Mediterranean.

**Vanessa Becker (University of Vienna), “Beyond Scarabs—Regional and Interregional Seal Production in the Levant during the Middle and Late Bronze Ages”**

As a geographical corridor, the Levant was always influenced by neighboring cultures including Egypt, Mesopotamia, and Anatolia, leading to the integration of “foreign” ideas into local communities. Despite the suggestion that regional power was linked to central rulers, a regionalism can be observed in archaeological contexts, especially in seal production. During the Middle and Late Bronze Ages it is particularly hard to trace the border between “foreign” and “local.” Existing typology systems can only cope with this issue to a restricted extent. Thus they are not able to provide reliable answers to the questions of how to deal with regional deviations and developments of local scarab production (e.g., in the Levant).

Within the project “Tracing Transformations in the Southern Levant” directed by Felix Höflmayer, funded by the Austrian Science Fund (START-grant Y-932), my research considers a new approach to scarab seals. Using the Correspondence Analysis (CA) method, this paper explores how this methodological tool can be used to solve problems like differentiating regional variations. A key benefit of CA is the potential to visualize regional groups from the macroscopic to the microscopic scale. Previous research has demonstrated that it is possible to draw a border between Egyptian and Levantine scarabs using CA. In this paper, we will discuss to what extent it is possible to differentiate regionalism within the mentioned areas, including down to regionally restricted designs or city preferences.

**Felix Höflmayer (Austrian Academy of Sciences), “A New Historical Model for the Transition from the Middle to the Late Bronze Age”**

Any historical model depends upon the absolute chronology on which it is based. This is especially true for the various historical interpretations of the transition from the Middle to the Late Bronze Age in the southern Levant and its connections with the end of the Second Intermediate Period in Egypt. The end of the Middle Bronze Age is characterized by substantial destruction horizons throughout the southern Levant, and the traditional chronology correlated these with the end of the Second Intermediate Period in Egypt and the alleged expulsion of the Hyksos ca. 1550 B.C. Consequently, biblical archaeologists argued that the destructions are the results of Egyptian military campaigns in the aftermath of the expulsion of the Hyksos. A low chronology was proposed by Manfred Bietak and others based on their interpretation of the key site of Tell el-Dab‘a in the eastern Nile Delta. According to this chronological scheme, the Middle Bronze Age destructions would date to the Thutmosid period in Egypt. Finally, based on several radiocarbon sequences from Egypt, the Levant, and the Aegean, the present author



proposed to raise the absolute date of the Middle–Late Bronze Age transition to ca. 1600 B.C., thus preceding the alleged expulsion of the Hyksos and challenging the above-mentioned historical models. This paper will review this crucial time period in the light of recent research of the “Tracing Transformations” project, new radiocarbon sequences, and the Austrian-Israeli excavations at Tel Lachish.

### **11B. The Secret Lives of Objects: Museum Collections, Hidden Histories, and Repatriation Efforts II**

CHAIRS: Lissette Jiménez (San Francisco State University) and Kiersten Neumann (University of Chicago)

#### **Lissette Jiménez (San Francisco State University), “Revealing the History of the Sutro Egyptian Collection at San Francisco State University”**

The Sutro Egyptian collection in the Global Museum at San Francisco State University is comprised of approximately 700 purchased ancient Egyptian objects. Many museums have similar types of purchased collections where minimal information is known about the context of individual objects or the overall collection. Until recently, the only known information about the Sutro collection was that it had been acquired by Adolph Sutro in the late 1880s, displayed in the Sutro Baths in San Francisco, and eventually donated in the 1960s to the University, where it currently resides. Further exploration of the objects and archival materials has provided more information about the provenance of the collection and the motives behind its original acquisition. This paper will reveal the complicated history of the Sutro collection, consider the implications of this type of historical research on purchased collections, and discuss how continued research on the context in which these objects were collected can help fill the lacunae in our museum and archaeological records.

#### **Jessica Kaiser (University of California, Berkeley), “Colonial Encounters: Preliminary Findings from the Abydos Temple Paper Archive”**

Few scholars would deny that Egyptology and colonialism essentially grew up together. For much of its early history, the discipline was completely dominated by Western interests. During this time, native scholars were generally being excluded from academic careers, and thus in effect denied the opportunity to participate in the narrative of their own heritage. Even when the majority of the workforce on western-led excavations was Egyptian, their names are rarely, if at all, mentioned in the resulting publications. In 2013, however, a previously unexamined archive was discovered in a storage room in Abydos. This collection of papers challenges the view of Egyptian heritage workers as victims of the colonial discourse of Egyptology and bystanders in the production of historical knowledge. It consists of thousands of documents from the Inspectorate of Sohag and beyond, related to the development of cultural heritage management in the Egyptian Ministry of Antiquities from the mid-19th century through the 1960s, and ascribes a much greater agency to native Egyptians than previously assumed. The archive is currently in the process of being digitized by an international team, sponsored by UC Berkeley in collaboration with the Egyptian Ministry of Antiquities and Humboldt University Berlin. This paper will present an overview of the preliminary findings of the

first two seasons of the Abydos Temple Paper Archive Project, and provide a few examples of the fascinating stories it has uncovered.

**CANCELLED:**

**Susanne Paulus (University of Chicago), “Connecting Tablets: Telling Hidden Stories”**

~~In the earlier days of Assyriology, tablets written in cuneiform from ancient Mesopotamia were mostly valued for their inscriptions and not as archaeological objects. As scholars were primarily interested in the text, tablets were purchased from the market ignoring their archaeological context and interconnections. This approach resulted in the situation that tablets formerly belonging to one archive or library in antiquity are scattered today over museums and private collections all over the world. In the 1980s scholars began to reconstruct the connections between tablets from private archives by analyzing personal names and archive structures. These approaches were mostly limited to personalized documents. Scholarly tablets are harder to connect via textual study.~~

~~In this paper, I present a series of 11 tablets acquired by the Oriental Institute in 1933. For publication, they were distributed between Benno Landsberger, who published the grammatical material, and Otto Neugebauer and Abraham Sachs, who edited the mathematical texts; the literary tablets were published later, and some tablets are still unpublished. Due to this selective approach, the connection between the tablets which was apparent to the naked eye was lost. Combing the acquisition history with a detailed study of the tablets’ material aspects including format, epigraphy, and analysis of the clay composition, I prove that the texts belonged initially to one scholarly library of important reference texts. This study provides new insights into the scholarship of the Old Babylonian period, while the methodology can be applied more broadly to cuneiform collections worldwide.~~

**Tasha Vorderstrasse (University of Chicago) and Brian Muhs (University of Chicago), “Two American Collectors in the Near East in 1848–1849”**

Collectors often disperse finds of archives and groups of antiquities, but museum archaeology can help to reconstruct them. One can study objects acquired by different collectors at the same time to determine whether they might belong together, or one can find apparently related objects and then determine whether they might have been collected at the same time.

This paper applies the second approach to two groups of Egyptian antiquities in the Brooklyn Museum and the Smithsonian. Inscriptions on some of the objects suggested that they might be related, and museum archaeology confirmed that two Americans who travelled through Egypt and Palestine at the same time in 1848–1849 collected them. Dr. Henry James Anderson donated his collection to the New York Historical Society in 1864 and 1877, which then transferred them to the Brooklyn Museum in 1937, while Rev. George Whitefield Samson donated his to the Smithsonian in 1885. Consequently, a number of funerary cones, shabtis, and Demotic ostraca can be analyzed as parts of tombs, tomb groups, and ancient archives, rather than isolated items.

**Kea Johnston (University of California, Berkeley), “The Posthumous Journeys of an Egyptian Priest’s Daughter”**

It is difficult and sometimes inadvisable to try to reconstruct a narrative about the ancient history of an object. Its owners and producers have been dead too long, and the records of their existence too fleeting and formal to tell us much about who they were as people. In this respect, tracing the modern history of an object can be much more rewarding. Over a century ago, Tawaher, the daughter of an ancient Egyptian priest, was removed from her tomb at Nag el-Hassiya, near Edfu. Today, she and the basin of her coffin are in San Jose, while the lid is in New York and the stele in Cairo. This paper reconstructs the posthumous journey of Tawaher, and the possibility of virtually reuniting the components of her burial through a combination of 3D models and online documentation.

**11D. Application of Geoarchaeological Research Methods to Near Eastern Archaeology (Workshop)**

CHAIRS: Howard Cyr (University of Tennessee, Knoxville) and Shawn Bubel (University of Lethbridge)

**Rachel Kulick (University of Toronto), Francesco Berna (Simon Fraser University), and Kevin Fisher (University of British Columbia), “Settlement Activity and Site Formation at Kalavastos-Ayios Dhimitrios, Cyprus: Evidence from Geoarchaeology”**

Geoarchaeological research at the Late Bronze Age city of Kalavastos-Ayios Dhimitrios in south-central Cyprus aims to 1) establish the uses of space in and around the city’s monumental buildings and activity areas, and to 2) connect Late Bronze Age site formation processes with social activities and environmental transformations occurring in the broader landscape. Towards these goals in 2019, the Kalavastos and Maroni Built Environments (KAMBE) Project excavations obtained new geoarchaeological and environmental data from in and around the site that can be securely dated with micro-contextual samples of archaeological material and sediment, as well as analyzed in conjunction with contexts revealed by excavations in 1979–1998. This paper will discuss the preliminary research results and geoarchaeological methods employed to achieve these aims and contribute to understanding the urban social dynamics and environmental context of this major regional site.

**Josie Newbold (Brigham Young University), “Natural or Manmade? A Hydrological Study of the Ad-Deir Monument Seep”**

Beginning in 2013, the BYU Ad-Deir Monument and Plateau Project (AMPP) began a conservation project to study the wind and seasonal water erosion impacting the deterioration of the Ad-Deir Monument. This monumental structure was carved by Nabataean builders between 100 B.C.E. and 100 C.E. These ancient architects created infrastructures to protect the façade from both wind-driven sandstorms and runoff from the infrequent rainstorms that created massive flash floods in the ancient city of Petra. These infrastructures are currently being studied and restored by the AMPP team. As part of this study, seep water was observed emerging from the lower left side of the Ad-Deir Monument façade and northwest temenos cliff wall. Local theories as to the cause of this

seep range from a natural occurring spring, to suggestions that the seep was caused by the rebuilding of a dam in nearby Wadi Fatumah. In order to determine its origin, I took water samples from the Ad-Deir seep and from springs, cisterns, and rainstorms in Petra during the spring and winter seasons from 2014 to 2018. These samples were analyzed for  $^{18}\text{O}$  isotopes and the ratio between  $^{18}\text{O}$  and  $^{16}\text{O}$  isotopes compared to determine the origin of the seep itself. Test results showed that the Ad-Deir seep is a natural spring originating deep within the mountain to the northwest of the Ad-Deir Monument. This finding has important implications for preserving the façade of the Ad-Deir Monument but also for better understanding the use of the Ad-Deir Monument courtyard in antiquity.

**Howard Cyr (University of Tennessee, Knoxville), “Desert Hacks! Problem Solving and Creative Sciencing from the 2019 ‘Ayn Gharandal Dig Season”**

Multi-disciplinary research projects bring their own unique challenges. Working in remote areas provides endless opportunities to creatively meet these challenges in sometimes surprisingly novel ways. This presentation shares solutions to issues encountered during the 2019 ‘Ayn Gharandal dig season and illustrates how collaborating with scientists from a variety of backgrounds creates a larger resource for problem solving.

**11E. Reports on Current Excavations—ASOR Affiliated**

CHAIR: John D. M. Green (American Center of Oriental Research)

**Elizabeth Ridder (California State University San Marcos), Patricia Fall (University of North Carolina at Charlotte), Suzanne Pilaar Birch (University of Georgia), Mary Metzger (Vancouver Community College), and Steven Falconer (University of North Carolina at Charlotte), “Stable Isotope Inference of Environmental Change, Town Abandonment, and Redevelopment in the Southern Levant and Cyprus”**

This paper introduces a new study of ancient environmental changes and agrarian responses to help explain EB IV town abandonment and Middle Bronze Age urban resurgence. Our study compares stable isotope data from plant and animal remains excavated at Tell Abu en-Ni‘aj, Tell el-Hayyat, Khirbat Iskandar, and Zahrat adh-Dhra‘, Jordan, and Politiko-Troullia, Cyprus with stable isotope baselines derived from modern plant and water samples. Many current models of isotope landscapes (isoscapes) are regional to global in scale, and although many of these products are available, the broad spatial scale does not allow for the examination of local to regional variation of isotopes. This paper discusses the construction of  $^{13}\text{C}$ ,  $^2\text{H}$ , and  $^{18}\text{O}$  baseline isoscapes for Cyprus and Jordan using meteoric and surface waters as well as vegetation. The data for this preliminary examination were collected in 2017 and 2018, across elevational gradients in both countries; additional samples were collected near our focal sites. Modern isoscapes provide spatial coverage, while tooth collagen and carbonized seeds and wood from specific archaeological sites permit the extrapolation of Bronze Age isoscapes. Construction of isoscapes at this spatial and temporal scale will allow us to test hypotheses regarding environmentally related abandonment and resettlement.

**Jonathan Greer (Cornerstone University), Yifat Thareani (Hebrew Union College-Jewish Institute of Religion), Aaron Burke (University of California, Los Angeles), and David Ilan (Hebrew Union College-Jewish Institute of Religion) “New Gleanings from Tel Dan, 2018–2019”**

Excavations and restoration work conducted at Tel Dan over the past two years have resulted in a series of new finds and new understanding, chiefly relating to the Iron Age I and Iron Age II. The diminutive Iron Age I Aegean-style cult room and metallurgy installations in Area B have been conserved and restored. Large quantities of organic material have been collected and the faunal collection expanded, allowing for more profound insights into the management of animal resources for the Iron Age.

Radiocarbon dates have been acquired from the Iron Age IIA and Iron Age I levels. The Iron Age II fortification that collapsed in the winter of 2017 was repaired, allowing us to better date the wall and understand its construction techniques. In Area L at the center of the site, two destruction events have been identified: one in the first half of the eighth century B.C.E.—almost certainly an earthquake destruction—and one in the second half of the eighth century B.C.E.—possibly attributable to Tiglath-Pileser III.

**James Riley Strange (Samford University), “Report of the 2019 Season of the Shikhin Excavation Project”**

The paper will report on the excavations in Field I of the site of Shikhin, which include a pottery and lamp manufacturing area and the remains of a public building, which the excavators identify as a synagogue and date to the late first or early second century C.E.

**Robert Darby (University of Tennessee, Knoxville) and Erin Darby (University of Tennessee, Knoxville), “The ‘Ayn Gharandal Archaeological Project: Report on the 2019 Season”**

This paper presents the results of the 2019 excavations at the site of ‘Ayn Gharandal in southern Jordan. Recent work at the site revealed the remains of a fourth-century church complex built within the walls of the surrounding Late Roman fort. The 2019 season resumed exploration of the area adjacent to the church in an effort to identify additional rooms associated with the larger complex and examined other areas of interest identified through geophysical survey in 2017.

**Tiffany Key (North Carolina State University), “The Ceramic Evidence from the Late Roman Army Site of ‘Ayn Gharandal: An In-Depth Analysis of the 2015–2019 Seasons”**

‘Ayn Gharandal, the ancient site of *Arieldela*, lies west of the *via nova Traiana* in Wadi Araba, approximately 100 km north of Aqaba and 40 km southwest of Petra. Since the recent excavations began in 2010, the archaeological team has uncovered remains from portions of the fort, a bath complex, and a nearby watch post. Unsurprisingly, ceramics were the most ubiquitous finds throughout these excavations and were analyzed at the end of each season based on their fabric, form, and specific vessel type.

After the 2014 excavation season, an in-depth analysis of all excavated ceramic materials indicated prominent connections to the major production centers of ancient Aila and Petra. Additionally, the analysis highlighted significant imported materials from Egypt

and Gaza, primarily in the form of amphorae, along with the value of intra- versus extra-provincial imports. Finally, a preliminary typological identification system highlighted common vessel types prevalent throughout the excavated areas.

The primary goal of this paper is to examine the ceramic evidence from the 2015–2019 excavation seasons in a similar fashion, placing emphasis on ceramic fabrics and forms. Particular attention will be paid to the ceramics uncovered from the church structure excavated in the 2017 and 2019 field seasons, in the hopes of providing insight into the stratigraphic depositions.

## **11F. Gender in the Ancient Near East I**

CHAIR: Stephanie L. Budin (Near Eastern Archaeology)

### **Nancy Serwint (Arizona State University), “Two Unique Votive Gifts from Ancient Marion”**

On Cyprus, typical dedications in sanctuaries dating to the Iron Age were sculptural images, usually made from clay and of figurine size. Within typological groups, a shared characteristic was a generic iconography that varied little. The assumption has always been made that both male and female worshippers had the latitude to offer gifts; however, as the votives were not inscribed, nothing could be ascertained about the identity of the dedicant or a particular relationship with the deity. Two terracotta heads discovered in a Cypro-Archaic sanctuary at ancient Marion counter the supposition that an anonymous offering reveals little of the votary. Unique in the specificity of ethnic type, the atypical size of the restored statues from which they derive, and the distinctive details of attributes go well beyond the commonality present in the majority of religious votives. The Marion heads provide significant information about the latitude assumed by at least some female dedicants to express idiosyncratic features that reflect cultural heritage and social class in a religious environment far removed from their homeland.

### **Mariam Ayad (The American University in Cairo), “The Status and Titles of Irtieru, a Female Scribe of the Egyptian 26th Dynasty”**

In 2018, Dr. Elena Pischikova invited me to examine the funerary texts inscribed in the tomb of Irtieru (TT 390), located in the Theban necropolis of South Asasif. Irtieru’s tomb is only one of two 26th Dynasty tombs constructed for women. Both women were members of the entourage of the God’s Wife of Amun, a high-ranking priestess and a royal princess. Irtieru’s titles include being a “follower” of the God’s Wife, her “eyes and ears,” and a “female scribe in the house of the Divine Worshipper.” Yet, the textual selection found in her tomb is much more limited than that found in the tomb of Mutirdis, the other woman whose tomb lies near-by in the Asasif cemetery. This paper expounds on the titles held by Irtieru, outlines the contents of Irtieru’s previously unpublished texts, and speculates on the relationship between her titles and the particular textual selection found in her tomb.

**Marta Ameri (Colby College), “Women, Seals, and Power in Prehistoric Iran and Central Asia”**

In recent years, scholars who study ancient economies have begun to focus on both the role of women within these networks and on the use of seals in their administration. The recognition that women were active participants in ancient economies has led to a reconsideration of the roles they may have played in emerging societies. At the same time, because of the vital role that seals play in both commerce and identity, the study of seals and sealing techniques has become increasingly central in understanding ancient cultures. Yet, until recently little attention has been paid to the relationship between sex and seal ownership and/or use.

Evidence from multiple third- and second-millennium cemeteries in Iran and Central Asia suggests that most of the seals found in tombs where the body could be sexed come from women’s tombs. This distribution of seals and other prestigious materials has been taken as evidence that women played a significant social role at these sites. Beyond the question of status that arises from the distribution of elite grave goods, the close analysis of the seals themselves and the contexts in which they were used provides insight into the different economic and social roles that men and women played. This paper combines the author’s previous research on the seals and sealings from Shahr-i Sokhta with evidence from some of these other sites to argue that the role of these women was not merely social or ceremonial, but also strongly linked to daily practices of site-wide administration.

**Jessie DeGrado (Brandeis University), “Hiding in Plain Sight: The Role of the *Qadištu* in Mesopotamian Society”**

In 1883, Archibald Henry Sayce linked the *qadištu* of Akkadian texts to the practices described in Herodotus *Hist.* 1.199, breathing new life into the myth of cultic prostitution. Over the course of the next century, however, no evidence emerged to support this theory. Scholars now understand the *qadištu* to be a type of cultic functionary specializing in wet-nursing and midwifery. A recent study also suggests that the *qadištu* occupied a position of low social standing, even relative to that of other women. I argue that, despite advances, our understanding of the *qadištu* is hampered by a tendency to reduce the social role of women to bodily functions such as pregnancy, birth, and nursing. The problem is compounded by unexamined Orientalist assumptions that cast Middle Eastern women as simultaneously cloistered and hypersexualized. This paper will consider the contributions of gender theory to our understanding of the *qadištu* in Mesopotamian society. I argue that the *qadištu* specialized primarily in rituals of purification. In addition, there is no direct evidence to suggest that the *qadištu* acted as a midwife at all—this designation stems primarily from the assumption that midwifery and wet nursing are interchangeable activities. In fact, rather than being relegated to the domestic sphere, *qadištus* officiated alongside the high priest in the Temple of Aššur and performed purification rites for the royal family. As ritual practitioners who worked in both the domestic and public spheres, the *qadištu* paradoxically combined religious authority with social transgression of gender roles.

## **11G. Marine Adaptation in the Mediterranean: From Prehistory to Medieval Times I**

CHAIRS: Thomas E. Levy (University of California, San Diego) and Gil Gambash (University of Haifa)

### **Chelsea Wiseman (University of Haifa; Flinders University), “The Maritime Neolithic: Evaluating Marine Adaptation in Eastern Mediterranean Prehistory”**

In eastern Mediterranean prehistory, the earliest exploitation of marine resources dates to the Palaeolithic, while the emergence of distinct maritime adaptation and intensified use of marine resources corresponds with the development of sedentary lifeways and agricultural economies in the Neolithic. However, the extent of maritime adaptation and its role throughout the Neolithic require further investigation. In this study, maritime adaptation includes economic aspects as well as land use, material culture, architecture, and site-formation features. This paper presents a synthesis of archaeological site information and assemblage data from across the eastern Mediterranean to conceptualize the “Maritime Neolithic” on a regional scale, and to identify variations in maritime adaptation. Through analysis of the material cultural indicators of maritime adaptation identified in prehistoric contexts, this paper will discuss the characterization of the use of marine resources and evaluate the potential for maritime interactions in the Mediterranean Neolithic.

### **Roey Nickelsberg (University of Haifa), Assaf Yasur-Landau (University of Haifa), and Ruth Shahack-Gross (University of Haifa), “The EB I Settlement of Dor South: A Newly Excavated Site on the Carmel Coast Bearing Evidence for Micro- and Macro-Regional Interactions”**

The EB I represents the first time that large sites are situated along the coast of Israel, from Ashkelon in the south to Megadim in the north. The few sites excavated thus far show that they were abandoned with the rise of urbanism (EB II). Due to the relative paucity of research of this phenomenon, their role within Early Bronze Age society is not yet fully understood. The southern coastal sites present strong ties with Egypt, suggesting the transportation of goods via sea routes. Along the Carmel coast the situation is less clear; while sites have been identified in association with natural anchorages (Dor South, Habonim, Newe Yam, Atlit), the reasons for settling this part of the coast are still unknown as none of these had been excavated until recently. Here we present the results of the first excavations at the EB I site of Dor South. Preliminary results indicate that pottery belongs mostly to the EB IA with some EB IB representation. Typologically, it resembles pottery found at EB I Ein Assawir. As pottery varies greatly from site to site during the EB I, these similarities may represent inter-settlement interactions within the Sharon-Carmel coast micro-region. Petrographic analyses, now in progress, are expected to provide further insight into the extent of overland and maritime connections on the micro- and macro-regional scales. The new data from Dor South, which in the future will also include faunal, botanical, and other economic manifestations (e.g., metallurgy), will contribute to our understanding of the role of the large coastal-maritime EB I settlements.



**Paula Waiman-Barak (University of Haifa) and Sveta Matskevich (The Hebrew University of Jerusalem), “Reflections on Marine Adaptivity at Middle Bronze Age Tel Mevorakh on the Carmel Coast: An Analytical Perspective”**

Tel Mevorakh on the Carmel coast is located on the banks of Nahal Taninim (Crocodile River) ca. 2 km from the current coastline. The site, previously excavated by E. Stern in the 1970s, yielded a sequence of Middle Bronze Age occupation beginning with a large MB IIA mud brick-built rectangular structure (“the Garrison”), followed by a small MB IIB fort and a large stone rampart that encircled and partly covered the old architecture. The subsequent MB IIC stratum is represented mainly by reinforcements to existing structures. Recent geomorphological studies demonstrate that the ancient environment was characterized by less alluvial coverage and less coastal sand and that the entire valley at the foot of the site was inundated with brackish water lagoons. This requires a new perspective for interpretation of the finds that perceives the site in the context of adaptations to marine environments.

In 2017 we initiated a research project that aims to revisit the Middle Bronze Age at Tel Mevorakh. We recovered for analysis ceramics, bones, and shells from the old excavations. We also started a new excavation to address some outstanding issues using modern analytical methods. We revealed a destruction layer with a collapsed mud brick wall, locally produced MB IIA storage jars and abundant seashell (*Glycymeris*, barnacles, *Murex*, and Egyptian *Chambardia*). Micro-archaeological analysis of the sediments from the fills and mud brick revealed other marine micro-fauna.

Petrography on ceramics from the old and new excavation projects revealed ample imports from Cyprus and the Lebanese and Syrian coasts in varying quantities during the Middle Bronze Age sequence, reflecting the dynamic nature of the connectivity of the site as well as changes in economic and cultural relations between Carmel coast populations and their neighbors in the Levant, Egypt, and overseas.

**Brigid Clark (University of Haifa), “Cypriot Pottery as an Indicator for Adaptive Trade Networks”**

Connectivity, including trade, is an adaptation to Mediterranean conditions. Temporal changes in pottery imports reflect adaptation of maritime trade systems to changing economic, social, political, and environmental conditions. This paper will investigate the connection between diachronic changes in Cypriot imports to the southern Levant throughout the Middle Bronze Age and contemporary political and social processes. The 18th century B.C.E. saw a paradigm shift within Near East connectivity networks, as networks formerly dominated by the Near Eastern powers in Mesopotamia and Anatolia turned their attention towards the Mediterranean. In the Middle Cypriot period, Cypriot imports were integrated into the Levantine littoral systems, which suggests the rise of maritime trade as adaptive behavior both in Cyprus and within the emerging Levantine urban systems. Trade was further expanded during the 16th century B.C.E. and in the transition from the Middle to Late Bronze Age, with an increase in the amount as well as the types of Cypriot ceramic imports to the southern Levant. This change is contemporary with the rise of (proto-)urbanism in Cyprus as well as the last phase of Hyksos rule and the rise of the 18th Dynasty in Egypt. This analysis will include the first results of an

integrated study of Cypriot imported pottery found at Levantine maritime gateways, including Jaffa, Achziv, and Kabri, as well as inland hubs like Megiddo.

**Katrina Cantu (University of California, San Diego), Richard Norris (University of California, San Diego), George Papatheodorou (University of Patras), Ioannis Liritzis (University of the Aegean; Henan University) Dafna Langgut (Tel Aviv University), Maria Geraga (University of Patras), and Thomas E. Levy (University of California, San Diego), “Climate Change and Anthropogenic Erosion in the Coastal Mycenaean World—Potami Bay, Gulf of Corinth, Greece”**

One goal of the 2016 Kastrouli-Antikyra Bay Land and Sea Project in the north central Gulf of Corinth was to shed light on climate change in Mycenaean Greece near the time of the Late Bronze Age collapse. Here we discuss only the coastal portion of the project, which uses paleoenvironmental resources such as pollen, marine sediments, and coastal geomorphology retrieved using sediment coring and scuba diving. The Potami Bay makes for an interesting study site due to its freshwater springs and proximity to Steno, a small Mycenaean fortified site, which make it an ideal anchorage to supply Kastrouli. In the summer of 2016 a team of researchers from the University of California, San Diego led by Thomas E. Levy and Richard Norris collected sediment cores from four small bays within the greater Antikyra Bay. The project was carried out in collaboration with George Papatheodorou (University of Patras), and Ioannis Liritzis (University of the Aegean). These cores are currently being analyzed at the Scripps Institution of Oceanography, University of California, San Diego and show major changes in sedimentology due to terrestrial environmental changes resulting in erosion of the area's characteristic terra rossa soils. Sediments transition from shelly bay sand in the oldest record to red-brown silt—interpreted as evidence of increased erosion of the steep limestone slopes behind the bay. Soil erosion is also suggested by X-ray fluorescence measurements (showing increasing clay in younger sediments) and the presence of olive pollen in the record. Radiocarbon dates are in progress and will be important for understanding both the non-anthropogenic climate changes over time as well as human impact on the environment due to deforestation and agriculture. These topics are of vital interest for understanding the Late Bronze Age societal shifts in the Mycenaean coastal realm.

**Ehud Arkin Shalev (University of Haifa) and Assaf Yasur-Landau (University of Haifa), “Marine Adaptation and Social Change in the Iron Age Southern Levant”**

The early Iron Age in the Levant marks a transformation in eastern Mediterranean marine adaptation. The nature of the cargoes seems to have changed: during the Late Bronze Age, maritime trade was dominated by cargoes of metal and pottery from Cyprus as well as amphorae from along the Levantine coast. In the Iron Age, however, there is relatively little in terms of ceramic imports from Cyprus, some evidence for Egyptian imports, and minimal evidence for metal cargoes. At the same time, there seems to be a technological transition, a move from the likely utilization of natural anchorages of the Bronze Age to stone-built maritime installations at Dor and Atlit, as well as later at Tyre and Tabbat al-Hammam. This paper will trace the impact of the change in patterns of social complexity on maritime trade during the 11<sup>th</sup>–7<sup>th</sup> centuries B.C.E., from the emerging coastal city states of the early Iron Age of the Levant to the inclusion of the area within the Neo-Assyrian empire. We shall also, for the first time, integrate finds from Iron Age

underwater surveys and excavations with finds in coastal and inland land excavations in order to understand the role of maritime trade in the subsistence economy of the Iron Age Levant.

## **11H. Archaeology of Arabia II**

CHAIR: Steven Karacic (Department of Culture and Tourism Abu Dhabi)

### **J. Mark Kenoyer (University of Wisconsin–Madison), Maurizio Cattani (University of Bologna), and Dennys Frenez (University of Bologna), “Fiber Crafts and Metallurgy at the Third Millennium Coastal Site of HD-1, Ras al-Hadd, Sultanate of Oman”**

Three seasons of renewed excavations, both horizontal and vertical, have now been completed at the third millennium coastal site of HD-1, Ras al-Hadd. The excavations were directed by M. Cattani (University of Bologna) and J. M. Kenoyer (University of Wisconsin–Madison) under the auspices of the Ministry of Heritage and Culture, Sultanate of Oman. In these excavations, a rich record of various types of fibers used for fishing line, ornament, and woven textiles has been recovered. Most of the fiber samples were preserved on copper artifacts such as hooks and pieces of copper being collected for recycling. New studies of local and non-local plants will be presented that reveals the complex nature of the fiber technologies practiced at this coastal site. A new perspective on copper metallurgy will also be discussed based on the large quantities and varieties of copper artifacts recovered from different parts of the site. These objects include copper scraps collected for recycling, such as small fragments of rods and sheets, as well as possible arrow points. In addition, numerous fragments of small to large crucibles have been recovered that suggest the site was used for re-melting and recycling copper objects. Preliminary analysis suggests that only some areas of the site were involved in metallurgical work, while other areas were mainly for domestic activities. The melting of scrap metal and production of ingots or new tools has not been documented at coastal sites in the past and provides a new window on the nature of Umm an-Nar metallurgical traditions.

### **Gregg Jamison (University of Wisconsin–Milwaukee) and J. Mark Kenoyer (University of Wisconsin–Madison), “New Insights on Lithic Technology at HD-1, Ras al-Hadd, Sultanate of Oman: Raw Materials, Typology, Function, and Distribution Patterns”**

An overview of the recent analysis of chipped stone tools and debitage recovered from three seasons of excavation (2016–2019) at the coastal site of HD-1, Ras al-Hadd, Sultanate of Oman, will be presented. The Joint Hadd Project, directed by M. Cattani and J. M. Kenoyer, provides a window onto how the lithic assemblage from different areas of the site reflect changes in raw material selection, patterning of tool production, and tool use at the site. A survey conducted inland from the site revealed the presence of a distinctive source of flint/chert that was not reported in the past. The inhabitants used different raw materials to make different types of tools and experimental studies demonstrate the varying potential uses for these distinct raw materials. While they are traditionally thought to have been used in shell ring and hook production, current

research on retouched flint tools from HD-1, including use-wear and experimental studies, demonstrates more diversity of morphological types. The patterning of lithic tools and other production debris recovered in different areas of the site will be discussed and preliminary interpretations about changes in the types of craft activities at the site will be presented. This study demonstrates that lithic tools were used in multiple craft activities taking place at the site and there were changes in technology and tool morphology over time. Comparative studies of the tools and technology at other sites in Oman also provide new insights into the possible different craft traditions seen in coastal Oman and surrounding inland regions.

**William Belcher (University of Nebraska–Lincoln), “Fish Remains at Ras al-Hadd (HD-1): A Biological and Ethnoarchaeological Approach from the 2018–2019 Field Season with the Joint Hadd Project (University of Bologna/University of Wisconsin–Madison)”**

Current research in 2018–2019 at the site of HD-1 on Ras al-Hadd has yielded a significant amount of fish remains. Previous researchers have attempted to examine the exploitation strategies of the third millennium B.C.E. occupations. Their reconstructions includes assigning fish to specific environments such as lagoon, inshore, and offshore fish assemblages. Limited examination of the fish catches from local fishing vessels and interviews of local fisherfolk suggests that this model is too simplistic and that the ethnographic reality is much more complex, requiring us to examine fish use as a mosaic of fish moving in and out of these environments based on weather and season, as well as fish maturation. By understanding the detailed behavior of the fish from biological accounts, but more importantly from ethnographic and ethnoarchaeological research, we can recreate the detailed interaction between the fish and the fisherfolk. Using this background, the identification of fish remains from various third millennium B.C.E. contexts at HD-1 is examined.

**Michael Harrower (Johns Hopkins University), Smiti Nathan (Johns Hopkins University), Ioana Dumitru (Johns Hopkins University), Joseph Lehner (University of Sydney), Frances Wiig (UNSW Sydney), Alexander Sivitskis (Teton Science Schools), and Rémy Crassard (French National Center for Scientific Research [CNRS]), “From the Paleolithic to the Islamic Era: The Archaeological Water Histories of Oman (ArWHO) Project Survey (2011–2019)”**

Over the past decade, archaeological research has yielded a wide range of important new discoveries in southeastern Arabia, including in northern Oman. This paper reports key results of archaeological survey in the Al-Dhahirah Governorate of Oman conducted by the Archaeological Water Histories of Oman (ArWHO) Project over the past eight years. Important discoveries include Paleolithic finds, new Neolithic encampments, insights about Bronze Age monuments, new understanding of Iron Age trade networks, and broader understanding of small Islamic-era settlements in mountainous hinterlands.

**Joseph Lehner (University of Sydney; University of Central Florida), Michael Harrower (Johns Hopkins University), Ioana Dumitru (Johns Hopkins University), Smiti Nathan (Johns Hopkins University), Eli Dollarhide (New York University Abu Dhabi), Alexander Svititskis (Teton Science Schools), Paige Paulsen (Johns Hopkins**

**University), and Barbara Helwing (University of Sydney; Vorderasiatisches Museum), “Periodic Production, Paleoenvironment, and Provenance: Archaeometallurgical Survey and Excavations in Wadi Raki, Oman”**

Over 40 years of research has established southeastern Arabia as an important ancient source of copper in the Near East and beyond. While the development and spread of copper production technologies in ancient southeastern Arabia had a pronounced impact on the sociocultural and natural environment, we still know relatively little about the organization of production and its diachronic development. This problem is in part a function of periodic production, in which industrial-scale copper production during the early Iron Age is bracketed by intervals during the Bronze Age and later Iron Age/late Pre-Islamic periods with little evidence of production. This paper presents key results of 2019 survey and excavations in Wadi Raki in the Al-Dhahirah Governate of Oman conducted by the Archaeological Water Histories of Oman (ArWHO) Project. The ancient industrial landscape of Raki, with evidence of industrial-scale copper production extending back to the late second millennium B.C., demonstrates that the area is one of the largest Iron Age copper production sites in Arabia. Here we report on this new interdisciplinary research in materials science, anthracology, geochronology, pottery analysis, and satellite detection of ancient copper working sites.

**12A. Tracing Transformations in the Southern Levant: The Transition from the Middle to the Late Bronze Age at Tel Lachish and Beyond II**

CHAIRS: Felix Höflmayer (Austrian Academy of Sciences) and Katharina Streit (The Hebrew University of Jerusalem)

**Susan Cohen (Montana State University) and Jana Mynářová (Charles University), “Context and Text: The Epigraphic Evidence for the Middle–Late Bronze Age Transition in the Southern Levant”**

Although small, a significant corpus of epigraphic material found in stratified contexts throughout the southern Levant, including both tablets and cylinder seals, provides information concerning the Middle and Late Bronze Ages in the region. However, the chronological shifts proposed by recent radiocarbon data, whereby the transition between these two eras is raised by a century if not more, necessitate re-examination of the chronological contexts traditionally associated with these epigraphic materials. This, in turn, requires a re-examination of their original stratigraphic locations, and the accompanying archaeological evidence that provides the economic, social, and presumed organizational frameworks in which these texts may be read. This paper will present the contextual information for these crucial texts, as well as a preliminary analysis of how the suggested chronological shifts affect their use in examining the Middle–Late Bronze Age transition in the southern Levant.

**Jana Mynářová (Charles University) and Susan Cohen (Montana State University), “Text and Context: The Epigraphic Evidence for the Middle–Late Bronze Age Transition in the Southern Levant”**

Epigraphic sources are extensively used to reconstruct both the political history and reality of daily life in the southern Levant in the second millennium B.C. In this respect,

the Late Bronze Age documents—especially those from the Amarna archive—play a dominant role, while the Middle Bronze Age texts are usually not taken into account. The dating of several of these texts is still problematic. The latest research in the field of cuneiform paleography, combined with recent radiocarbon data, gives new reasons and opens up new perspectives for the re-examination of this corpus of cuneiform documents. This paper will present a paleographical analysis of the epigraphic evidence from the southern Levantine sites, dated both to the Middle Bronze Age and—more generally—to the second millennium B.C., in order to set the texts into the broader social and cultural milieu of the region during the given period of time.

**Ann-Kathrin Jeske (University of Vienna), “wA.t-Hr.w, DAhj, rTnw, xt mfkA.t: Different Region, Different Strategy? Egyptian Functionaries in the Southern Levant and on the Sinai Peninsula during the 18th Dynasty”**

*w3.t-hr.w, d3hj, rtnw, ht mfk3.t: Different region, different strategy?*

**Egyptian functionaries in the southern Levant and on the Sinai Peninsula during the 18<sup>th</sup> dynasty**

Recent readjustments of the chronological framework of the eastern Mediterranean in the mid-second millennium B.C.E., continuous archaeological discoveries, and the introduction of new analytical methods encourage us to reassess previous interpretations of interregional relations in this geographical area. Such relations include the presence of Egyptian functionaries in the southern Levant and the Sinai Peninsula, pursuing Egyptian interests such as the acquisition of desired goods, diplomacy, and maintenance of infrastructure. These Egyptian representatives were confronted in each region with different local conditions in regard to lifestyle, population density, and availability of resources. This paper addresses Egypt's investments in the southern Levant and the Sinai Peninsula in terms of function and number of Egyptian personnel sent abroad during the 18th Dynasty, and the character of their interaction with the local population. In addition to the spatial perspective, diachronic trajectories will also be explored. This study intends to examine the extent to which Egyptians adapted their strategies to the different local situations they encountered. In so doing we must consider how our modern perception and division of the wider region can hamper a proper understanding of Egypt's involvement in the southern Levant and the Sinai Peninsula.

**Wolfgang Zwickel (Johannes Gutenberg University Mainz), “Low Chronology in Galilee? The Thutmose III List and the Settlement History”**

The Thutmose III lists mention many sites that are located in northern Palestine. Many of the mentioned locations can be identified with modern sites and nearly all of these sites have been carefully surveyed or excavated. The settlement history of these sites is very surprising. Throughout the Galilee there existed many Middle Bronze Age sites but only a few Late Bronze Age sites. Many of those mentioned in the Thutmose III list were settled only in the Middle Bronze Age, not in the Late Bronze Age. This results in the suggestion that the year 1458 B.C., the conquest of Megiddo by Thutmose III, was the final end of the Middle Bronze Age in the north of Palestine, while the Late Bronze Age had already begun in the south of the country.

## **12B. The Secret Lives of Objects: Museum Collections, Hidden Histories, and Repatriation Efforts III**

Crystal 1

CHAIRS: Lissette Jiménez (San Francisco State University) and Kiersten Neumann (University of Chicago)

### **Mackenzie Heglar (Bryn Mawr College) “Parameters, Patterns, and Processes: The Logistics of a Depositional Approach”**

Classification of deposits, such as religious or ritual, was part of the early history of archaeological investigations, even though emphasis was placed on the artifacts they contained. Contemporary approaches place deposits at the heart of investigations, stressing the interrelation between the material record and context. This analysis is linked to one of the ever-present goals of archaeology: using archaeological data to draw meaningful conclusions about past human activity. Studying patterned distribution and artifact clusters in the archaeological record enables us to understand spatial relationships between objects and draw conclusions about past behaviors and value systems. Votive deposits are typically used to discuss ritual behavior and reconstruct religious practices. Classification of deposits as ritual results in overemphasis on religious character at the expense of considering the broader implications of depositional practices. While classifications, present in the analysis of sanctuary assemblages, provide a foundation for contextual analysis, clear parameters for depositional analysis have not emerged. Herein, I focus on artifacts occurring in concentrated, high-density quantities and artifacts isolated for their rarity or low-density quantities. Using sanctuary deposits at Perachora in Greece and Kition and Mersinaki in Cyprus as case studies, I show that a depositional approach can be successfully applied, even if artifacts have to be recontextualized based on excavation notebooks and publications. Furthermore, I demonstrate that, despite the vast cultural and formational differences of my case studies, a depositional approach to object-based analysis can shed new light on practical and logistical aspects of the treatment of votive offerings and their valuation.

### **Morag Kersel (DePaul University), “Unmasked! The Hidden Histories of Neolithic Masks”**

Between March and September of 2014, the Israel Museum displayed what curator Debby Hershman described as “a small rare group of 9,000-year-old masks—the oldest masks known to date.” *Face to Face: The Oldest Masks in the World* (Israel Museum, 2014) was the culmination of nearly a decade of research by Israel Museum curators and other archaeologists. The exhibition marked the first time that a group of masks from the Neolithic (ca. 7600–6000 B.C.E.) was displayed together and the first time that the majority of them were publicly accessible. Two of the masks included in the exhibit have known archaeological find spots and are part of the permanent collection of the Israel Museum. Ofer Bar Yosef recovered the Nahal Hemar mask from controlled scientific excavations; the other mask was purchased by noted military figure Moshe Dayan from a farmer after a chance discovery during agricultural plowing and then donated to the museum. The remaining 10 masks have no known associated archaeological information; all loaned from the private collection of Michael and Judy Steinhardt, all purchased from

the antiquities market. In November 2018, the Israel Antiquities Authority announced the discovery of another mask, although the circumstances of the recovery are murky at best. This paper reflects on the object-based research into the hidden histories of the Neolithic masks and the consequences, intended and unintended, of esteem for ancient artifacts.

**Lindsay Allen (King's College London), “The Absence of Violence: Countering Antiquities as Forgetful Goods”**

The absence of violence is a notable requirement in the marketing of antiquities; they must be purified by many displacements from their point of extraction to their point of sale as luxury commodities. In areas of conflict, this lost history is easily conceptualized as “blood antiquities,” while for historic cultural corpora, the concept of colonial violence is also readily conjured.

This paper takes as its starting point the marketing of an architectural fragment pilfered from a site recently excavated in peacetime to explore the slippage between exposure, extraction, and theft of archaeological material in “ordinary” time. The so-called “Persian Guard” once hosted by the Montreal Museum of Fine Arts, and restituted to Iran in 2018, was stolen from the midst of the “scientific” excavation of Persepolis in 1935–1936. It was not alone. With a presumption of natural decay and fragmentation, such artifacts continue to circulate on the market, abstracted and removed from the source site from which they derive their authentic essence of cultural capital. I conclude by asking what aversive impact on the market the restoration of histories of violence might have, especially in museums, where calls to give voices to subaltern objects begin to grow louder.

**Stephanie Langin-Hooper (Southern Methodist University), “From Archive to Repatriation: The Inside Story of Bowling Green State University’s 12 Roman Mosaic Fragments”**

In November 2018, Bowling Green State University (in Ohio, USA) repatriated 12 fragments of a Roman-era mosaic to the Republic of Turkey. This paper will tell the full story of the research that led to the discovery of the mosaic fragments’ Turkish provenance. The role of the archive in this story is a complex one, for it was archival documentation that led BGSU’s development team to assume that the mosaics were excavated legally from the site of Antioch; yet, conflicting archival research on the Antioch excavations, and from BGSU’s own files, allowed a more accurate assessment of provenance to be established. Tantalizing archival clues as to the whereabouts of further looted antiquities will also be discussed. In the telling of this story from “archive” to “repatriation,” particular focus will be placed on the challenges of negotiating issues of cultural property in a small collection, at an institution that does not routinely navigate such ethical and legal issues.

**Alexander Nagel (Fashion Institute of Technology), “Traveling Abroad: Oil and South Arabian Antiquities in America”**

Materials from tombs, open-air shrines, and sites in Yemen have been circulated into European and American private collections and public museums since the early 19th century. Sometimes in tandem with promises made to and welcomed by ambitious local



South Arabian rulers in exchange for economic benefits, more often with enthusiastic explorers or scrupulous foreigners, the past of ancient South Arabian kingdoms has been plundered and sold to the highest bidder, in part because of the gift-giving traditions familiar in the Arabic world. This contribution will introduce results from the collaborative “Last of the Qataban” project. After years of research into the market of Qataban antiquities and their distribution and circulation in America, certain patterns allow us to highlight the involvement of governments and diplomats, corporations and museums. In recent years, narratives of “saving” the cultural heritage of Yemen, whose people currently face one of the worst humanitarian crises in the world, have become a common theme. Highlighting the role of archives and collections around the world, I ask: How did materials from Aden and Taiz arrive in America in the first place and why have some of these materials been repatriated, while others have not? Who was involved in these transactions and what scenarios can we predict in the protection of materials from Yemen in the future? Finally, the theme of exploitation of antiquities will be contextualized within the framework of the search for natural resources including oil and in “soft diplomacy” programs between corporations and governments on a multi-national level.

## **12C. Archaeology of Syria**

CHAIRS: Clemens Reichel (University of Toronto) and Caroline Sauvage (Loyola Marymount University)

### **Frances Pinnock (Sapienza Università di Roma), “The Ebla Project 2011–Present”**

The paper deals with the current situation of the site of Tell Mardikh (ancient Ebla) in the region of Idlib. I will also deal with the activities of the Ebla Expedition and the Ebla Project in this period of suspension of the field work: awareness raising in the general public about the importance of the cultural heritage of Syria and the damage it has suffered; proposals for reconstruction of lost monuments; capacity building; and publications

### **Carole Roche-Hawley (French National Center for Scientific Research [CNRS]) and Robert Hawley (École Pratique des Hautes Études), “On the Vocabulary for Cultic Vessels in Late Bronze Age Syria”**

One of the more challenging aspects of reconstructing the history and society of northern Syria in the Late Bronze age lies in the (frequently incongruous) confrontation of widely divergent kinds of data. Such data may be — and often are — abundant, but they are also potentially unrepresentative, often imperfectly preserved or published, and in any case of obscure and subjective “meaning” and function. These limitations apply of course not only to textual data, but also to material remains and to figurative images of various sorts. And yet such confrontations are also among the more stimulating and satisfying puzzles to be tackled in our historical work. The vocabulary for vases, bowls, and other vessels (whether ceramic, metal, or made from other materials), and especially those used in cultic contexts, provides one such stimulating but difficult challenge. We here provide a survey of the lexical vocabulary attested for the wide inventory of such vessels in the textual corpora available for study from Late Bronze Age Ugarit and Emar, supplemented

by those from other sites such as Alalah and Qatna. For selected terms, some concrete proposals for identifications are suggested.

**Federico Buccellati (Freie Universität Berlin), “A Tale of Two Buildings: Exploring Longevity and Brevity in Urkesh’s Monumental Architecture”**

How can we determine different moments of a building’s life through its stratigraphy? What factors influence the brevity or longevity of a monumental structure? How are those factors visible in the archaeological record? The AP Palace at Tell Mozan, ancient Urkesh, was used as a royal palace by only one king, King Tupkish. After that brief period of use as a royal palace, the structure remained, in some form, as part of the city’s urban texture for several generations. Why was the building used in its primary function for such a short period? How does the archaeological record show what happened to the building once it was no longer used as a royal palace? The Temple Complex, on the other hand, represents a continuity of use that spans over 2000 years. The first indications of a temple structure date to the Late Chalcolithic (ca. 3500 B.C.), and the latest structures date to the Mitanni period (ca. 1300 B.C.). How did it change over such a long time? Mitanni is the last period of use of the Temple Complex—what changes was brought by the Middle Assyrian presence at the site immediately following the Mittani? This paper uses the intersection among architecture, function, and stratigraphy to discuss how longevity (or brevity) is uncovered in the archaeological record, and what role it plays in our understanding of ancient monumental architecture.

**12D. Network Approaches to Near Eastern Archaeology and History**

CHAIR: Steven Edwards (University of Toronto)

**Amy Gansell (St. John’s University), Tero Alstola (University of Helsinki), Aleks Sahala (University of Helsinki), Krister Lindén (University of Helsinki), and Saana Svärd (University of Helsinki), “Social Network Analysis of Kings, Queens, and Deities in Neo-Assyrian Texts”**

This paper expands the research presented at ASOR last year by the Helsinki team’s paper “Language Technological Analysis of Gods in Assyrian and Babylonian Texts.” While that communication highlighted relationships among deities, the present research employs social network analysis (SNA) to investigate the relationships between kings and deities and between queens (and queen mothers) and deities.

SNA entails the mapping and measuring of relationships between people and/or other entities. To achieve this, we apply SNA to cuneiform texts in which a Neo-Assyrian king, queen, or queen mother is mentioned in relation to a deity. We use lemmatized text material obtained from the Open Richly Annotated Cuneiform Corpus (Oracc) as well as non-Oracc texts, such as those excavated from the Queens’ Tombs at Nimrud.

The results of this study indicate and compare which deities are most commonly associated with kings, queens, and queen mothers in known Neo-Assyrian texts. Such information could potentially help with interpreting the identities of unknown deities associated with royal figures in the visual record. The results also reveal changes and

consistencies in the relationships between royals and the divine in the historical context of the ninth through the seventh centuries B.C.E. In addition to presenting the outcomes of our research, we will articulate our methodology and discuss the challenges of working with the very small dataset on queens in contrast to the huge dataset on kings.

**Christopher W. Jones (Columbia University), “Power and Elite Competition in the Neo-Assyrian Empire: Towards a Social Network-Based Model”**

While nearly 3,300 letters and fragments of official correspondence survive from the Neo-Assyrian Empire between the years 745–612 B.C., scholars have only just begun to apply the tools of social network analysis to this corpus. My paper seeks to understand questions of power and communication through a social network analysis of all extant Neo-Assyrian letters, including all unpublished texts. It utilizes Leader-Member Exchange Theory to analyze trust and influence within the Assyrian imperial administration, and applies the concepts of affiliative messaging, mediated communication, and relational control from the organizational communication scholarship of W. Charles Redding to explain how communication can be used to establish and maintain power.

I argue that Assyrian officials used a variety of strategies to enhance their own status in competition with one another, including rhetoric, family ties, lodging accusations of wrongdoing against other officials, and formalizing communication structures in order to control others’ access to officials of higher rank. My broader objective is to shift our approach towards Assyrian imperial administration, which in the past has focused on questions of top-down authority, hierarchy, titles, and duties, towards instead understanding officials as actors wielding power within the imperial system in order to advance their own interests.

**Laurie Pearce (University of California, Berkeley), “Networking as Social Strategy among Hellenistic Uruk’s Elites”**

Identification of the network(s) of actors and co-occurring persons who participated in real estate transactions carried out in Hellenistic Uruk supports a finer-grained analysis of social hierarchies among the urban elite, and contributes to ongoing investigation of the acculturation of Babylonians to the culture of their Hellenistic overlords. The rich onomastic and prosopographic data in cuneiform texts enable the identification of the participants in property sales and inheritance divisions; detailed descriptions of property enable a reconstruction of the changing landscape of property ownership in specific urban districts. Tracing the activities and urban districts in which individuals with Greek or Akkadian-Greek names appear and by computing their social networks adds empirical evidence for and broadens the understanding of the construction of elite identity by members of the most socially prominent clan of Uruk. Additionally, it provides a new avenue for exploring questions of social location among various other professional groups attested in the Uruk prebendary system.

**Adam Anderson (University of California, Berkeley), “Networks and GIS for Social Distance Analysis”**

The question pursued in this paper has to do with social distance, and how networks allow us to add geographical dimensions to prosopographic studies. I use the Old Assyrian texts to illustrate this question, and to show to what degree their “social proximity” mitigates geographical distance as a barrier to trade. The social networks I employ reflect the same geographical distance between these entities, as far as these place names are mentioned in the texts, whether they were living in Assur, Kanesh or the other “ports (of trade)” (*kārum*) and “stations” (*wabartum*) in the Anatolian hinterland.

Beginning with the past research on this subject, including an early study by Paul Garelli and Jean-Claud Gardin (1961), I will show how networks have been used to map the complex relationships between named entities on cuneiform tablets, and the different methods which I currently use to co-locate people, places, and commodities attested within large archives.

Lastly, I demonstrate how relational ties in networks can indicate how the trade routes were used by individual merchants. I show that, rather than some ancient equivalent of the Silk Road, which would seem much closer to the concept of a highway, these transporters employed a series of interconnected hubs that became personalized trade-routes, branching out in all directions from Kültepe-Kanesh, extending across the Anatolian plateau, and over to Assur, a distance of ca. 1000 km.

**Lisa Maher (University of California, Berkeley), Danielle Macdonald (University of Tulsa), and Steven Edwards (University of Toronto), “Social Networks and Knapping Communities in the Early–Middle Epipalaeolithic Southern Levant”**

In this paper, we adapt ideas stemming from recent developments in social network analysis—namely, the Cluster Affiliation Model—to examine connectivity among overlapping communities of practice in the Early-Middle Epipalaeolithic of the southern Levant and to explore how such interaction contributed to the generation of aggregation sites. Focusing on the distribution of highly regional knapping traditions, we adapt the Cluster Affiliation Model to archaeological data in order to demonstrate that sites located along the overlapping boundaries of these distributions belonged to multiple knapping communities. From the lens of Kharaneh IV and the larger Azraq Basin, we show that some sites belonging to multiple knapping communities exhibited greater inter-site connectivity than other sites belonging to single or less extensive knapping communities. That is, sites located at the boundaries of multiple overlapping knapping communities were afforded greater opportunities for interaction and exchange, and this may have contributed to their subsequent development into aggregation sites. Such an approach challenges the primacy of core sites as drivers of social network formation by placing greater significance on the dynamic and creative role of peripheral nodes in complex social networks.

**Elizabeth Gibbon (University of Toronto), “Interaction across the Rift: Analyzing Late Neolithic Social Networks across the Southern Levant”**

The purpose of this project is to determine if the spatial distribution of material culture can be used to identify discrete communities of interaction during the Late Neolithic of the southern Levant, with a focus on the Wadi Rabah period (5700–5100 cal B.C.).

Ceramic typological data and obsidian sources were compared among 33 securely identified Wadi Rabah sites as a proxy measure to infer the presence and intensity of social interaction. The resulting similarity data was then modeled and analyzed using social network analysis (SNA). Network measures including modularity and eigencentrality were applied alongside exploratory techniques such as node and edge deletion to identify and investigate community structure. Results show that the strong similarity among the Jordanian and Israeli Wadi Rabah sites suggests intense communication across the Jordan Valley during this period and indicates that initial assessment of the Jordanian Wadi Rabah sites as “variant” was based more on the history of research in the region than on strong observable differences in material culture.

## **12E. Reports on Current Excavations—Non-ASOR Affiliated**

CHAIR: Daniel Schindler (Texas Tech University)

### **Daniel Master (Wheaton College) and Mario Martin (Tel Aviv University), “Initial Discoveries from Tel Shimron, Israel”**

Tel Shimron is the largest ancient mound in the Jezreel Valley in Israel, located at the western end of the Nazareth ridge. The site gained importance in the Bronze Age as a well-fortified mound of almost 20 ha dominating the northern reaches of the valley. In addition, the ancient east-west trade routes from the Akko Plain to the Jordan Valley ran past the site, giving the city international relevance. Because of Tel Shimron’s strategic location, the site has the potential to elucidate the shifting influence of the Mediterranean economy on inland production as well as the relationship between the culturally distinct regions of highland Galilee and the Jezreel Valley. Until this project, the site had never been seriously investigated by archaeologists. Since 2017, Daniel Master of Wheaton College and Mario Martin of Tel Aviv University have started substantial excavations at the site.

This presentation will provide an overview of the settlement history of Tel Shimron as it is understood after surface survey, remote sensing, and two major seasons of excavation. The broad outlines of the stratification of the mound have been demonstrated through targeted excavation based on the survey and remote sensing results. This lecture will outline the current progress that has been made in understanding the nature of the Bronze Age city, the dynamics of the late Iron Age fortress, the nature of Hellenistic occupation, and the rise of a Roman village linked to the Galilean highlands.

### **Paul Flesher (University of Wyoming), Matthew Adams (W. F. Albright Institute of Archaeological Research), and Yotam Tepper (Israel Antiquities Authority), “The 2019 JVRP Excavations of the Castra of the Roman VIth Ferrata Legion (Legio, Israel)”**

In 2019, the Jezreel Valley Regional Project (JVRP) conducted its fourth season of excavations at Legio, the base of the Roman VIth Ferrata Legion. The base is one component of the sprawling site of Legio-Megiddo, which includes the well-known Bronze/Iron Age tell, the first to third century C.E. Jewish Samaritan village of Kefar ‘Othnay, Roman Legio, Byzantine Maximianopolis, and Early Islamic to Ottoman

Lejjun. The legionary base was occupied from the early second to the late third or early fourth century C.E., when, in the context of Diocletian's reforms, the VIth Legion was redeployed to Arabia. Excavations of the remains of an early Christian prayer hall at Kefar 'Othnay and at the legionary base at Legio suggest an orderly exit of the legion and the systematic abandonment and dismantlement of the military infrastructure.

The 2013 season confirmed the location of the historically attested legionary base as hypothesized by earlier scholars based on historical data and archaeological surveys. The 2015–2019 seasons focused on the center of the base in the headquarters compound, the *principia*. While many features of the compound are typical of such components of permanent legionary bases around the empire, several unique features of the *principia* at Legio offer new avenues for research into the function of these buildings within the administrative and community life of the Roman army. This paper presents results from the 2019 season.

**Daniel Warner (New Orleans Baptist Theological Seminary), “Eighth and Final Season at Tel Gezer’s Canaanite Water Works”**

This paper will summarize the eighth and final season of excavations completed in the Canaanite water system at Tel Gezer along with the excavations performed in the gate complex and its associated courtyards and storerooms. With the water system, attention will focus on what we know now of its function, date, and source of water. Second, consideration will be given to the relationship between the Canaanite gate and its associated complexes with the water system. Additional information about the construction of the gate will be submitted based upon our work of cutting the inner façade of the gate down some 3 m, reaching bedrock and exposing its entire foundation. This work revealed additional information about how it was constructed, along with several infant burials. Bedrock was further unearthened some 10 m to the west, reaching to the entrance of the water system. This was undertaken so that a clear understanding could be achieved of what connection there was, if any, between the gate and the water system. Exposing the bedrock revealed some Chalcolithic features close to the water system. Last, results from the associated gate storerooms and courtyards will be presented. Finds here included a foundation deposit containing a silver eight-pointed star pendant, an Egyptian ring, and other undetermined silver objects.

**Nicholaus Pumphrey (Baker University), Ann E. Killebrew (The Pennsylvania State University), and Jane Skinner (The Pennsylvania State University), “Tel Akko Excavations: Report on Akko and the Plain of Akko during the Iron Age II–Hellenistic Periods (ca. Eighth–Second Centuries B.C.E.)”**

For the past ten seasons (2010–2019), the Tel Akko Total Archaeology Project, directed by A.E. Killebrew and M. Artzy under the auspices of the University of Haifa and the Pennsylvania State University, has conducted full-scale excavations in Area A and an intensive pedestrian survey on the tell, and implemented a high-resolution regional survey of selected landscapes in the Plain of Akko. This paper presents the recent results of excavations at Tel Akko, a major port city and industrial center on the southern Phoenician coast, and the evidence from surveys in its hinterland, examined together with Ottoman- and British Mandate-period settlement patterns. Our findings reveal both

deeply rooted continuity in indigenous practices and a predilection for cultural segmentation, which at times results in the formation of social and political boundaries. During periods of imperial influence, the material culture of Akko and its plain is “glocal” in character, preserving some of its local features and distinctive peculiarities while actively engaging to varying degrees with the empires, economies, and cultures of Assyria, Babylonia, Persia, Egypt, Greece, and the Mediterranean.

## **12F. Gender in the Ancient Near East II**

CHAIR: Stephanie L. Budin (Near Eastern Archaeology)

### **Shawna Dolansky (Carleton University), “From Feminism to Gender: Methods in Reconstructing History and Interpreting Iconography”**

Biblical studies and archaeology both underwent radical reorientations with the entry of serious feminist inquiry into these fields in the late 20th century. More recently, the development of gender-critical analyses has allowed for an expanded scope of inquiry into the constructions of multiple genders in antiquity, along with intersectional identities related to class, race, and ethnicity. This paper will survey the movement from feminist inquiries to gender analyses in the reconstruction of ancient Israelite history in both biblical studies and archaeology. An overview of scholarship on Judean Pillar Figurines functions as a case study to explore the differences between feminist and gender-critical analyses, concluding that a focus on gender allows for a more accurate assessment of ancient artifacts and their reconstructed webs of meaning.

### **Louise Steel (University of Wales Trinity Saint David), “Becoming a Woman in Late Bronze Age Cyprus”**

“One is not born, but rather becomes a woman.” Butler, drawing upon this famous quote from Simone de Beauvoir, distinguishes between a person’s biological sex and their culturally informed gender roles. She argues that a woman’s gender was not simply culturally imposed upon her but was actively performed, being mediated through language, gesture, actions, and material culture. Gender is continually (re-)produced through material engagements and the repeated corporeal performance of acts; it is grounded in lived, embodied experiences and it is how people choose to situate their identities and social roles within accepted cultural rules. Instead of simply being the biological female this approach highlights performativity, the agency of doing and thus becoming a woman. I will combine Butler’s performativity perspective with Knappett’s notion of the material layering of the body—effectively the creation of a second skin and the extension of the body’s boundary through manipulation of material culture: namely, body modification, cosmetics, hairstyles, apparel, and ornamentation.

To explore how being a woman was performed materially in Late Bronze Age Cyprus, I will draw upon two key areas of archaeological evidence: 1) the rare examples of local iconography depicting the female form; and 2) evidence for personal adornment and treatment of the body (for the most part furnished by funerary evidence). The aim is to establish different ways in which female gendered identities were created, expressed, and performed in Late Bronze Age Cyprus.

**Nancy Highcock (University of Cambridge) and Christina Tsouparopoulou (University of Cambridge), “The Construction of Women’s Identities through Commemorative Objects in Bronze Age Mesopotamia”**

Throughout Mesopotamian history, people sought to establish relationships with the divine through the commission and dedication of a variety of objects, often inscribed. The combination of material, object type, and written word lent permanence to the symbolic act of gift-giving and established lasting ties between humans and the gods. As social actors themselves, inscribed objects helped to forge and perpetuate various facets of human identity, including gender. This paper focuses on female devotees and divine beneficiaries, analyzing the nearly 600 known objects dating to the third–second millennia dedicated by non-royals to memorialize themselves and others. (This analysis is part of “Memories for Life: Materiality and Memory of Ancient Near Eastern inscribed private objects,” a three-year project collaborative funded by the Swedish Research Council, Cambridge/Uppsala.) This paper seeks to track patterns of gendering objects, namely through the lens of female identity, both human and divine. Such patterns include the relationship between female devotees, goddesses, and particular object types such as female genitalia. In addition, by taking an intersectional approach to women’s identities, we demonstrate that factors such as status complicate the overarching patterns in object choice. Certain elite women, for example, dedicated maceheads—normally a male-coded object—to the gods. Private commemorative objects can thus bring the personal perspective to the fore and serve as a crucial data set for understanding the construction of female identities and social relationships in ancient Mesopotamia.

**Kelly-Anne Diamond (Villanova University), “Sobekkare Sobekneferu and Her Legacy of Female Masculinity”**

Female masculinity was an active alternative for royal women seeking to justify their claim to the throne while still preserving the well-entrenched cultural values of ancient Egypt. The 18th Dynasty Pharaoh Hatshepsut (ca. 1473–1458 B.C.E.) has attracted a great deal of attention for her masculinity and in modern scholarship has often been accused of doing gender wrong. Although Hatshepsut has been the quintessential example of female masculinity, she was not the originator of this strategy of embodied power through the performance of masculinity. A full 300 years before Hatshepsut, there was another royal woman who emerged on the political scene. Sobekkare Sobekneferu (ca. 1777–1773 B.C.E.) stepped into power as a female king projecting masculinity. This suggests that Hatshepsut’s female masculinity was more than an anomaly and represented a widespread strategy for seeking power and exercising authority.

I will argue that the 12th Dynasty female king Sobekkare Sobekneferu encouraged the later representations by New Kingdom royal women, that these representations were understandable to the ancient Egyptians, and that they were a deliberate attempt by their creators to appeal to their subjects’ sensibilities. Using the archaeological material from her reign, I will demonstrate that Sobekkare Sobekneferu was not just part of the story of female masculinity, but in fact the engineer of a female embodiment of power, a disruption of male privilege and a separation of masculinity from the male body. These vestiges include a statue of her in the Louvre, several statues discovered at the Delta site



of Tell el-Dab‘a, building inscriptions from Hawara and Kom el-‘Aqarib, and random inscribed objects now in several museums. This paper exposes Sobekneferu’s interpretation of her kingship, uncovers the abilities and virtues she chose to nurture during her reign, and reveals how she communicated with her subjects.

## **12G. Marine Adaptation in the Mediterranean: From Prehistory to Medieval Times II**

CHAIR: Assaf Yasur-Landau (University of Haifa)

### **Ayelet Gilboa (University of Haifa), “Renascent Early Iron Age Cross-Mediterranean Exchanges and Early Phoenicians: Through the Looking Glass”**

Regarding early Iron Age maritime connectivity in the eastern and central Mediterranean, the scholarly pendulum has shifted in recent years from notions of a prolonged “dark age” to claims of near-total “continuity.” On the Levantine side, “Phoenicia,” usually equated with southern Lebanon, is believed to be the context where maritime traditions, know-how, etc. were maintained, since it was not disturbed by detrimental Sea People activities. Tyre, according to this view, was the direct beneficiary of Ugarit’s demise. Looking closely at the available archaeological data from the eastern Mediterranean and beyond, mainly from high-resolution chronological and geographical perspectives, enables the portrayal of a gradual and much more complex process regarding the reactivation of the Mediterranean. It is not a Braudelian story. Rather, it emphasizes adaptation to changing political circumstances, especially vis-à-vis Egypt.

### **Gil Gambash (University of Haifa), “Desert-Sea Connectivity in Late Antiquity: Between Negev Fragility and Mediterranean Prosperity”**

The prosperity of the southeastern coast of the Mediterranean and its hinterland during the Byzantine period is well attested in literary and material sources. Much of the evidence for this prosperity comes from commercial activities that would have relied, more or less heavily, on the maritime medium. The intense connectivity produced at one point between the Negev settlements and Mediterranean networks by means of the coastal portals of the southern Levant generated knowledge, influence, and wealth in both directions, and played a significant part in nurturing a rapidly growing desert economy. Locally produced wine is a case in point: surpluses of this highly-desired commodity were shipped from Gaza to all of the important ports of the Mediterranean, bolstering the local economy and allowing it to survive in bad years, and to flourish in better ones. The current paper will offer an initial evaluation of the dependency of this routine on Mediterranean networks, ultimately seeking to determine the extent to which local resilience was determined by universal factors.

### **Michael Lazar (University of Haifa), “Humans and the Coast—A Geophysical Perspective from Northern Israel”**

Modern high-resolution geophysical surveys offer a nondestructive glimpse into the shallow subsurface at unprecedented resolutions. As such, they are becoming more and more popular in imaging archaeological sites. This is also due to their ability to survey large areas and provide both a temporal and a spatial context beyond a given dig location. On land, tried and tested methods such as ground penetrating radar (GPR) have been in

use for many years but are limited in coastal areas where both water and salt effect the radar signal. In such areas, unorthodox techniques are providing good solutions. Numerous geophysical studies carried out along the coastal area along and off the coast of northern Israel during the last decade have provided important insights into geology-climate interactions. These interactions, in turn, may have influenced patterns of human settlements along the coast. This paper presents an overview of conventional and non-conventional geophysical methods that have been applied in the area, with a focus on Tel Dor—a site rich in archaeological finds that has been affected, and thus modified, by such factors as sea level change and sediment fluxes.

**Nimrod Marom (University of Haifa), “Specialization Is a Pig in a Poke: Zooarchaeology and Risky Decision-Making along the Mediterranean Coast of Israel, 10–0.5Kya”**

The Mediterranean coast of Israel holds a rich faunal record, stretching deep into prehistory. This bioarchaeological archive is a material manifestation of human subsistence decisions, the critical nexus where agency meets the possibilities and risks offered by the physical and social environment. Traditional quantitative models relating zooarchaeological data to human decision-making can be used to derive an independent history of the space of economic possibilities perceived by people to be economically viable throughout the ages. This paper will offer a zooarchaeological history of coastal Israel from the Neolithic to the Ottoman period, which will use as its reference point the diversify/store/redistribute model of risk-averse Mediterranean economy, *sensu* Horden & Purcell (2001). Deviances from the model’s expectations will be discussed in their geographical, environmental, and sociocultural aspects, illuminating the utility of the model as a baseline for understanding Mediterranean animal economies.

**Gilad Shtienberg (University of California, San Diego), Assaf Yasur-Landau (University of Haifa), Richard Norris (University of California, San Diego), Katrina Cantu (University of California, San Diego), Anthony Tamberino (University of California, San Diego), Ehud Arkin Shalev (University of Haifa), Michael Lazar (University of Haifa), and Thomas E. Levy (University of California, San Diego), “Coastal Morphogenesis and Human Adaptation at the Late Holocene Multi-Period Site of Dor, Israel: An Interplay between Natural and Anthropogenic Factors”**

The morphology of the Mediterranean coast reflects complex long-term relationships between nature and human societies. Natural as well as anthropogenic-induced coastal changes have been studied in previous research in this region; however, investigations that combine both altering variables are rare. In this ongoing research, coastal morphogenesis and alternating diachronic settlement patterns are investigated at Tel Dor, a multi-period trading center located along the north-central coast of Israel. Based on preliminary description of the lithological units found in nine recently drilled sediment-cores, the palaeomorphology of Dor is confirmed. The new record indicates that an upper coastal sand unit covers a succession of brackish water fine-grain facies and coarse-grain sand deposits rich in shell fragments. These fine/coarse grain alternating sediments, which are each littered with ceramic sherds, overlay a palaeosol unit that superimposes the base aeolianite. Based on these preliminary finds, it seems that coastal Dor consisted of a series of islands during the Bronze and Iron Ages, providing a larger and deeper

anchorage than previously suspected. An upcoming detailed stratigraphic analysis of the sediment cores coupled with optically stimulated luminescence dating and new offshore high-resolution geophysical profiles will enable an environmental reconstruction in horizontal, vertical, and temporal scales of the study area. These 4D analyses will be linked with underwater archaeological excavation datasets that were collected throughout the study area to produce a history of the socio-natural dynamics of Dor. The insights of the study will provide an understanding of the growth, maintenance, and disarticulation of Bronze Age, Iron Age, and Classical-period societies at Dor.

**Thomas E. Levy (University of California, San Diego) and John Hildebrand (University of California, San Diego), “The Scripps Center for Marine Archaeology Transdisciplinary Research Approach—Geophysics, Environmental Science, and Cyber and Underwater Archaeology in the Eastern Mediterranean”**

To help establish the University of California, San Diego’s new Scripps Center for Marine Archaeology (SCMA) within world maritime archaeology studies, SCMA has begun building a research program in the eastern Mediterranean where UC San Diego has a long-term record of engagement with local scholars. Recent projects in Greece and Israel take a deep-time perspective, focusing on cultural adaptation to climate change and changing trade networks from the earliest Neolithic agricultural societies through the establishment of local kingdoms in the Iron Age to the international Hellenistic and Roman periods. SCMA research investigates key cultural/historical issues such as the collapse of Late Bronze Age civilization in the eastern Mediterranean (ca. 1200 B.C.E.), Iron Age (ca. 1200–500 B.C.E.) sea-level rise, and submerged trading ports in the Hellenistic/Roman periods. Integrated fieldwork includes: marine geophysics to map the sea floor and discover new archaeological sites; coastal sediment coring for geo-archaeological investigations; and underwater archaeological excavation applying a range of cyber-archaeology digital tools for recording and analyses. This paper presents a snapshot of SCMA’s eastern Mediterranean research.

**Tzila Eshel (University of Haifa), Yigal Erel (The Hebrew University of Jerusalem), Naama Yahalom-Mack (The Hebrew University of Jerusalem), Ofir Tirosh (The Hebrew University of Jerusalem), and Ayelet Gilboa (University of Haifa), “Lead Isotopes in Silver Reveal the Earliest Phoenician Quest for Metals in the West Mediterranean”**

When and why did the Phoenicians initiate long-term maritime connections between the Levant and western Europe? The Phoenicians are considered major innovators, passing technologies and inventions such as metal production, purple dye manufacture, and the alphabet from Asia to Europe via the Mediterranean during the Iron Age. There is no doubt that, from the eighth century B.C.E. onwards, the Phoenicians established colonies around the Mediterranean. However, regarding the Early Iron Age, scholars have not yet established the earliest date for Phoenician activity in the west, possibly beginning in the tenth or ninth centuries B.C.E. This stage, often termed “pre-colonization,” did not leave explicit archaeological evidence and is therefore debated.

We use silver to answer this question, presenting the largest dataset of chemical and isotopic analyses of silver items from silver hoards found in Phoenician homeland sites.

Intertwining lead isotope analysis, chemical composition, and precise archaeological context and chronology, we provide evidence for the onset of Phoenician westward expansion. We suggest that the quest for silver instigated a long, exploratory phase, first in Anatolia and Sardinia, and subsequently in the Iberian Peninsula. This phase preceded the establishment of sustainable, flourishing Phoenician colonies in the West by over a century. In so doing, our results buttress the “pre-colonization” theory, accord it a firm chronological framework, and demonstrate that the quest for silver (and probably other metals) was an incentive for Phoenician westward expansion. Furthermore, our results show that the Phoenicians introduced innovative silver production methods to historic Europe.

## **12H. Archaeology of Arabia III**

CHAIR: J. Mark Kenoyer (University of Wisconsin–Madison)

### **Alessandra Avanzini (University of Pisa) and Enrica Tagliamonte (University of Geneva), “Fifteen Years in Salut: Results and Open Questions from the Heart of Oman”**

The Italian Mission to Oman has been conducting field investigations and archaeological research in Salut, central Oman since 2004. The longevity of the work, as well as the extension of the area investigated and the complexity of this site, represents a unique opportunity to evaluate the development of the area. From the first excavation at Husn Salut, explorations have proved the continuity and the intensive occupation of the plain spanning 2500 years, reflecting the favorable conditions of Salut’s location. The results of archaeological research so far have markedly increased our knowledge of central Oman and contributed to the scholarly debate.

Despite the long duration of the excavations and the great boost to the research of the past few years, following the discovery of the Iron Age settlement (Qaryat Salut) and of the late Iron Age necropolis (Salut Plain), a large part of the area is yet to be investigated. Starting from these new and unexpected discoveries it is possible to rethink and re-discuss some labels and definitions so far taken for granted, such as the Samad and the Recent Pre-Islamic cultures, and to question the definition of the Bronze Age versus the Iron Age in southeastern Arabia.

### **Steven Karacic (Department of Culture and Tourism Abu Dhabi), “A Time and a Place for Snakes: Snake Decorations in the Oman Peninsula during the Bronze and Iron Ages”**

Compared to other parts of the ancient Near East, the corpus of figural decorations from the Oman Peninsula that date to the Bronze and Iron Ages is relatively small. Of the decorations that are preserved, snakes are one of the more common animals depicted. It is in the Iron Age II period (ca. 1100–600 B.C.E.) that pots decorated with snakes and copper snake figurines become particularly widespread. These artifacts decorated with snakes have been associated with ritual activity. The aim of this paper is threefold. First, it will examine the evidence for an Iron Age II ritual that incorporates snake-decorated

materials. The paper will then examine the possible origins, both chronological and geographic, of such a ritual. Finally, the paper will explore the built and natural settings in which the Iron Age II rituals were conducted. A contextualized approach to the use of this particular animal in figural decorations ultimately provides insights into the social and economic organization of prehistoric southeastern Arabia.

**Matthew Jameson (Bryn Mawr College), “‘Imperial’ Encounters in the Arabian Gulf during the Late Pre-Islamic Period: The Glazed Pottery from Building H at Mleiha”**

The late Pre-Islamic period in southeastern Arabia, following the rather isolated Iron Age III period, witnessed a drastic increase in connectivity and trade with the surrounding regions of Mesopotamia, Iran, the Indus, and southwestern Arabia. Early scholarship attributed the reappearance of southeastern Arabia onto the international stage to foreign merchants plying the Indian Ocean trade routes in service of the larger imperial powers. More recently, due to an increased focus on excavation in the United Arab Emirates specifically, and the Gulf more broadly, scholars have started to recognize the importance of locals in facilitating and driving these encounters. In this paper I will focus on one aspect of this interaction: the trade in glazed ceramics. Building H at Mleiha, occupied from the second to third centuries C.E., provides a useful window into this period. A combined approach of compositional analysis and studies of comparanda shows that the inhabitants of Building H imported glazed vessels to use alongside locally produced pottery. The origin of this material is more complicated than previously understood, but analysis indicates potential production at several sites in southern Mesopotamia. Formal and contextual analyses of the glazed pottery from Building H demonstrate that the types/forms of vessels imported were chosen to suit the needs of local actors, not the market of Parthian imperial powers. I conclude with some tentative thoughts about how the consumption of imported ceramics affected the local communities and economies of southeastern Arabia.

**Yiliang Li (University of Haifa; Chengdu Museum) and Michal Artzy (University of Haifa), “An Exploratory Analysis of Chinese Ceramic Imports Uncovered from Arabia and Its Environs in the Context of Indian Ocean Trade Networks, 9th–15th Centuries C.E.”**

By analyzing the scarce and scattered distribution of Chinese ceramics, we suggest that the mechanism of Indian Ocean trade networks depended principally on the motivations of commercial agendas rather than the impacts of geopolitical aspects. In the context of the maritime trade, the main destinations of merchandise were in the hinterland, especially central cities. The littoral sites were active as entrepôts, supply stations, and/or sojourn quarters for seafarers. They exhibit increased numbers of imports, and the Chinese ceramics are widely dispersed in the outskirts of Arabia, the Red Sea, and the Persian Gulf. It would be impossible to quantify the actual volume of imports by archaeological surveys and excavations, but it can be assessed by the small proportion of Chinese imports in assemblages. It is likely that most Chinese ceramics were utilized to barter with “glaze-less ceramic” areas. While only a few Chinese ceramics were transported to central cities for elite usage, they were utilized in domestic settings in coastal areas.

There are few historical sources indicating that maritime communities in the western Indian Ocean were controlled by states. The trading routes indicated by the Chinese imports were maintained by independent agencies, i.e., entrepreneurs. Thus, the various trade networks were incongruent with geopolitical changes in the medieval period.

**David Graf (University of Miami), “Excavations of a Nabataean Farmstead at Umm Hamtha: Agriculture in the Hinterlands of Petra”**

In the region of Ba‘ja, 10 km north of Petra, excavations of a small structure were conducted in the southwestern part of the Ba‘ja Massif in 2017. The extensive hydrological system on the Massif is obviously of Nabataean character, indicating the irrigation of the extensive plain to the east was used for cultivation. Notably, there was no evidence of a large Nabataean settlement in the area, but rather scattered farmsteads. At the outlet of Wadi Umm Hamtha, there was evidence of a small ruined structure—six niches in a rock face that appeared to be the springs for arches, with a pottery mound on the adjacent soil beneath. Six trenches were used to define the structure, which measured 12 x 4 m. Much of the stone masonry had been robbed out, including the stone arches and walls except for the foundation courses. The pottery was primarily of Nabataean character, dating between the first century B.C.E. and second century C.E., with evidence of reuse in the Ayyubid-Mamluk period. There was no indication of any internal walls, so the suspicion was that it was a storage shelter, associated with an adjacent dam a few meters to the southeast. The environs seem to have been primarily used for viticulture, signaled by several dozen wine presses recorded during our survey of the region.