Paper Abstracts

WEDNESDAY, NOVEMBER 16, 2016

PLENARY ADDRESS

Sarah Parcak (University of Alabama at Birmingham), "Toward a 21st Century Archaeology of the Near East: Technology, Big Data, and Citizen Science"

Since 2011 and before, the archaeologists working in North Africa, the Middle East, and Mediterranean have faced unprecedented challenges due to war, terrorism, looting, urbanization, and economic collapse. Some, like the Arab Spring, could not be predicted, while others, like looting, are problems that have existed since antiquity. Issues surrounding urbanization and land development are only going to increase as global populations expand and available land for development decreases. With some tensions in the aforementioned regions escalating, while others may be stopped or decrease temporarily, the overall situation is evolving in ways that even the experts cannot accurately predict. Thus, how do we, as archaeologists and subject matter specialists in the region, prepare for an uncertain future? Many of our in-country colleagues have had their lives threatened by escalating violence and war (while some have lost their lives), and there are countless men and women in Syria, Iraq, Libya, Egypt, and elsewhere who are unsung culture heroes. This talk will suggest ways we might scale efforts already underway to support cultural heritage in the Middle East and North Africa (MENA), and will also suggest possible additional avenues for exploration using new and emerging technologies.

Multiple efforts are already underway to map cultural heritage destruction in the MENA region using satellite imagery. Yet, how do we share and manage satellite data effectively and in ways that protect sites rather than encourage further looting or site destruction? The ethics of geospatial analytics is a new area for archaeology, and one that merits dialogue. With so many new discoveries being made, we want to celebrate them, while at the same time protecting sites. Additional technology advances, with LIDAR, drones, and 3D site scanning, all offer exciting new possibilities for both site detection and preservation, but methodologies and protocols are still being developed. Other tools like crowdsourcing could be exciting avenues to monitor sites, but have not been applied yet at a global scale. How to manage these communities so that they are engaged, informed, and empowered to make positive changes is one under intense discussion. There are many possibilities as well as pitfalls, and understanding them fully may assist our field in the future.

There are many avenues for supporting cultural heritage. Many of our colleagues have been actively engaged with cultural diplomacy for the first time, whether testifying in front of Congress, the CPAC committee, or assisting foreign governments. This has opened up a myriad of possibilities for public engagement. How should we as a field begin to prepare our graduate students for this new world? In addition, many of us are engaged with assisting Homeland Security with their efforts in stopping the illegal importation of antiquities. Should more of us be engaged? On an international level, what more can we offer in the way of training programs for our foreign colleagues and collaborators (if desired), and what are the appropriate mechanisms to do so? New technologies are essential for the future of our field, but we need to consider their broader implications.

THURSDAY, NOVEMBER 17, 2016

1A. Encoding Data for Digital Collaboration

CHAIRS: Amy Gansell (St. John's University) and Vanessa Juloux (École Pratique des Hautes Études), Presiding

Alessandro Di Ludovico (Sapienza Università di Roma), "For a Critical Debate about the Use of Quantitative Methods in Western Asiatic Studies: Approaches, Concrete Targets, and Proposals"

Digital tools and quantitative methods have been used quite late, infrequently, and unevenly in the disciplines that deal with the cultures of ancient Western Asia. This paper begins with an overview of past quantitative approaches, especially in the field of figurative languages, to ancient Western Asian culture, in order to examine scholarly attitudes, strategies, and goals. I will then discuss the results and potential of some specific approaches of current research. Lastly, I will offer concluding reflections and outline concrete proposals for the future.

There are actually many reasons nowadays to revitalize the debate about the use of quantitative research methods. In "digital humanities" research it is necessary to integrate the theoretical attitudes and concrete applications of quantitative methods with the specific scientific issues and approaches of each discipline. In particular for Western Asiatic studies it is of great importance (considering the damages and the threat to the heritage occurring in the relevant countries) to recover, collect, and preserve as much available data as possible. Digital tools require and facilitate this effort, and often generate the positive side effect of leading scholars to reflect on their own approaches and implicit assumptions. Through shared data and digital collaboration, a critical understanding and comparison of data collected and published by different authors stimulates new perspectives and discovery.

Sveta Matskevich (University of Haifa) and Ilan Sharon (Hebrew University of Jerusalem), "A Conceptual Framework for Archaeological Data Encoding"

Archaeologists are striving to make their data digital, open, and linked; in other words, they are building networks of data. To benefit from encoded data sets, their structures need to be mapped by a metamodel that operates with general concepts instead of terminologies specific for each excavation or data set.

There are two basic approaches to excavation recording (in terms of basic excavation unit defined, and philosophy behind it) implemented in a variety of recording systems throughout the history of Levantine archaeology and still today. Here we propose a conceptual meta-model that can accommodate these seemingly incompatible

approaches. The theoretical principles behind this model allow for a high level of flexibility within the structure. We defined a fundamental entity: the interpretation event. Three higher-level entities (or basic types of interpretive units) derive from it: spatial (locational) units, finds (or samples), and relations. Each entity may have any number of attributes and be grouped into classes (context, assemblage, scenario).

As a pilot study, the model was applied to legacy and recently acquired excavation data sets from locus- and spit-based recording systems that use either forms or diaries for managing their field records. The result is a graph database that integrates these different records while preserving their original attributes unique for each excavation. The model can be used as a basis for archaeological data networks that aggregate diverse resources such as digital publication platforms.

Shannon Martino (School of the Art Institute, Chicago) and Matthew Martino (The University of Chicago Laboratory Schools), "A Quantitative Method for the Creation of Typologies for Qualitatively Described Objects: A Case Study of Prehistoric Figurines from Anatolia and Southeastern Europe"

Typologies are fraught with subjectivity: one characteristic is considered relevant, while another may go unnoticed entirely. This subjectivity sometimes leads to more than one typology being created for the same set of data, with each researcher claiming to better represent the data. Indeed, the creation of a typology is a creative process inspired by leaps of intuition. Ultimately, intuition and its inherent subjectivity ought to be explained by scientific reasoning.

In the interest of omitting subjectivity from typological analyses, archaeologists sometimes use statistical methods. However, such methods were originally created for the analysis of quantitative data rather than the qualitative data that archaeologists usually use to characterize objects. Here we present a typology for a database of almost 2000 Chalcolithic and Early Bronze Age figurines from southeastern Europe and Anatolia. This typology was generated by a computer program designed specifically to create typologies of archaeological artifacts. This method was not only time saving, given the large data set, but it also helped to assuage concerns of subjectivity, given the known spatial and unknown chronological separation of the figurines. By weighing all formal and technical characteristics equally, significant factors emerged from the analysis rather than being defined by the researcher.

This paper emphasizes the necessity of a collaborative process between programmer and archaeologist. We will also show how our program can quantify some of the remaining subjectivity of a typological analysis. Lastly, we will explain how the results from our program can quantify diversity in the data.

Darren Joblonkay (University of Toronto), "Association Mining Algorithms for Elucidating Community-Based Practices in the Ancient Near East: A View from Tell Mastuma, Syria"

The management and organization of archaeological data in complex database management systems (DBMS), and more recently data warehouses, such as the Online Cultural and Historical Research Environment (OCHRE), has become commonplace within the discipline. Traditionally, Near Eastern archaeologists have emphasized data interoperability and integration for intersite comparison of archaeological data, often through attempts to establish data "standards," which has proven relatively unfruitful. Furthermore, as highly atomized, item-based data structures come to replace the traditional relational data model often utilized by archaeologists, it has become apparent that a data standard is not necessary as long as our data ontologies remain appropriately abstract (i.e., highly itemized). In doing so, we can conceive of DBMS not as simple repositories of data, but as analytical environments in their own right, wherein lies the potential for not only the accumulation, but the construction and contestation of knowledge from archaeological data (Knowledge Discovery from Archaeological Data [KDAD]).

Following a brief excursus into the phenomenon of data mining and its implications within the discipline, this paper will focus on the implementation of a revised apriori algorithm (after Agrawal and Srikant 1994) for establishing associations among items in a dataset. The algorithm is applied to a dataset from Tell Mastuma, Syria, to elucidate heretofore unrecognized patterns among the data derived from Stratum I-2b. It is argued such patterns are indicative of past practices enacted at the site, and association rules are utilized to paint a more nuanced portrait of the community of Tell Mastuma during the Iron II.

Émilie Pagé-Perron (University of Toronto), "Data Mining Cuneiform Corpora: Get Relational"

The digital humanities are slowly setting foot into Assyriological studies. Cuneiform scholars are beginning to borrow and adapt computerized methods from both Science, Technology, Engineering, and Mathematics (STEM) disciplines and modern language studies. But how can we most effectively bridge the gap between those techniques and our cuneiform corpora? Most Assyriologists already standardize their digital transliterations; some are familiar with visualization tools. This paper demonstrates how, from a standardized set of digital transliterations (and other coded information relative to the tablets), new data can be created for lexical analysis and eventually for visualization.

The example presented here is composed of mostly short Old Akkadian tablets provenienced in Adab. In order to generate new information, relationships between different types of words, on the same tablets, and across the corpus, must be recoded. In this instance, TEI/XML is not used since concordance at the line level is not necessary. The tablet itself, or the administrative transaction, is used as a link between the different elements present in the text. In my sample, the goal of this mining process is to feed two distinct types of visualization: a web database interface and network analysis tools. Both are used as analysis aids and diffusion tools.

By closely examining the practical aspects of data mining cuneiform texts, this paper will provide insights for ancient language specialists who wish to prepare their corpus for new types of digital investigation.

Terhi Nurmikko-Fuller (Australian National University), "Publishing Sumerian Literature on the Semantic Web"

The Electronic Text Corpus of Sumerian Literature (ETCSL) is an existing web resource that provides access to some 400 transliterated and translated composite texts. Although not actively developed since 2006, it remains a frequently cited source in literary Sumerological

scholarship. An example of this examines the possibility of using Semantic Web technologies such as Linked Data and structural frameworks (known as "ontologies" in the sphere of Computer Science) to publish literary narratives online in a machine-readable format.

In this paper, the practicalities and the benefits of using Linked Data (a method for the publication of structured information on the web) are explained in the context of Assyriological philology. Three existing ontologies—the CIDOC CRM, FRBRoo, and Ontomedia—are evaluated, and two custom-built structures (SuLO and mORSuL) are described.

Literary Sumerology, and Assyriology in general, are in a position to be relevant and significant in the on-going development of Semantic Web technologies (through the promotion of common data formats and exchange protocols on the web, for example). The rich philological material of the ancient Near East can be used to evaluate the robustness and flexibility of models and schemas designed from the perspective of other disciplines but with the aim of upper-level (and thus universal) applicability. Assyriological research can in turn be supported by knowledge from other data-streams, and find itself becoming increasingly relevant in interdisciplinary research agendas, disseminated further, and better known in the public domain.

1B. Archaeology of Anatolia I

CHAIR: Levent Atici (University of Nevada, Las Vegas), Presiding

Arkadiusz Marciniak (University of Poznan), "The Late Neolithic Çatalhöyük after 15 Years of Excavations"

The Late Neolithic in the Near East is a major threshold in the development of farming communities. It is marked by a transformation of the major constituent elements of the Neolithic revolution, creating conditions for strengthening and consolidating local groups and providing prerequisite foundations for their spread across vast areas. The work in the upper strata at Çatalhöyük East in the years 2001–2016 has significantly contributed to a better understanding of this important period in the history of the Near East. The first round of excavations on the top of the southern eminence of the East Mound was carried out in the years 2001–2008 in an area known as the Team Poznań (TP) Area. The second round of work was undertaken in the years 2012–2016 in the neighboring excavation zone named the TP Connection Area (TPC) on the southwest slope of its southern prominence. As 2016 is the final excavation season within the Çatalhöyük Research Project, it offers a unique opportunity to present a systematic overview of the major results of the work carried out in both the TP and TPC Areas in the past 15 years: a range of important developments in different domains of the Neolithic, including settlement layout, house architecture, burial practices, human-animal relations, lithics procurement and technology, and pottery production and use.

Barbara Horejs (Institute for Oriental and European Archaeology & Austrian Academy of Sciences) and Felix Ostmann (Institute for Oriental and European Archaeology & Austrian Academy of Sciences), "The Way to Regional Identities in Neolithic Western Anatolia"

Recent research on prehistory at the center of the Anatolian Aegean coast around modern Izmir provides important new data on Neolithic sites. For the first time, it is possible to deal not only with single sites, but with a group of excavated settlements that all have horizons dating to the 7th millennium B.C. The two pioneer sites Ulucak and Çukuriçi, dating back in early 7th millennium B.C., mark the starting point with presumably diverse origin. During this pioneer phase of earliest farming communities, aspects of shared identity are hardly visible. A few generations later, several additional Neolithic settlements make up a regional cluster that share more things in common than differences in many respects. Strong regional relationships will be argued for, not only from materiality, but also by patterns of subsistence strategies. Additionally weapons indicate comparable policies about dealing with conflicts and/or hunting. On a broader scale, the uniformity of the discussed Neolithic sites in their material culture and ways of life is striking and allows us to assume an Anatolian Aegean Coastal Group in the 7th millennium B.C. The observable stability within the regional interconnectivity for around half a millennium will be discussed as one of several triggers for the development of regional identities in the Late Neolithic period (ca. 6500–5900 cal B.C.). The integration of the supposed Anatolian Aegean Coastal Group into widespread Neolithic symbolic systems from the Levant, Anatolia, and Mesopotamia links this part of western Anatolia into interregional networks as well.

Levent Atici (University of Nevada, Las Vegas), Suzanne Pilaar Birch (University of Georgia, Athens), and Burçin Erdoğu (University of Thrace) "Emergence and Development of Early Agropastoral Economy on an Island Setting: New Insights from Uğurlu Höyük, Gökçeada, Turkey"

The revolutionary transformation of societies from foraging to farming in southwest Asia shortly after 10,000 B.C. and the subsequent spread of emerging economies into Europe via a process called neolithization have been the subject of extensive scholarly debate since the 1970s. Although archaeologists have used a dichotomized framework to probe this complex process, it is now widely recognized that farming spread into Europe by a mixture of expansion, diffusion, and adoption. Uğurlu Höyük is a Neolithic settlement on Gökçeada, the largest Turkish island situated between Anatolia and Europe in the Aegean Sea, and currently the only site with an early Neolithic component in the eastern Aegean. Thus, with its key geographical location and early Neolithic strata, Uğurlu stands to significantly contribute to our understanding of the neolithization of Europe. The present paper seeks to probe the development of agropastoral economy on an island setting at Uğurlu during the Neolithic and Chalcolithic. Although our research focus is the underinvestigated eastern Aegean, the results will have implications beyond this region and contribute more broadly to the research areas of zooarchaeology, island colonization, and the spread of farming.

Suzanne E. Pilaar Birch (University of Georgia, Athens), Levent Atici (University of Nevada, Las Vegas), and Burçin Erdoğu (University of Thrace), "Neolithization of Europe: Integrating Zooarchaeological and Stable Isotope Evidence from Uğurlu Höyük, Gökçeada, Turkey"

The origins of agriculture in southwest Asia over 10,000 years ago and its subsequent spread into Europe during the Neolithic have been the focus of much archaeological research over the past several decades. Increasingly more sophisticated analytical techniques have allowed for better understanding of the complex interactions that occurred among humans, animals, and their environments during this transition. The Aegean Islands are critically situated where Anatolia and mainland Greece meet, making the region pivotal for understanding the movement of the Neolithic into Europe. Located on the largest Turkish Aegean island of Gökçeada, the site of Uğurlu Höyük dates to the early Neolithic and has been the subject of ongoing excavations and research, integrating a rigorous dating program with comprehensive zooarchaeological research. This paper focuses on the integration of bone collagen and tooth enamel stable isotope data to develop a fine-resolution picture of ancient diet, environment, and mobility on the island. The stable isotope values from the fauna recovered in the earliest Neolithic levels at Uğurlu have been used to establish an "isotopic baseline" for both diachronic intrasite analyses and intersite comparisons between contemporaneous mainland sites. Integrating stable isotope and zooarchaeological datasets makes Uğurlu one of the first island sites to provide a comprehensive understanding of the geographic origin of Neolithic livestock populations and the timing of their spread from Anatolia into Europe during the process of neolithization.

Christoph Schwall (Institute for Oriental and European Archaeology & Austrian Academy of Sciences) and Barbara Horejas (Institute for Oriental and European Archaeology & Austrian Academy of Sciences), "Interweaving Contacts? Evidence of Intensifying Connectivity during the Middle and Late Chalcolithic Period in Western Anatolia"

The Middle and Late Chalcolithic periods in western Anatolia cover a timeframe from the second half of the sixth to the end of the fourth millennium B.C., and can be defined by numerous social and economic changes, which lead to the formation of complex societies at the beginning of the third millennium B.C. Unfortunately, these periods are still insufficiently investigated in this region and have only recently become the focus of research. Recent excavations at Çukuriçi Höyük, on the central Aegean coast in western Turkey, provide us with new information about the late fourth millennium B.C. Based on reliable chronological data, the finds of this settlement indicate a high level of interregional connectivity and underline that the western Anatolian coastal area and the eastern Aegean Islands must be seen as a very homogeneous cultural region. Moreover, comprehensive material studies of numerous settlements in the broader region reveal that the emergence of communication and interaction arose much earlier. A dynamic process of increasing connectivity is noticeable, presumably beginning in the final centuries of the sixth millennium B.C., with intensification in the fourth millennium B.C. The importance of maritime and fluvial waterways is clearly evident in the distribution of sites on the islands and along the coast. During the Late Chalcolithic period, in the fourth millennium B.C., additional sites appeared in the hinterland of western Anatolia. It seems that the appearance of settlements in regions that couldn't be easily supplied in earlier times is a result of increasing connectivity during the Late Chalcolithic period.

Ralf Vandam (Koç University), Patrick Willet (SUNY Buffalo), Peter Biehl (SUNY Buffalo), and Jeroen Poblome (University of Leuven), "Exploring the Late Prehistoric (8000–2000 B.C.) Remains in the Western Taurus Mountains, Southwestern Turkey: The First Results of the Dereköy Archaeological Survey Project"

This paper presents the first results of a new survey project in the Burdur region (SW Turkey), which focuses on the Late Prehistoric period (8000–2000 B.C.). Our current knowledge of Late Prehistoric communities in southwestern Turkey is primarily based on evidence from well-known settlements in areas suitable for agriculture. Next to nothing is known about sites in other landscape units such as marginal mountainous areas. The new Dereköy Archaeological Survey Project, conducted within the framework of the Sagalassos Project, aims to fill this gap in knowledge by shedding light on how different landscape units were incorporated into the cultural landscape throughout the Late Prehistoric. By investigating the Dereköy highlands, located in close distance to the well-studied Burdur Plain (southwestern Anatolia), we examine how and when past communities used more marginal landscapes, and provide a window on periods that are currently poorly known in plains areas, such as the Middle Chalcolithic (5500–4200 B.C.). The unique archaeological datasets of both lowlands and highlands allow us to paint a more comprehensive picture of the prehistoric cultural landscape in Anatolia. Furthermore, the rich corpus of extant regional palaeoenvironmental data of the area make it possible to contextualize our survey findings in order to better understand wave patterns of complexity and decline throughout Late Prehistory.

1C. Archaeology of Egypt I

CHAIR: Gregory D. Mumford (University of Alabama, Birmingham), Presiding

Donald B. Redford (Penn State University), "The Medinet Habu Records of the Foreign Wars of Ramesses III"

The texts and reliefs of the mortuary Ramesses III at Medinet Habu represent, in the recent history of scholarship, the earliest reflections on the momentous events of the end of the Bronze Age. Though presented to the viewer as an overwhelming exercise in "Grand Opera," rather than sober historiography, the texts and reliefs have had a mixed reception among scholars. Some have tried to subject them to a reasoned critique; but perhaps too often they have been used as a grab bag of proof texts, to bolster individual points of view. Treating the texts as lyric, and the reliefs as a species of graphic tokenism, goes far toward chastening our views. The paper will conclude with the examination of a toponym list and a desert inscription.

Dan'el Kahn (University of Haifa), "Ramesses III's Northern Wars against Palestine and the Asiatics"

As is well known, Ramesses III campaigned against the Philistines on sea and on land in his eighth regnal year. Whereas it is clear that the sea battle occurred at the delta mouths, in my paper I propose that the

location of the land battle was not at the borders of Egypt, but on the northern borders of Canaan. According to the Medinet Habu historical inscriptions, Ramesses III was victorious in a pitched battle, routed the Philistines to their home and destroyed their kingdom—"the Land of Palestine." This land was recently located in the Amuq plain in southern Turkey—the ancient kingdom of Alalakh. Corroboration for this scenario can be found in the topographical list from the Southern Gate of the mortuary temple of Ramesses III (ca. 1187–1157 B.C.E.) at Medinet Habu. An additional campaign was probably conducted in Ramesses III's 11th regnal year to Hittite controlled territories close to the Euphrates, including Carchemish, Pitru, and Emar. Ramesses III may have crossed the Euphrates and invaded territories of the former kingdom of Mitanni/ Hanigalbat.

K. Lawson Younger (Trinity International University-Divinity School), "Problems with Philistines in North Syria?"

With the sensational discovery of the inscription of Taita I in temple of the storm god of Aleppo (published by Hawkins in 2009 and 2011), a number of scholars have been quick to conclude that the name of Taita's kingdom "Palistin/Walistin" equates with "Philistine," and that this kingdom in north Syria was the location of the homeland of the Philistines of the southern Levant. This paper will explore the philological and historical problems with this equation.

James K. Hoffmeier (Trinity International University-Divinity School), "The Possible Location of the Sea and Land Battles of the Sea Peoples in North Sinai"

The recent archaeological and paleo-environmental research in north Sinai, and in particular at Tell el-Borg (1999–2008), have enabled us to understand Egypt's east frontier defense network in the New Kingdom or Late Bronze Age. Combining these two lines of evidence, along with the texts and reliefs of Ramesses III from Medinet Habu, possible scenarios for the locations of the iconic battles of the invading Sea Peoples present themselves. Contrary to some recent theories, it will be argued that both battles occurred on Egypt's borders and that the destruction of the Ramesside fort at Tell el-Borg may well be assigned to this invasion.

Shelley Wachsmann (Texas A&M University), "'Sea Peoples,' Ships and the Urnfield Culture Connection"

The ethnic and geographic backgrounds of the bands of northern marauder migrants who invaded the Levant in the waning years of the Late Bronze Age and beginning of the Iron Age remain tantalizingly elusive. These groups are termed collectively as "Sea Peoples" in modern scholarly literature, despite the fact that the Egyptians used this term selectively to define *some* of these groups—but not others. This indicates that modern usage of the term does not accurately parallel its ancient meaning. While Philistine material culture has received considerable study, the material culture and identity of the other groups is virtually unknown. Ship depictions, however, bear witness to at least one ethnic element from among these groups: the contemporaneous central European Urnfield Culture. Evidence includes, but may not be limited to, the following considerations: (1) Multiple representations of a single Sea Peoples' ship in Ramses III's naval-battle scene at Medinet Habu. Although the ship type itself is well known in Aegean iconography, the appearance of outboard-facing bird-head finials atop both the stem and stern is not an Aegean phenomenon: instead it finds numerous exact parallels in Urnfield birdboat (*Vogelbarke*) cult objects; (2) Level F of the Danish excavations at Hama in Syria, contained an urn field with nearly 1100 cremation urns, found together with other European material culture, including flange-hilted swords and fibulae. One urn bears a depiction of a Helladic-style ship, which indicates the Hama urn field had been created by a group of Sea Peoples who utilized this ship type.

1D. Archaeology of Israel I

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

Elizabeth Hestand (Independent Scholar), "Reinterpreting a 'Dumping Ground': Amphorae from the C-Field at Caesarea Maritima"

The Joint Expedition to Caesarea (JECM) ran from 1971 through 1987, directed by the late Robert J Bull of Drew University. Field C, first explored with a probe by Avraham Negev in 1962, is located along the coast to the south of the Crusader Fortifications. Sector C.21 is located to the rear of the "bath" building adjacent to the northern wall of the vault complex.

Square C21 contains the most examples of whole or nearly whole amphorae, and has been labelled an "amphora dump" by the excavators. The overwhelming majority of the vessels are Carthage LRA 4, 5, and 6. In this sector, one finds examples representative of each stage in this long range of production, though material from the first, third and seventh centuries are the most common. This timing is consistent with the dating of the activity in the nearby warehouses, including the Mithraeum phase of Vault 1. The location and nature of the "dump" raise important questions about the use of the surrounding warehouses and public spaces. Does the high concentration of amphorae suggest a staging area for shipment or redistribution? Are the locally-produced amphorae indicative of a nearby manufactory? Or are these the refuse from the nearby warehouses or the public buildings? In either case, what can the use, and re-use, of these amphorae tell us about consumption patterns?

Yael Abadi-Reiss (Israel Antiquities Authority), "The Tenth Kilometer Persian Fort, Nativ HaAsara"

The Nativ HaAsara excavation revealed a fort and settlement violently destroyed during the Persian Era. The site, set midway between the cities of Gaza and Ashkelon, 10 km from each, is one of the Persian era fortified settlements and way stops along the Via Maris. Bronze and iron arrowheads (and a single spearhead) found in the fort provide evidence for the battle that destroyed the site in the Persian Period.

The Nativ HaAsara tower was set on a small natural hill overlooking the sea to the west and the coastal plain to the east. The fortified tower, built of stone and mud brick, had a second floor that was reached by a stone stairway. The fortress walls were preserved to a height of up to two meters.

The Netiv HaAsara Persian Period settlement was built around the fort hill. Excavations exposed residential buildings; one such complex included a storeroom with a dozen oil and wine jars found *in situ* on the floor. Adjacent to the storeroom was a courtyard and cooking area

with four ovens. A large paved room may have served as the dining hall. The full storerooms are evidence of the bustling commerce that took place at the site. After the destruction the site was deserted for a millennium until the Roman Period.

Philip Webb (Southwestern Baptist Theological Seminary) and Bruno Soltic (Southwestern Baptist Theological Seminary), "Recent Excavations and the Late Bronze Age at Gezer: Interpreting a Composite Reconstruction"

Located at the foothills of the Judean Mountains on the border of the Shephelah region, Tel Gezer is one of the largest and most important sites in Israel. Consequently, it has been the focus of several major excavation projects by R.A.S. Macalister, Hebrew Union College, and currently the Tandy Institute all of which have revealed strata documenting Gezer's long history, including the Late Bronze Age. Published across several volumes and multiple decades the material for reconstructing the Late Bronze history of Gezer is ripe for consolidation and interpretation. This study will focus on the results of the Macalister and HUC excavations, integrating the two to create a holistic archaeological view of Late Bronze Gezer. We will then discuss Late Bronze Gezer in its context among the current excavations in the Shephelah and Late Bronze research in South Levant. With a fuller archaeological picture of the Late Bronze city of Gezer established, it can be understood within its wider regional context.

Oded Lipschits (Tel Aviv University), "Azekah after Five Seasons of Excavations: Fresh Results and their Historical Implications"

Tel Azekah (Tell Zakariya) is located in the heart of the Judean Lowlands (the Shephelah), controls and watches over the strategic junction of roads leading from Tell es-Safi (biblical Gath) in the west, through the Valley of Ellah, to the Judean Hills in the east, and connects Beth-Shemesh in the north with Lachish in the south. The name Azekah was not mentioned in second millennium historical sources, but it is known from the Hebrew Bible as well as extra-biblical sources as one of the Judahite border towns of the late 8th to early 6th century B.C.E. that faced the territory of the Philistines. Tell Zakariya was one of the first sites to be excavated in the holy land, and the British archaeologist, F.J. Bliss, assisted by R.A.S. Macalister, on behalf of the Palestine Exploration Fund, excavated the site in 1898-1899 for 17 weeks over three seasons. In this paper I will present the results from the five seasons of excavations at Azekah (2012-2016), conducted by the Lautenschaeger expedition of the Tel-Aviv and Heidelberg Universities, directed by Lipschits, Oeming and Gadot. The results - from the Early Bronze Age to the Hellenistic Period will be presented, and the historical implications of it will be discussed.

Aren Maeir (Bar-Ilan University), "Excavation Results at Tell es-Safi/Gath and their Implications: An Update for the 2015 and 2016 Seasons"

The ongoing excavations at Tell es-Safi/Gath, the longest going excavations currently being conducted in southern Israel, has provided a wealth of archaeological finds relating to the Bronze and Iron Ages in the two decades that it has been in the field. In the 2015 and 2016 seasons, the project continued excavations in various areas on the site with particular focus on the Early Bronze Age, Late Bronze Age, Iron Age I, and Iron Age II. Among other finds of note, a much better understanding of the fortifications of the site during various periods was attained, including clear cut evidence of the fortification of the lower city of Gath during the Iron Age IIA, and the apparent remains of a very impressive gate complex. In addition, important remains relating to topics such as cult, technology, subsistence and archaeoenvironment were revealed. An important result is a better understanding of the status of the Kingdom of Gath during the Iron I and Iron IIA, and through this, a reflection on what this tells us about the early stages of the incipient Judahite kingdom to the east of Gath.

Robert Mullins (Azusa Pacific University) and Nava Panitz-Cohen (The Hebrew University of Jerusalem), "Results of the Fourth Season of Excavations at Tel Abel Beth Maacah"

The fourth season of excavations at Tel Abel Beth Maacah on the Israel-Lebanese border, produced very interesting results. Activity focused on Area A in the lower mound and Area B on the upper mound. In Area A our goals were to: (1) reach the Late Bronze Age in order to determine the total depth of the Iron I deposit and its correct dating, as well as elucidate the nature of the transition from LB to Iron I; (2) increase the exposure of the uppermost phase, which yielded at least two well-built structures separated by a passageway lined by stone buttresses. This impressive building complex belongs to the terminal phase of the lower city, which apparently ended sometime during the late 11th to early 10th century B.C.E. In Area B, excavation below the large Persian/early Hellenistic period building revealed traces of Iron II occupation in the form of pottery and a very large stone wall, and an earlier phase that appears to be contemporary with the building complex in the lower city (Iron I). Surprisingly, this earlier phase was established on the sloping fills of a Middle Bronze Age rampart.

1E. Cultural Heritage Management: Methods, Practices, and Case Studies

CHAIRS: Glenn Corbett (American Center of Oriental Research–ACOR), and Suzanne Davis (Kelsey Museum of Archaeology, University of Michigan), Presiding

Glenn Corbett (American Center of Oriental Research, Jordan), "Sustainable Cultural Heritage through Engagement of Local Communities: ACOR's USAID SCHEP Initiative"

Launched by the American Center of Oriental Research in November 2014, the USAID Sustainable Cultural Heritage through Engagement of Local Communities Project (SCHEP) is a four-year pilot initiative that aims to develop Jordan's local and institutional capacity for sustaining and managing the country's vast array of heritage resources. Now two years on, USAID SCHEP has supported innovative site and community development projects at several of Jordan's more important but underserved archaeological sites, while also developing needs-based capacity-building workshops for government authorities, university faculties and students, and key members of the tourism sector. In addition to providing an overview of SCHEP's main objectives, this paper will discuss several accomplishments during the first two years of the project, most notably the launch of a community-based "site steward" program, the support of local heritage-based associations and small enterprises, and the foundation of a new representative body, the Jordan Heritage Consortium, that

brings the country's major cultural heritage stakeholders together to develop agreed-upon standards for site conservation, preservation, and management.

Allison Mickel (Stanford University), "Lucrative Nonknowledge in Petra: A Case Study Connecting Labor Relations, Local Expertise, and Cultural Heritage Management"

The conflicting, complementary, and overlapping relationships that the diverse communities living near archaeological sites possess toward these ancient remains represents a critical and complex area of research for practitioners and scholars of cultural heritage management. This paper contributes to ongoing discussions on the subject by investigating a particular case study: the monumental UNESCO World Heritage site and fascinating archaeological park of Petra, Jordan. At this site, the local residents—in particular, the Bedul and Ammarin Bedouin tribes—have long worked to protect the archaeological remains, both as part of formal excavation and conservation projects as well as in traditional, unofficial ways. The legacy of generations of (mostly) men has essentially created dynasties of experts in preserving the archaeology of Petra. This presentation illustrates the areas of expertise that local residents of Petra possess on this topic, but also demonstrates a remarkable phenomenon in which these same men and women deny having the training and knowledge which they have developed over time. I explore the social, political, and economic reasons why the local community members who have worked on cultural heritage management projects have historically been encouraged and even rewarded for disavowing their archaeological expertise. I conclude by suggesting how this insight might best be used to improve heritage management initiatives moving forward in Petra, in Jordan, and elsewhere.

Jenna Morton (Pax Foundation, Morton Group), and Bert De Vries (Calvin College), "The Umm el-Jimal Interpretive and Hospitality Center: Heritage Preservation through Museum-Programmed and Community-Operated Visitor Services"

From 2016 to 2018 the Umm el-Jimal Project is creating the "Umm el-Jimal Interpretive and Hospitality Center" (UJIHC), a complex of heritage facilities and services being located in the antiquities site. The Center will house exhibits about the ancient site, a multimedia theater, an inscription garden, and also provide modern services including a shaded courtyard, bathrooms, and a locally operated cafe and gift shop. This facility will fulfill four interrelated goals: (1) to provide basic facilities for site visitors; (2) to ensure preservation of Umm el-Jimal's material remains; (3) to communicate the site's outstanding value to Jordanian and foreign audiences; and (4) to create a sustainable mechanism of support for the local community.

The UJIHC will be linked with a tourist-services-oriented business center in the modern village via a signed interpretive trail through the ruins, and it will serve as a regional educational center in which trained residents will provide tours and seminars to teach archaeological and traditional heritage to both local and regional Arab-speaking visitors and multilingual tour groups from abroad. Therefore, it is expected that the UJIHC will be the linchpin of a multifaceted site management agenda designed to preserve Umm el-Jimal's cultural heritage for its enjoyment by world communities and its profitable celebration by the local community.

Kaelin Groom (University of Arkansas), "A Preliminary Assessment of Rock Art Stability and Heritage Management in Wadi Hassan, Jordan"

Cultural heritage management of rock art involves the blending of science, history, art, architecture, and policy. Hence, a comprehensive understanding of rock art and its decay is fundamental to its preservation and protection. In historically important and environmentally sensitive sites such as Wadi Hassan and Jordan's eastern desert, rock art are susceptible to human interaction and both natural and induced deterioration. Non-invasive techniques in rock art assessment (like RASI) provide a baseline study from which these important epigraphic and artistic petroglyphs can be identified and analyzed for trends in polygenetic deterioration. This research presents a preliminary assessment of Wadi Hassan's rock art in relation to accessibility and possible management challenges. Aspects addressed include geologic condition, substrate, vulnerability, and influences to create a much-needed baseline for the rock art, providing current and eminent conditional status, stability, and preservation applications and policy. Continuation of such research will help ensure that Jordan's irreplaceable rock art will endure increased tourism, human contact, climate change, and time.

Shay Bar (Haifa University), "Tel Esur: A Unique Archaeological Community Project"

Tel Esur is situated in the north of Israel's central Coastal Plain, near the mouth of Nahal 'Iron, ca. 10 km southwest of Megiddo. Since 2010 a unique community excavation is held at the site annually. Our team comprises almost entirely students from the local high schools; every season, five hundred 15-year-olds from different backgrounds work side by side to explore the past in their own backyard. Each class joins the dig for a week, acquiring hands-on experience in archaeological fieldwork and partaking in an educational adventure. The project promotes cooperation between Jews and Muslims, coming from religious and nonreligious 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. During the last six years, more than 3,000 children have worked with us. This project is sponsored entirely by the community, using unorthodox "fund raising" methods, such as collecting and selling scrap metal and producing and selling our unique brand of Tel Esur olive oil.

In this paper, I will present the project, focusing on the community cooperation, the methodological dilemmas, and some of the important finds discovered by the children (e.g., an administrative Iron Age building and a Middle Bronze Age fortification system).

Lisa Graham (University of Edinburgh), "Experimenting with Public Archaeology: A Microeconomic Approach to Site Preservation and Community Engagement"

The preceramic Neolithic is a time period in which it is hard to drum up excitement from the general public, but it is the very fact that there were no gold or jewels that makes it perfect to demonstrate what archaeology can really do. The rural site of Prastio-Mesorotsos in Cyprus has been looted before and remains vulnerable to vandalism,

development, and illegal digging. The site needed an outreach program that had the right combinations of elements to make the archaeology seem more valuable in the ground, something that would make it more beneficial to the local community to protect the site than to loot or allow it to be destroyed. An ancient cooking installation found in the Neolithic deposits, and the subsequent experimental reconstruction of the cooking process, allowed for the archaeological project to engage with the local community and to leave a tangible display of the work of the archaeologists. It is hoped that this will make the research, protection, and presentation of the ancient culture relevant, appealing, and lucrative for the modern local community.

1F. Archaeology of the Near East: The Classical Periods I

CHAIR: Lisa A. Çakmak (Saint Louis Art Museum), Presiding

Zeev Weiss (The Hebrew University of Jerusalem, Jerusalem, Israel), "Shaping the Urban Center: Recent Excavations in Roman Sepphoris"

On the eve of the Great Revolt against Rome, in 66 C.E., Sepphoris stretched across the hill and its slopes. The first-century city had a rural appearance lacking most of the typical Roman-style public buildings. Only years later, after the suppression of the Great Revolt, was Sepphoris transformed into a prominent Roman *polis* boasting monumental buildings, probably owing to its pro-Roman stance.

The team of the Hebrew University of Jerusalem, working at the site for three decades, has focused in recent years on several areas in the city center where some public and private buildings were excavated. The latest finds provide further information about the city's infrastructure, boundaries, and building construction. This paper will discuss the *decumanus* and the public buildings excavated along its route—a library or archive at its western end, two monumental structures to its north, and a Roman temple located inside a large *temenos* to its south. Presentation of the new finds will help define Sepphoris's urban center in the early second century C.E., after the establishment of the city as a Roman *polis*. It will be argued that the *decumanus*, and not the *cardo*, served as a main thoroughfare of the city in Roman times.

Avraham Tendler (Israel Antiquities Authority), "Settlement and Agriculture in the Hills of Modiin; H orvat Ashun as a Case Study"

The city of Modiin is a rapidly expanding, modern city in the northern Judean hills. Every stage of development of the city is preceded by archaeological surveys and salvage excavations. This archaeological work generates a tremendous volume of data regarding the ancient settlements, but even more so regarding the ancient landscapes. In the past year, the Israel Antiquities Authority is conducting large-scale excavations west of the city, in the vicinity of the ancient settlement Ḥorvat Ashun. The excavations on Ḥorvat Ashun revealed that the settlement began in the Persian period. In the Late Hellenistic–Hasmonean period a fortified farmstead was built on the site. In the Early Roman period the site developed into a typical Judean village.

In the Late Roman–Early Byzantine period a farmstead was built on the site and sporadic agricultural activity continued on the site throughout the Middle Ages and the Ottoman period. In the surrounding landscape we excavated rural roads, agricultural walls and terraces, winepresses, cisterns, animal pens, quarries and lime kilns, as well as ancient tombs. Although the ancient settlement can be analyzed and dated using classical archaeological methods, the analysis and dating of the finds from the landscape is more complex.

In this paper I will discuss methods for correlating the finds from the landscape with the various stages of the settlement and analyze how in the different stages of the settlement the surrounding natural environment served the needs of its residents.

Jonathan David (Gettysburg College), Yotam Tepper (The Zinman Institute of Archaeology), and Matthew J. Adams (W. F. Albright Institute of Archaeological Research), "The 2015 JVRP Excavations of the *Castra* of the Roman VIth Ferrata Legion (Legio, Israel)"

Historical sources indicate that the Roman VIth Ferrata Legion established a base in the Jezreel Valley near an important crossroads near Megiddo. Surveys and salvage excavations throughout the 20th century within the broader Megiddo region recovered Roman finds, including roof tiles stamped with the name of that legion. Detailed surveys carried out since 2000 by Tel Aviv University and the IAA provided a broad historical and geographical understanding of the region and suggested the specific location of the VIth Ferrata Legionary base just to the south of Tel Megiddo. Three seasons of archaeogeophysical survey and preliminary excavations by the Jezreel Valley Regional Project confirmed the location of the *castra* and its association with the VIth Legion, uncovering the remains of Roman military architecture and finds, including a fortification wall and defensive fosse, as well as sets of rooms and alleys suggesting barracks.

In the summer of 2015, the JVRP conducted a full season of excavation at Legio. Excavation conducted near the center of the camp provided additional evidence for the presence of the VIth Ferrata. A segment of an 8m wide north–south road was uncovered that is likely to be the *Via Principalis*. Its location supports the reconstruction of a full-size legionary base comparable to those known from the western part of the empire in the second and third centuries C.E. Two sections of monumental architecture discovered in the general vicinity of this street may be connected to both the Principia and the Praetorium. This paper presents results from the 2015 seasons.

Robert Darby (University of Tennessee), "The Last Fort Standing: The Late Roman Army at 'En Hazeva"

Excavations of 'En Ḥazeva commenced in 1972 under the direction of the late Rudolph Cohen. Work continued intermittently until 1995 under Cohen and codirector Yigal Israel. Since then, limited excavation at the site has continued while final publication of Cohen's work still waits. To date, preliminary publications from 'En Ḥaẓeva have, for various reasons, focused primarily on the site's early occupation phases during the Iron Age, while, with the exception of ceramic material (Erickson-Gini 2010), later periods have hitherto gone almost entirely ignored. This is despite the fact that until the late 20th century the ruins of a well-preserved Late Roman military complex still dominated the landscape. The readily identifiable remains of a typical Late Roman *castellum* with four projecting corner towers and nearby heated bathhouse were noted by many western explorers and archaeologists including Alois Musil and Nelson Glueck. This paper presents a preliminary assessment of the Late Roman military

architecture at 'En Hazeva as an initial step towards its publication in the final report on Cohen's excavations.

Byron R McCane (Wofford College), Juergen Zangenberg (Leiden University), Stefan Muenger (University of Bern), and Raimo Hakola (University of Helsinki), "Excavations in the Synagogue at Horvat Kur, 2010–2016: Preliminary Report"

Six seasons of excavation at Horvat Kur in the Lower Galilee (New Israeli Grid 25050–60/ 75450–60) have exposed a synagogue from the Late Roman/Byzantine period. Oriented east-west, the building measures 11m x 16.5m. It has two entrances: (1) a double-leaf door in the center of the western wall, covered by a colonnaded portico; and (2) a single-leaf entrance on the south wall. The south door is not in the center of the wall, but is offset several meters to the west, due to an ornate elevated *bemah* centered on the inside of the south wall. Ritual activity was thus oriented toward Jerusalem. Two rows of columns run north-south on either side of the *bemah*, giving the synagogue a "broad-house" layout, and a low stone bench runs along the inside walls. Other finds include: (1) a "seat of Moses" plastered into place atop the stone bench near the southern entrance; (2) the "Horvat Kur stone," a low monolithic basalt stone table decorated with geometric and pictorial representations; (3) a coin deposit found under the surface of the portico; (4) a well-preserved area of mosaic floor, to the west of the *bemah*, depicting a menorah with lighted lamps and a dedicatory inscription; (5) a cistern, located outside the southern wall, from which 35 intact vessels of Late Roman/Byzantine pottery were taken. The broad-house synagogue went through at least two and possibly three phases. Excavation outside the eastern and northern walls exposed domestic structures that predate the synagogue.

1G. Material Culture and Identities in the Eastern Mediterranean I

CHAIRS: Helen Malko (Columbia University) and Serdar Yalcin (Columbia University), Presiding

Maggie Beeler (Bryn Mawr College), "The Social Dynamics of Early Helladic Sealing Practices"

This paper will investigate the social dynamics of Early Helladic sealing practices, and evaluate current models for social and political development in Early Bronze Age Greece (ca. 3100–1900 B.C.E.). I develop a practice-based approach that integrates contextual analysis of the archaeological evidence with formal analysis of seal designs to address issues of technical agency and social identity. I argue that rather than being a proxy for emerging social complexity, sealing practices actively structured more fluid Early Helladic social and political institutions.

Administrative seal use is emphasized in the scholarly literature, privileging the political and economic dimensions of sealing practices in the service of a progressive theoretical model for developing social complexity. Sealing involved reproducing a design engraved on a seal by impressing it onto another medium, such as clay applied to the openings of containers (sealings) or directly onto ceramic storage vessels.

While Early Helladic stamp seals and sealings are traditionally assigned an administrative function, the large cylinders or rollers used to impress storage vessels and hearths are interpreted as merely decorative. Because sealing practices were closely associated with communal feasting involving roller-impressed vessels and hearths, however, I suggest that they served simultaneously as material expressions of individual and collective social identities and as a mechanism for horizontal social integration. The results of this analysis suggest that established models for Early Helladic social and political organization fail to account for the more cooperative and less hierarchical social institutions that sealing practices and communal feasting together constituted.

Joanna S. Smith (University of Pennsylvania), "Seals as Measures of Individual and Group Identity on Late Bronze Age Cyprus"

The study of Cypriot Late Bronze Age cylinder seals traditionally divides them into several stylistic groups that were defined by Edith Porada in 1948. Today these groups are often summarized in three broad stylistic categories: elaborate, derivative, and common. These groups have been linked to corporate identities and coercive financial practices. Primacy has been attributed to the extensively excavated urban site of Enkomi near the east coast of Cyprus, in part due to the sheer quantity of seals found there. However, the frequent practice of recarving cylinder seal designs shows that there was fluidity and overlap among what scholars have taken to be relatively distinct stylistic groups. Recognizing the different stages in each seal's carving history helps to reveal subjects and compositions in seal designs that were more local and those that were more widespread on Cyprus. Changes made in cylinder seal designs over time thus make us reconsider stylistic groups and associations among cylinder seals and individual or group identities on Cyprus. This paper draws on new readings of seal designs from several Cypriot sites, including Enkomi. It includes seals found in burials, households, and workshops, considers patterns within settlements and regions, and points to connections with seal designs made in the Near East and the Aegean. It uses stratigraphies of seal carving—layers of carving on seals as well as the find locations of seals in the archaeological record—to suggest new ways of thinking about seals as measures of one's identity in Late Bronze Age Cyprus.

Serdar Yalcin (Parsons School of Design), "A Kassite Seal in the Hands of an Assyrian: Reused Artifacts and Identity Creation through Appropriation in the Ancient Near East"

The impression of a seal, which originally belonged to the son of the Kassite king Kadasman-Turgu (1281–1264 B.C.), was found on an administrative document unearthed in Assur. The object was used by an Assyrian official, who served Tiglath-Pileser I (1114–1076 B.C.). It is likely that this specific seal was not just a reused object but also a *spolia* forcefully appropriated probably during the Babylonian campaign of Tukulti-Ninurta I (1244–1207 B.C.). Throughout history, spoliated objects have been used by their owners to express dominance over the conquered, to legitimize their offices, and to promote a certain elite identity in their homelands. In this context, I will argue that the possession of the seal of the son of Kadasman-Turgu and its active use in Assyrian bureaucracy may have been a source of great prestige for the owner. What was originally used as a personal seal to sign documents or a votive in a temple became a relic signifying both Assyrian dominance over Babylonia and the membership of its owner to the Assyrian imperial elite. This specific seal also shows that objects produced at certain points in time have individual biographies,

in which the meaning and value attached to them constantly changed and were renegotiated.

Leticia R. Rodriguez (The University of Texas at Austin), "Ionian (Re)Vision: Shifting Perspectives and Identities of an East 'Greek' Sanctuary"

The Milesian Sanctuary of Aphrodite Oikus at Zeytintepe presents itself as a unique opportunity to explore the dynamicity of an archaic east Greek sanctuary: one shaped not only by "Greek" practices, but also by local Anatolian cultural and ritual influences; one undergoing physical transformation by way of renovation; and one whose scholarship is still being formulated, continually changing as excavations are ongoing. Because of its status as an ancient and contemporary space in transition, its liminal physical setting (straddling the sea and land), and its participation in Greek, Anatolian, Near Eastern, and Egyptian religious and visual cultures, the Sanctuary of Aphrodite invites us to consider the consequences (both cultural and disciplinary) of a space defined by its fluidity, here analyzed through the methodological framework of the borderland. In this paper I examine the sanctuary and its finds through the lens of hypothetical worshipers, and demonstrate how the sanctuary and its dedications are affected by shifting identities—i.e., the different "ways of seeing" of the individual viewers—as well as by local cult aspects (especially Phrygian), ultimately affording a nuanced interpretation and understanding of the site. In moving away from traditional analysis of east "Greek" identity, so often heavily reliant on categorizations defined using a decidedly Western framework, we can begin to visualize an alternative, fluctuating, and adaptable identity, one resulting from a complex series of borderland processes in western Anatolia.

Erin D. Darby (University of Tennessee), "Manipulating Identities: What Figurines Actually Reveal about Identity Formation in the Ancient Near East"

Identity has received increasing attention in material culture studies over the last several years. Figurines have played a role in this discussion, especially due to the miniature and tactile qualities of figurines and the presumed impact on the construction of identity among users, whether at the individual or national levels.

While this theoretical turn can be instructive, it is accompanied by some dangers. Although we can assume that figurines had a structuring role on the participants who wielded them, how would such an impact be measured in any given culture? Many studies rely heavily on a perceived similarity between the way ancient and modern people experience figural images as a means of reconstructing the impact of figurines on identity formation.

Unlike Greek passages that describe figurine deposition and even human responses to figurines, ancient Near Eastern literature is stubbornly silent about the way ancient ritual participants experienced figurines. Archaeological context provides little aid, as Near Eastern figurines are often found in refuse or reuse, obstructing our ability to recreate the environmental factors that may have affected how figurines were viewed. In order to address these concerns, this paper will first review the way figurines have been tied to identity formation in current literature, focusing on Judean Pillar Figurines. Drawing upon textual and archaeological data, the paper will then problematize what we can and cannot infer about the way figurines created identity among participants, exposing those areas where modern presuppositions complicate our ability to understand past identities.

1H. Art Historical Approaches to the Ancient Near East I

CHAIR: Kiersten Neumann (Oriental Institute, University of Chicago), Presiding

Steele Brand (The Kings's College), "A Sumerian Phalanx? What Comparative Art Tells Us about Martial Democracy in Mesopotamia"

Early Dynastic art in Mesopotamia, such as the Standard of Ur and the Stele of Vultures, seems to indicate that the Sumerians fielded levies of citizens fighting in close order like the classical citizen armies of the first millennium B.C.E. Some scholars see this as clear evidence that Mesopotamians invented democracy, even if it was a "primitive democracy." Others, especially scholars of the classical world, tend to defend the originality of classical political and martial institutions, either ignoring or dismissing evidence from ancient Mesopotamia. An analysis of comparative art from the classical and late antique periods helps to move toward clarification of the question of early Sumerian martial democracy. Greeks, Romans, Germanic tribes, and Anglo-Saxons also used sculpture, reliefs, and other forms of workmanship to illustrate their varying forms of republicanism or constitutionalism. Analysis of their art and accompanying texts sheds light on works such as the Stele of Vultures. This paper will examine early Sumerian representations of warfare in light of Greek works such as the Siphnian Treasury and the Nereid Monument, early Italic and Roman works such as the Paestum tombs and Ahenobarbus Altar, and early medieval depictions found in illuminated manuscripts and the Bayeux Tapestry. Comparing republican art and then using it as an interpretive lens brings us closer to understanding that regardless of whether the Sumerians had a "primitive democracy," they defended their polities in some decidedly democratic ways.

Petra Creamer (The University of Pennsylvania), "The Apotropaism of Old Babylonian Terracotta Plaques"

The mass-produced and cheaply made nature of the small, often palm-sized terracotta plaques of the Neo-Sumerian and Old Babylonian periods was an exceptional development in the corpus of Mesopotamian artwork. The function of these terracotta relief plaques has been often discussed, with widely varying opinions. By focusing on the bodies of plaques from the Diyala region and southern Mesopotamia, this paper demonstrates that the function of the plaques was predominantly apotropaic in nature, based on the employment of motifs which were previously well-established in Mesopotamian art as protective and auspicious. These plaques were used in primarily domestic contexts and private spaces for the protection of liminal spaces and the attraction of fortune and health. Two categories of plaques are proposed: "doorkeeper" plaques, which employ figures associated with the liminal, and "talismanic" plaques, which employ figures related to the use of sympathetic magic. The nature of the doorkeeper plaques is such that these were likely placed around entrances, while the spatial distribution of the talismanic figures remains more opaque. The paper outlines the categories of the motifs that appear on plaques from middle and southern Mesopotamia and their proposed apotropaic

functions, along with demonstrable comparanda pulled from other areas of Mesopotamian art.

Linda Meiberg (The University of Pennsylvania), "Decorative Motifs on Philistine Pottery and Their Cretan Connections"

In the beginning of the 12th century B.C.E., elements of a new material culture attributed to the Philistines suddenly appear in the southern coastal plain of Canaan. Aside from urban planning, these elements include hearths, cylindrical loom weights, bathtubs, globular cooking jugs, female mourning figures, and the distinctively decorated Philistine ceramic assemblage.

The predominant theories based on the study of these elements view the Philistines as migrating to the southern coastal plain of Canaan from somewhere within the greater Aegean world, as well as from Cyprus and coastal Anatolia. The late Trude Dothan had long recognized the significance of Crete in this migration process, and it is in her memory that I revisit the topic of Cretan connections with Philistia at the beginning of the Iron Age vis-à-vis the decorative motifs on Philistine pottery. This paper builds on Dothan's search for the Philistines and shows that particular elements of geometric and figural motifs on Philistine decorated pottery can be traced directly back to Crete as their source of inspiration. As such, it is possible to postulate that some inhabitants of Crete joined in the migration of people alongside migrants from other parts of the Aegean world, Cyprus, and Anatolia to Philistia. Moreover, perhaps this Cretan element constitutes the basis for the literary tradition concerning the Philistine origins in Caphtor/Cheretim.

Christian Frevel (Ruhr-University Bochum), "Clay Messengers: Understanding Iron Age Cult Stands as Media"

Cult stands in the southern Levant are an important part of inventory in Iron Age sanctuaries and household cults. Many of them are painted or decorated with reliefs and appliques. Some are in a human-shaped form, as for example in Horvat Qitmit, En Hazeva, or Hirbet el-Mudeyine. The iconographic program of these stands can be treated as a source of information for the cult, its purposes, and its intentions. By interpreting the iconography of cult stands as a symbolic communication, cult stands are conceived as "media." Some of the cult stands represent a sanctuary symbolically; others—especially the anthropomorphic human body shaped stands—represent the votant as well as the offering, and are used as votives. This paper will consider the iconography of Iron Age cult stands and the particular aspects of their communication within a cultic context.

2A. Object, Text, and Image: Interdisciplinary Approaches to Seals, Sealing Practices, and Administration I

CHAIRS: Oya Topçuoğlu (Oriental Institute, University of Chicago) and Sarah J. Scott (Wagner College), Presiding

Anastasia Amrhein (University of Pennsylvania) "What Does the Materiality of Seals Evince about the Materiality of the Divine in the Context of the Neo-Assyrian Empire?"

The study of seals has traditionally focused on iconography, disembodying images from their ground. Through close analysis of seals in several museums, I demonstrate that different stones actually interacted with the images of deities represented upon them in complex, significant ways. Comparing these visual-material representations with esoteric textual imagery allows for fuller reconstructions of Neo-Assyrian theological conceptions and phenomenological experiences of the divine. I argue that seal signification stemmed not only from iconography, but was inscribed over the course of seal *chaîne opératoire*. The laborious extraction of stones parallels Assyrian kings' traversal of treacherous landscapes; and the sacrality of a stone's quarry site may be reflected in the iconography of seals produced from that stone. Seal iconographies also in many cases correlate with the divine and magical associations of specific stones and colors. The origin of most seal stones outside of Assyria proper indicates that they were implicated in the spread and maintenance of the Neo-Assyrian Empire as trade imports, war booty or tribute—indeed, certain seal stones, styles, and iconographies were reserved for the use of kings, eunuch officials, and other elites. I also demonstrate how carving techniques, style, and specific ways in which craftspeople arranged images upon the patterned stones—obscuring or emphasizing aspects of the iconography—contributed to the function of seals as vital (re) presentations of the divine. Finally, I discuss how wear, repairs, and recarving are indicative of seal use and (in some cases) valuing of material support over image.

Gina Konstantopoulos (Institute for the Study of the Ancient World, New York University) "The Role and Function of Nonmirrored Inscriptions on Cylinder Seals"

In cylinder seals, cuneiform text is most often inscribed in a reversed or mirrored fashion, so that when the seal is rolled out this text, which may range from the name of the seal's owner to more complicated and multiple lines of cuneiform, is fully legible in the impression. These rules are not universally held, however, as some such inscriptions are carved directly onto the seal, in a nonmirrored fashion, thus rendering them illegible in the subsequent impression. These seals fall into two major chronological groups, including either seals from the Old Assyrian period, or seals where the text is clearly a later addition. In the latter group, the text is often placed haphazardly between the existing images on the seal, interrupting the narrative already established by these larger motifs. While some of these inscriptions may be modern, forged additions to the seals, others are connected to an established excavated and archaeological context. Their presence requires us to reconsider the potential roles of the object as a whole, as the illegibility of the inscription runs counter to its assumed and more functional aspects. Do these inscriptions divorce the seal entirely from its impression, forcing the object to acquire an entirely votive status, or may these later additions coexist with the impression, regardless of their illegibility? This paper considers these nonmirrored inscriptions—as well as their consequently mirrored impressions—and examines the context of the inscriptions alongside the larger narrative of images found on the seals themselves.

Andrew McCarthy (Cyprus American Archaeological Research Institute), "Flip the Script: Early Egyptian Seals and the Bidirectionality of Hieroglyphs"

Studies of seals sometimes treat glyptic objects as mere carriers to transmit art historical data, but this approach misses elements of meaning embedded in the objects themselves. For instance, glyptic

designs look a certain way when observed on the seal itself and appear differently when seen in an impression. The effect of the design also changes when there is writing on the seal and whether the characters are seen on the seal or in its impression. When we encounter writing engraved on seals we must consider the script as an element of the overall object design which can help us to determine the intended effect on the viewer and user. Cuneiform writing on Mesopotamian glyptic produces unreadable characters in one of the two orientations, but in Egypt hieroglyphic characters can be read in multiple directions. It is argued in this paper that the early use of hieroglyphs as design elements in Egyptian glyptic led to the bidirectionality of the script, and that early Egyptian seals were meant to be observed as objects as well as having an administrative function through impressions.

Karen Sonik (Auburn University) "Myth in Miniature: Word, Image, and the Cylinder Seal"

The mismatch between the mythological poetry and pictorial compositions of Mesopotamia, or at least the difficulty in correlating the two, was recognized already in 1934 when Henri Frankfort observed that "many of the scenes on [seal] cylinders are evidently renderings of myths, but great uncertainty prevails as to their interpretation." A half-century later this difficulty remained unresolved, leading Donald Hansen (1987) to investigate the seeming "lack of fundamental relationship between what is written and what is represented." Taking the mythological imagery of the cylinder seals as a case study, this paper takes up the topic of the written and the represented, and explores the nature of the relationship between the written and the pictorial myths of Mesopotamia.

2B. Archaeology of Anatolia II

CHAIR: Levent Atici (University of Nevada, Las Vegas), Presiding

Sharon R. Steadman (SUNY Cortland), Gregory McMahon (University of New Hampshire) and Jennifer Ross (Hood College), "The 2016 Season at Çadır Höyük in North Central Anatolia"

In 2015 the Çadır team revealed Late Chalcolithic (ca. 3700–3500 B.C.E.) architecture substantially different from the later Late Chalcolithic phases excavated over preceding years. This earliest phase offered small-celled agglutinated structures surrounding small open courtyards. The 2016 prehistoric excavations focused on continuing to reveal this new architectural phase and understanding the village layout and whether the characteristics observed in 2015, such as the installation of infant jar burials in the corners of rooms, was repeated throughout the settlement. Further, the 2016 season and future seasons will be dedicated to assessing whether this new (for Çadır) architectural plan is the norm for earlier periods or whether the domestic architecture returns to the more individualized structure plan of later periods. The season also focused on Byzantine operations both on the northern terrace and on the mound summit. Our goal on the summit is to acquire an understanding of the overall use of this area; previous seasons have suggested that there was almost no domestic occupation here and that the area was dedicated to storage and defense activities. However, we have not explored the western area of the summit prior to 2016; it is there where we may find evidence of more extensive use of the mound summit during the Byzantine (ca. 7th–11th centuries C.E.) period. Our work on the terrace further exposed the earliest (ca. third–sixth centuries C.E.) structure(s) here; we continue to work toward understanding whether these early well-built structures were one extensive "villa" or were several smaller very well-built houses.

Stephanie Selover (University of Washington), "Women's Work? A Study of Gender and Weapons in Burial Contexts from Early Bronze Age Central and Southeastern Anatolia"

My study of graves from the Chalcolithic to the Early Bronze Age in central and southeastern Anatolia revealed a noticeable change in the types of burial goods placed among the human remains. In particular, weapons as burial goods transformed from nonexistent in the early Chalcolithic to common by the end of the Early Bronze Age, across nearly all known cemetery contexts. More interestingly, both male and female graves were found to contain weapons, in addition to other objects. This paper investigates this increase in weapons as grave goods from both male and female graves, and how this change relates to alterations in the social order in the Early Bronze Age, with a comparison between central and southeastern Anatolia. The data were collected through a survey of the published evidence from 73 archaeological sites from central and southeastern Anatolia. The rise in weapons as burial goods corresponds to a marked increase in the preparation for, and prevalence of, warfare in these two regions. This paper analyzes these social changes, comparing differences between the two regions investigated. The results of this study indicate the possibility of women's participation in socially sanctioned interpersonal violence, through the presence of functional, wielded weapons within adult female graves, as opposed to solely ornamental weapons, in addition to more common goods, including pottery and jewelry, or more customarily feminine tools, such as spindle whorls and needles.

Scott Branting (University of Central Florida), "The 2016 Season at Kerkenes Dağ"

The Kerkenes Dağ archaeological project is an international collaboration dedicated to investigating the enormous late Iron Age city located near Sorgun in the Yozgat Province of central Turkey. For the past 24 years, work at the site has included excavations paired with extensive geophysical and geospatial surveys. This report details the results of the 2016 campaign, including excavations at Urban Block 8 in the northern portion of the city, the results of the expanding resistivity survey in the central portion of the city, and monitoring work in the city.

Virginia Herrmann (University of Tübingen) and David Schloen (University of Chicago), "Zincirli Höyük, Turkey: Recent Results from the Chicago-Tübingen Excavations"

Excavations at Zincirli Höyük, Turkey (ancient Sam'al) by the Universities of Chicago and Tübingen in 2015 and 2016 have begun to illuminate the Bronze Age prehistory of this well-known Iron Age city and to refine our understanding of the Iron Age urbanization process. Though copious Early Bronze Age pottery was produced by the late 19th-century excavations on the Zincirli citadel, the existence of an extensive lower town of this period was unsuspected until recent excavations reached beneath the southern Iron Age lower town.

Likewise, a Middle Bronze Age occupation at Zincirli was previously only known from a few published sherds and finds. New excavations at the peak of the central mound are revealing a destroyed stratum of this period contemporary with the palatial center of nearby Tilmen Höyük. The pace and process of the city's refoundation, expansion, and settlement in Iron Age II following a long settlement hiatus have also been clarified by the excavation of four stratigraphic sequences in the large circular lower town-two in the north (2008–2013) and two in the south (2015–2016), including excavations below the city's South Gate—together with radiocarbon dating and a long stratigraphic sequence on the southern citadel mound. This more refined chronology can help us understand the role of urbanization in the political development of the Iron Age kingdom of Sam'al, while the investigation of early residential areas is shedding light on the socioeconomic organization of the first settlers of the lower town.

Akiva Sanders (University of Chicago), "A GIS-Based Evaluation of the Pastoralist Hypothesis for the Spread of the Kura Araxes Phenomenon"

According to a consensus of excavators, people associated with elements of the Kura Araxes material culture "package" migrated from northeastern Anatolia and the South Caucasus to settle in a huge area stretching from the Jordan Valley in present-day Israel to the Kangavar Valley in western Iran over the course of a three-century period (ca. 31002800 B.C.E.). Several motivating factors for the choices made in this migration have been proposed by scholars since the identification of the widespread phenomenon. One motivating factor that has reappeared consistently in scholarship over the last twenty years is a search for high quality pastures for wool-producing sheep. Although recent faunal data of year-round habitation has undermined claims that many highland Kura Araxes sites represent the seasonal mobile pastoralist camps, it is possible that a search for pasture land motivated scouts in selecting areas that would be eventually settled by a mixture of pastoralist and sedentary agricultural villages (as suggested in Batiuk and Rothman 2007). In this paper, I present a suite of GIS models that test various decision-making factors that might have come into play in this hypothetical multistage search for pasture land and predict the spread of Kura Araxes settlement according to these factors. These factors include preference for highland vs. lowland summer pastures, long-distance vs. short distance migration, and the comparative evaluation of summer pasture quality vs. travel cost. In the end, none of these models predict the full range of Kura Araxes choices in settlement areas, and I briefly discuss some alternative conceptual models that might explain historically contingent deviation from these environmentally driven models in particular cases.

2C. Archaeology of Egypt II

CHAIR: Krystal V. L. Pierce (Brigham Young University), Presiding

Caroline Arbuckle MacLeod (University of California, Los Angeles), "Art, Politics, Chaos, and Wood: Reassessing the Significance of the Rishi Coffin in Egypt's Second Intermediate Period"

The intermediate periods of ancient Egyptian history have traditionally been viewed as eras of artistic decay and political turmoil. Object types such as wooden *rishi* coffins, popular during the Second Intermediate Period (ca. 1650–1550 B.C.E.), are often used as examples of the Egyptians' inability to create fine art at a time when Egypt was divided by Theban rule in the south, and Hyksos rule in the north. While more recent studies are beginning to demonstrate a much more complex understanding of intermediate artwork, local rule, and social networks, *rishi* coffins continue to be dismissed due to their lack of aesthetic appeal; however, it is important to examine these objects in their social context. As Egypt struggled to adapt to multiple rulers, trade networks changed and valuable resources from the Levant were no longer available for the wealthy elite. New methods for displaying status were necessary. Rare, large pieces of local wood replaced imported cedar, and gold was used in unprecedented amounts. In this light, it becomes clear that these coffins demonstrate a rapid shift in artistic traditions and aesthetic values, not the sudden disappearance of order and talent from Egypt. This paper uses *rishi* coffins to explore the ways in which large-scale political transitions can have an immediate effect on technologies and style, and how these changes can impact royal as well as individual choices made by subsequent generations.

Amber Hutchinson (University of Toronto), "The Dialectical Interaction between State Initiatives and Nonroyal Endeavors at Provincial Sites during the Eighteenth Dynasty"

During the ancient Egyptian New Kingdom (1550–1070 B.C.), provincial town sites were the focus of increased royal patronage that was primarily centered upon the construction and/or refurbishment of provincial cult temples. The activities of pharaohs in the provinces left a mark on the physical landscape through the presence of building remains and through preserved texts and artifacts; however, determining the chronological history and archaeological impact of each king is often hampered by the disturbed context of many of the remains. At the same time, the activities of local inhabitants were shaped and altered by increasing state activity. In Egyptology, studies have tended to emphasize the binary opposition between the state and local communities represented by the dichotomy of royal versus nonroyal spheres of activity. Rarely has research focused on the intersection of these two activities acting within specific historical and geographical contexts. The following presentation aims to dispel this perspective by examining the dialectical interaction between state initiatives and nonroyal endeavors in the provinces during the Eighteenth Dynasty. Evidence from five provincial sites acts as case studies for this research: Mendes, Abydos, Elephantine, Elkab, and Sai Island. This paper demonstrates that there was a mixing and blending of activities that were not mutually exclusive, but rather interacted in a complex relationship.

Federico Zangani (Brown University), "Amarna and Uluburun: Patterns of Exchange in the Late Bronze Age Mediterranean"

This paper sets out to elucidate patterns of exchange in the Late Bronze Age Near East and Eastern Mediterranean by combining the textual evidence from the Amarna letters with the archaeological evidence from the Uluburun shipwreck. The latter was most probably a Levantine vessel carrying an extraordinary quantity of commodities and prestige objects from Egypt and the Near East to a major palatial center in the Aegean. Most of the scholarship has therefore taken the view that it represents an exchange of the same type as those described in the Amarna letters, and that the Aegean world should be inserted

in the same system of high-status gift exchange as the Near Eastern polities. What this scholarship has failed to acknowledge, however, is the fact that the Amarna letters do not contain a single mention of the Aegean. This paper, therefore, addresses this significant discrepancy between the textual and the archaeological evidence and argues that those texts and the shipwreck may represent two different phenomena. The Amarna letters were essentially a diplomatic tool, and they report exchanges as a function of political contacts between rulers, not as transactions of a purely economic nature. The Uluburun shipwreck, on the other hand, is situated outside of this diplomatic scenario, and is here interpreted as a commercial exchange, in which an Aegean palatial center availed itself of professional entrepreneurs to import goods and commodities. This type of exchange was therefore, quite simply, beyond the scope of the Amarna letters.

Laurel Darcy Hackley (Brown University), "Lions, Dwarves, and Angry Eyes: Apotropaic Tradition in Egypt and Beyond"

The enigmatic ivory wands of Middle Kingdom Egypt are characterized by a selection of animals, monsters, and deities that are generally explained as simply "apotropaic." This paper proposes that the characters represented on these wands reference a particular mythological episode: the festival procession of the Eye of Re. The main themes of this event are the domestication of chaotic forces, the northward spread of the inundation at the New Year, and the conception, birth, and nurture of the young sun god. Each of the genii depicted has a particular role in the mythological cycle that explains its appearance on the wands, and also influences in what other genres of Egyptian apotropaia it will appear.

The genii found on the wands appear in similar contexts not just in Egypt, but throughout the ancient Mediterranean, the Levant, Anatolia, and Mesopotamia, beginning in prehistory. Across cultures, these parallel characters share defining attributes, roles, and even names. Textual and iconographic analysis indicate that they are always strongly connected with personal magic and domestic cult, indicating the transmission and maintenance of a common body of ritual folk-knowledge across considerable geographical and temporal boundaries.

L.S. Baker Jr. (Andrews University), "War Propaganda? A Comparative Analysis of Iconographic Depictions of Assyrian and Egyptian Military Camps"

This paper compares the iconographic representation of Sennacherib's military camp from Room 36 of his palace in Nineveh with the iconographic representation of the second Ramesses's military camp in the temples of Abu Simbel, the Ramesseum, and Luxor to see if their purpose for existence might be ascertained.

The location of the iconographic depictions of both Assyrian and Egyptian military camps strongly suggests that they were not intended for public propaganda due to their locations in low traffic areas. Although there are significant differences in design elements, in both cases the iconography appears to be attempting to depict actual items and moments in camp life. In these depictions there is a striking similarity in the position of the king in regard to the camp. This similarity might hint that the purpose for the representations could be to create a perceived reality that the king stands between chaos and calm.

2D. The Tandy Institute for Archaeology: A Decade of Research

CHAIRS: Steven Ortiz (Tandy Institute for Archaeology) and Thomas Davis (Tandy Institute for Archaeology), Presiding

Thomas Davis (Tandy Institute for Archaeology), "The Kourion Urban Space Project: Retrospects and Prospects"

The Kourion Urban Space Project is entering the final phase of fieldwork with a projected completion date of 2017. Some goals have been achieved, but some remain elusive. This paper will review the original research design, discuss the changes in the research program and illuminate some of the results of the project to date including four MA theses directly coming out of KUSP.

Eric Mitchell (Southwestern Baptist Theological Seminary), "The Gezer Regional Survey"

The Tel Gezer Regional Survey, affiliated with the Tel Gezer excavations, has been in the field for nine seasons during the past ten years (2007–2016). The purpose of the project is to comprehensively and systematically survey the region surrounding Tel Gezer and to locate and publish all archaeological features therein. The survey will encompass 9 square km (or every 1 km square within 1 km of Tel Gezer). This survey will aid in gaining a better understanding of the historical development of the ancient site of Gezer within its immediate context. Our research methodology includes intensively walking every field, slope, and hill surrounding Tel Gezer within the survey area. We walk in 5–10 meter transects depending on the visibility in the field. We acquire GPS locations for each feature, map those coordinates on GIS software, and take detailed measurements and notes for full documentation. This research paradigm will allow features to be mapped chronologically in order to note the expansion and contraction of land usage through time around Tel Gezer. To date we have surveyed hundreds of features. We have located one new boundary inscription and rediscovered one old one (#4), published in *IEJ* 64 (no. 2) 2014. We will here report on the status of our progress.

Steven Ortiz (Tandy Institute for Archaeology) and Samuel Wolff (Israel Antiquities Authority), "The Tel Gezer Excavations: The Transformation of a Border City in the Late Bronze and Iron Ages"

The Tel Gezer Excavation project is a long-term project addressing ethnic and social boundaries, and state formation in the southern Levant. The project is sponsored by the Tandy Institute for Archaeology at Southwestern Baptist Theological Seminary and its consortium of schools. Renewed excavations of the past nine seasons have continued to reveal remains located immediately to the west of the Iron Age six-chambered gate and east of Hebrew Union College's Field VII. Major results to date include (1) verification of the extension of the MB glacis on the eastern slope of the western hill; (2) partial exposure of a Late Bronze Age building that was destroyed at the end of LB IIB (14th century B.C.E.); (3) an Iron Age I city wall with a complex of several structures built up against the wall (11th–10th centuries B.C.E.); (4) excavation of an Iron Age II Palace or Administrative Central Courtyard Building Complex; (5) several ninth century domestic units built up against the reused casemate city; (6) an eighth century administrative quarter that includes three large administrative and industrial public buildings; (7) a large four-room house (elite), (8)

and additional units of a Hellenistic building complex that extends the Hellenistic exposure previously excavated by Hebrew Union College. This paper will present an overview of the results of the renewed excavations and discuss new interpretations of the fortification and urbanization processes of the ancient city, particularly in the Late Bronze and Iron Ages.

Sidnie White Crawford (University of Nebraska) and Ryan Stokes (Southwestern Baptist Theological Seminary), "The Southwestern Baptist Theological Seminary Dead Sea Scroll Fragments"

The Southwestern Baptist Theological Seminary Dead Sea Scrolls fragments consist of eight biblical fragments and one nonidentified fragment. The biblical fragments, representing Exodus, Leviticus, Deuteronomy, Kings, Psalms, and Daniel, present more evidence for the textual history of these books in the late Second Temple period. The presentation will include a look at interesting variants, paleography, and the materiality of the fragments.

Mark D. Janzen (Southwestern Baptist Theological Seminary), "Forthcoming Epigraphic Work at the Cour de la Cachette at Karnak Temple"

The Tandy Institute of Southwestern is pleased to become a consortium member of the Karnak Great Hypostyle Hall Project under the direction of Peter J. Brand, University of Memphis. One of the longstanding goals of the project has been to scientifically reproduce and accurately date the reliefs inscribed on the west wall of the Cour de la Cachette.

For many decades, Egyptologists believed these scenes were the continuation of those of Ramesses II on the south wall. In 1980, Frank Yurco of the University of Chicago hypothesized that Merneptah, Ramesses II's successor, in fact commissioned the scenes. Considerable debate ensued, for Yurco also believe that the scenes on the west wall gave a pictorial representation of enemies listed on Merneptah's Victory Stela (the so-called Israel Stela).

Unfortunately, the condition of the scenes made it impossible to determine if the captives depicted on the west wall can be equated with any people group listed in the Victory Stela and no clear markers of the ethnicity of the enemies survive. To complicate matters, cartouches on the west wall contain the name of Sety II, Merneptah's successor, but these have been altered. Scholars who doubted Yurco's theory believed that Ramesses II's name had been altered as well. This would lead to three theoretical phases of usurpation—under Merneptah, Amenmesse, and Sety II.

Work beginning in December 2016 will build on this foundation provided by the 2004–2005 season with the goal of scientifically examining and accurately reproducing the scenes in order to better understand the internal history of the Nineteenth Dynasty, the usurpations of Sety II and Amenmesse, the placement of the war scenes in the reign of Merneptah, and the ideology behind the decorations.

2E. History of Archaeology I

CHAIR: Kevin M. McGeough (University of Lethbridge), Presiding

Matthew J. Adams (W. F. Albright Institute of Archaeological Research), "The Myth of Memphis: Myth, History, Archaeology, and the Founding of Egyptian Memphis"

The status of Memphis as the earliest capital of a unified Egyptian state has gone unquestioned in Egyptology. The basic modern reconstruction of the foundation of the city follows closely the reports of the Classical visitor, Herodotus, who transmits the native tradition of Memphis as being founded by the first king of Egypt, Min. The presence of the Early Dynastic cemeteries at Saqqara and Helwan, seemingly support the veracity of the basic story, and scholars have long sought to identify Min as one of the early archaeologically attested kings. The rise of the pyramid fields and the development of the greater Saqqara necropolis are generally seen as support that the administrative center of the Old Kingdom state remained at Min's great city. This historical model provides the framework in which Egyptology generally reconstructs the evolution of the Egyptian state and its administrative apparatus.

The problem with this traditional view, however, is that no clear capital city matching this historical reconstruction has emerged from the archaeological record nor is it evident in the textual record. This paper takes a historical revisionist approach to the founding of Memphis and provides a historiographical framework for the development and transmission of the myth of Memphis as presented in the Classical sources.

Christina Olson (East Carolina University), "Lost Among Treasures: An Analysis of Forgotten Pots in the Albright Attic"

The Jane Dows Nies Memorial Building was completed in 1925 as the permanent headquarters for the American Schools of Oriental Research in Jerusalem, later renamed as the W. F. Albright Institute of Archaeological Research (AIAR). The Dows Nies building has served as one of the primary research centers for archaeologists working in the southern Levant to this day. A recent 2015 foray by Rachel Hallote of Purchase College SUNY into the attic of the Albright Institute revealed a number of artifacts including a saddle (possibly William F. Albright's own), Clarence S. Fisher's survey equipment, and materials from various excavation projects. In addition, several crates of unmarked pottery were discovered. The accumulation of unprovenienced ceramic collections in museums and archaeological institutions is not uncommon. These artifacts often lie untouched and ignored, perceived as unimportant and uninformative. There is, however, relevant and significant information that can be gleaned from these collections.

As ceramics of the Albright attic have been deposited among the other objects, wrapped in old newspapers and piled in baskets, they have gained a history beyond their archaeological context. This paper will present the pottery, identifying connections between the objects and past projects of the Albright. In doing so, a plausible "depositional history" for the ceramics in the attic will be proposed. Finally, this paper will demonstrate that even when divorced from their archaeological contexts, artifacts contribute to the history of their individual sites, and of their secondary home, in this case the AIAR.

Samuel Wolff (Israel Antiquities Authority), "Alan Rowe: An Almost-Forgotten Episode at Tel Gezer"

Alan Rowe (1890–1968) was an active archaeologist/Egyptologist who led several projects in Egypt, Palestine, and Cyrenaica. He was an autodidact who eventually became Lecturer at the University of Manchester. He had a checkered career, having directed important excavations at Giza (Egypt), Beth Shan (Palestine), Meydum (Egypt), Cyrene (Libya), and elsewhere, but was passed over for several positions that he had applied for. He was largely forgotten by the archaeological community in his later years and died in debt. This lecture will focus on his brief but significant excavation at Tel Gezer in 1934, which revealed some of the most important finds from the Early Bronze Age ever to have been found at the site.

Charles Jones (Penn State University), "The History of the Study of Antiquity Through the Lens of Autobiography: A Project Report"

The project on the History of the Study of Antiquity Through the Lens of Autobiography began in the Spring and Summer of 2014 with the entangling of threads in a long-standing research interest in the history of the study of the ancient Near East and of old world antiquity more generally. This report will present reflections on the genesis of the project, the development of a working bibliography of the project and its associated blog, and on potential outcomes and plans for the future.

2F. Forty Years of Excavation at Tell Halif

CHAIR: Joe Seger (Mississippi State University), Presiding

J. P. Dessel (University of Tennessee), "The Late Bronze Age Settlement at Tell Halif"

In Phase I of the Lahav Research Project, four significant Late Bronze Age strata were excavated at Tell Halif. This Late Bronze Age settlement followed a roughly 700 year gap in occupation that began at the end of the EB III. The regeneration of the site began in the LB IA, Stratum XI, with overall continuity through the end of the LB IIB (Stratum X–LB IB, Stratum IX–LB IIA, and Stratum VIII–LB IIB). The Late Bronze Age settlement is characterized by domestic architecture, and the appearance of imported Cypriot pottery such as white slipped ware, base ring, and bichrome ware. This paper will examine subtle but important changes in the architectural plan over the LB I and II, that might provide insights into the changing function of the site. Special attention will be given to the Stratum X central courtyard house and the Stratum VIII granary and reexamine them in light of forty years of recent Late Bronze Age discoveries from the Shephelah and Central Hill Country. This paper will also resituate the Late Bronze Age village at Tell Halif as another example of the long-lived rural village and discuss its relationship to nearby urban centers.

Michael Stewart (Independent Scholar) and Dan Cole (Lake Forest College), "Iron Age to Roman Occupations Inside Tell Halif's Defense Walls"

In 1976 a probe into the central high ground at Tell Halif revealed occupation remains well inside the Fields I and III defense walls, later robbing trenches, and down-slope erosions. During the 1977, 1978 and 1979 seasons a grid field was opened which ultimately extended to 16 four-meter-square digging areas. The field exposed eight occupation strata corresponding to building phases being exposed at and outside the city defense walls.

The earliest of these eight strata were two phases of Late Bronze A-B stone-lined ash pits with contents suggestive of cultic "high places" elsewhere in the Levant. Above them were four Iron I and II domestic streets and homes, then to Persian and Hellenistic large administrative structures and finally to a Late Roman aristocratic villa.

During "gap" periods when there was no evidence of construction or occupation anywhere on Tell Halif, several isolated burials on the hilltop in Field II helped to confirm the general abandonment of this strategic fortress hill at Judah's southwest frontier in periods immediately following invasions by the Babylonian, Persian, and Ptolemaic empires.

Susan Arter (San Diego Natural History Museum), "An Ethno-Zooarchaeological Study at Khirbet Khuweilifeh (Northern Negev, Israel)"

During the 1976 through 1979 seasons, Lahav Research Project investigations at Tell Halif included ethnographic research and excavations on the near terrace just east of the site where early 20th century C.E. remains of Khirbet Khuweilifeh are located. Animal bones recovered during excavations at Cave Complex A, one of the dwelling enclosures occupied until 1947, were studied and compared with the ethno-historically derived picture of subsistence at the site. Khuweilifeh was a mixed farming/pastoral community reliant on meat, milk, and labor of domestic animals. In company with information from ethnographic interviews, the zooarchaeological data provide insights into the lifeways of the fellahin family that lived in Complex A.

Haskel Greenfield (University of Manitoba) and Annie Brown (University of Manitoba), "From Stone to Metal: Changes in Animal Butchering Technology at Tell Halif"

In recent years, research has suggested that the transition from stone to metal (i.e. bronze) technology occurred between the end of the Early Bronze Age and beginning of the Late Bronze Age. Yet, relatively few metal (bronze) objects survive the vagaries of the recycling, destruction, and loss of most metal objects from the earliest bronze metal using periods. As a result, it is difficult if not impossible to determine the importance of bronze metallurgy in sites during the Bronze Age. Microscopic analysis is one means for identifying the nature of butchering technology. In this paper, we present the results of our study on the microscopic butchering marks found on animal bones form the site of Tell Halif, a prominent settlement located in the Judean hills overlooking the foothills and the coastal plain in southern Israel. The site has been inhabited since the Chalcolithic and served as an important economic center since the beginning of the Early Bronze Age (Phase I). Faunal remains with evidence of butchering were recovered by the Lahav Archaeological Research Project between 1976 and 1987 are reanalyzed for evidence of changes in butchering technology patterns through the Bronze Age and later periods at Halif.

Oded Borowski (Emory University),"Lahav Research Project: Phase IV—A Summary"

Phase IV of the Lahav Research Project was conducted over several field seasons starting in 2007. The effort concentrated in a

new field, Field V, located south of and adjacent to Field IV that was excavated in Phase III, along the inner side of the city fortification system. Excavations continued to uncover remains dating to the late eighth century B.C.E. overlying remains from the earlier Iron Age II period and covered by remains dating to the Roman/Byzantine period interspersed with materials from the Persian/Hellenistic periods.

This paper presents a summary of the finds uncovered in Phase IV of the project with a preliminary analysis of the remains.

Timothy Frank (University of Bern) and Cynthia Shafer-Elliott (William Jessup University), "The Daily Bread at Tell Halif: An Overview of Food Production and Consumption"

During the course of excavations in Fields IV and V on the western edge of Tell Halif, several strands of evidence on food production and food consumption have been uncovered and partly analyzed. This paper takes these various strands of evidence to present an overview picture of food production and consumption at Tell Halif during the Iron Age IIB. Faunal and botanical analyses will be combined with spatial analyses of ovens, hearths, and other food processing installations and equipment. While the resulting picture is not exceptional, it can give an indication of the mundane lifeways at Tell Halif and serve as a discussion point for further study.

2G. Material Culture and Identities in the Eastern Mediterranean II

CHAIRS: Helen Malko (Columbia University) and Serdar Yalcin (Columbia University), Presiding

Nathanael Shelley (Columbia University), "The Language of Difference: Ethno-Symbolic Identities in Greek, Hebrew, and Babylonian Texts"

This paper investigates the concepts of ethnicity and race in the language of three related cultures from the ancient eastern Mediterranean and suggests that there is a striking difference between the depictions in the late second millennium from those in the first millennium B.C.E. The paper presents the results of my dissertation research, which analyzes key ethnological terms, in their original languages and contexts, in order to determine their similarity to and difference from a modern anthropological definition of ethnicity. It employs an ethno-symbolic approach to social identity to evaluate the similarity and difference of terms for so-called "ethnic groups" in Ancient Greek, Biblical Hebrew, and Middle Babylonian. The evaluation is carried out using a historical comparative approach, first in three individual case studies and then synthetically. The study attempts to provide a documentary foundation for the critical, theoretical use of ancient documents in social and identity research, and the results suggest that a named collective of people from the first millennium B.C.E. or later could be an ethnic group in the modern sense of the term (an ethnie), but that such terminology is generally imprecise before 1000 B.C.E.

Helen Malko (Columbia University), "Defining and Identifying the Kassites of Babylonia"

Although Mesopotamian scholars have always regarded the Kassites as a foreign ethnic group with a distinctive cultural background, the question of their ethnic identity has to be further explored. Broadly defined in anthropology as a social organization of culture difference, ethnicity, like other identities, is generated, confirmed, or transformed in the course of interaction and transaction between decision-making individuals. Furthermore, ethnic groups are seen as self-defining systems that are recognizable through certain aspects of their material culture, such as language, belief system, economic way of life, social organization, etc. Although identification of these and other aspects in the archaeological contexts can be problematic, a detailed study of a range of characteristics of the preserved material culture is useful to reconstruct ethnic identity of ancient groups on a large scale. The underlying expectation being that ethnic processes ran their courses as a whole range of small-scale local events, involving small groups of people. By drawing analogies with better understood ethnographic and ethnohistorical examples, this paper aims to assess the Kassites ethnic identity in the light of the available historical and archaeological records within a chronological framework.

Jonathan Valk (Institute for the Study of Ancient World, NYU), "The Aramaization of Assyria: Linguistic Identities in Flux"

In the first half of the first millennium B.C.E., Aramaic gradually displaced Akkadian as the language of choice for purposes of administration and correspondence in the Assyrian Empire. This process of "Aramaization" has traditionally been understood to be the result of a massive influx of Aramaic-speaking peoples into the Assyrian heartland by means of both voluntary migration and forcible transfer. In the process, Aramaic is thought to have become the dominant language of popular speech in Assyria proper. But to what extent is this account tenable, and what are the implications of Aramaization for Assyrian identity?

By exploring the interface of language and identity, this paper proposes to revisit the concept of Aramaization and challenges the dominant paradigm: Aramaization was not primarily a product of migration, but rather of the vernacularization of what was an already largely Aramaic-speaking Assyrian society. There are thus two linguistic identities in the Neo-Assyrian period. On the one hand is a privileged Assyrian identity that is expressed materially in the cuneiform medium and in Akkadian, bearing a prestigious and longstanding cultural tradition associated with the established Assyrian elites. On the other hand is an identity that emerges from below, expressed materially in the consonantal alphabetic script and in Aramaic. As this paper makes clear, Aramaization was a dynamic process that straddled the tension between these two cultural and linguistic identities, and an examination of this phenomenon has the potential to shed much new light on Neo-Assyrian social and political history.

Lisa Saladino Haney (University of Pennsylvania), "Royal Identity during the Reign of Senwosret III"

As a result of the political instability during the First Intermediate period a greater sense of self-reliance developed, giving rise both textually and visually to the increased prominence of the individual during Egypt's Middle Kingdom. Further, a dramatic shift began in the mode of royal self-representation, which peaked during the reign of Senwosret III. Early scholars perceived a portrait-like realism inherent in the images of that king, which they believed reflected his true self. This new style then became associated with a genre of literary texts

referencing the early 12th Dynasty that portrayed the king as a tired, careworn shepherd of the people.

However, more recent analysis aimed at texts specifically from the reign of Senwosret III has offered new insight into interpreting the statuary. Texts including the Hymns to Senwosret III and the Semna stelae indicate that these images served as a composite representation of the many values reflected in the contemporary documentation. Therefore, while rendered using much more naturalistic elements, the royal statuary of this period represented a portrait of kingship, not a portrait of the king.

This paper will explore the role of royal statuary under Senwosret III, focusing especially on the complexities of his reign, which likely included a 20-year-long coregency with his son Amenemhet III. While many scholars have examined the statuary of this period, few have accounted for the possible effects coregency may have had on the Egyptian view of kingship and on the expression of royal identity.

Dan Belnap (Brigham Young University) and Aaron Schade (Brigham Young University), "'I Am Azatiwada … and May This City Possess Grain and Wine': Altruistic Identity in the Phoenician/Luwian Bilingual Inscriptions of Azatiwada"

This paper will examine the multiple identities of Azatiwada as presented within the inscriptions, and the function of the text in establishing a new, innovative religio-social identity initiated by him. We will additionally examine the significance of the inscription's location, as well as its language and linguistic features (from both a Luwian and Phoenician perspective), which provide further evidence to the unique identity features extant within the inscriptions.

Similar to other self-promoting inscriptions of the northern Levant, one of the primary functions of the Azatiwada inscriptions is to demonstrate the singular greatness of Azatiwada, both individually and as part of the larger regional hierarchy. Yet the inscriptions also appear to reflect an altruistic element not commonly found in such texts, as Azatiwada notes the institution of a city-specific cultic calendar, which leads off a section of the inscription explicitly concerned with the current and future well-being of the city and its inhabitants perpetuated by that institution. The significance of these unique elements is accentuated by the placement of the inscription on orthostats that make up part of the two gates of the city, as well as in a cultic site just inside one of the gates; liminal locations of high visibility that were often used to define a city proper.

Maxwell Stocker (Texas Tech University), "Identity and Tomb Decoration in the Theban Necropolis: A Study of the Tomb-Chapel of Neferhotep (TT50)"

My paper focuses on the 18th Dynasty tomb-chapel of the high priest Neferhotep (TT50), which is located in Sheikh Abd el-Qurna in the necropolis of western Thebes, and which is unique among all known Egyptian tombs in containing three separate examples of the literary genre known as harpists' songs. In line with the session's theme of material culture and identities, I investigate the relationship between the owner and his tomb decoration with respect to identity, and I discuss and analyze how the tomb-owner constructed his identity through the nature and arrangement of his tomb decoration, through the location and content of the harpists' songs, and through the articulation of those songs with the surrounding tomb decoration.

The harpists' songs are a critical component of the tomb decoration in TT50, and I argue that the songs were articulated with the rest of the tomb decoration on three primary levels, namely their employment in Neferhotep's archiving of previous New Kingdom traditions of tomb decoration, their role in the performance that the tomb embodied and signified, and their role in the architectural and orientational layout of the tomb-chapel. This relationship was hugely significant to the tomb-owner's construction of his identity, and I discuss the transtextual and spatial relationships of the songs with one another, in order to understand the overall coherence and symbolism of the tomb-chapel's decorative scheme, and Neferhotep's self-definition and construction of identity through the songs and through that decoration.

2H. Archaeology of the Byzantine Near East

CHAIR: Melissa Bailey (University of Maryland, Baltimore County), Presiding

Debra Foran (Wilfrid Laurier University), "The Villagers and Monks of Nebo during the Byzantine Period"

Khirbat al-Mukhayyat is located approximately 2.5 km southeast of Mount Nebo. The site is famous for the churches and mosaics dating to the Byzantine period that were uncovered by the Franciscan Archaeological Mission in the 1930s. In 2012, the Khirbat al-Mukhayyat Archaeological Project (KMAP) was established in order to investigate the sacred landscape around the site and explore the economic impact of pilgrimage across multiple cultural and historical periods. One of the objectives of this project is to explore the Byzantine village at Mukhayyat and study its relationship to pilgrimage and the monastic communities of Mount Nebo.

After KMAP's inaugural season in 2014, it became clear that the remains of the Byzantine village are located on the eastern slopes of the site and not on the tell itself. The Church of Amos and Kasiseus, one of three churches at the site, is located within the village and likely served as the community's worship space. The other two churches are located on the tell itself and do not appear to be associated with any other Byzantine structures. In addition, a small monastery (the Monastery of al-Kanisah) is located on a ridge to the east of the Byzantine village.

The question remains: Why did the inhabitants of Byzantine Nebo settle on the eastern slope of the site and not on the tell itself? Did their relationship to the prosperous monasteries of the region or the flourishing pilgrimage trade affect their decision to settle in this specific area?

Marica Cassis (Memorial University of Newfoundland), "Searching for Anatolia in the Middle Byzantine and Seljuk Periods"

There is a strange silence surrounding the Middle Byzantine and Seljuk periods in central and northern Anatolia, one that is particularly remarkable given the significance of the region in the respective histories of these two groups. However, as increasing numbers of sites are excavated and surveyed that contain the remains of these periods (such as Çadır Höyük, Amorium, and Sinop), new questions can be raised about whether it is possible to better understand Anatolia in the period extending from the 9th–13th centuries. Indeed, careful examination of both the archaeological and literary evidence from this period suggests that the region had a much more complex local social

and cultural organization than has been considered. Through two case studies, I will discuss the evidence for Middle Byzantine and Seljuk communities in central Anatolia.

The first of these will examine the evidence for small-scale communities and the contact between them, largely exemplified in the regional goods present in the archaeological contexts of sites such as Çadır Höyük. The second case study will consider the Seljuk takeover of Anatolia through the analysis of archaeological remains, particularly from the 11th–13th centuries, in order to examine the effect that the Seljuks had on some of these small communities in Anatolia.

Kenneth G. Holum (University of Maryland, College Park), "Christianizing Caesarea: A Narrative from Archaeology Alone"

Scholars have long wrestled with the issue of why the Mediterranean world turned from ancient polytheism ca. 300–500 C.E. and became overwhelmingly Christian. More and more, a focus of research has become the religious monuments that dominated major cities, where grandiose polytheist temples gave way to Christian churches, often on the same sites. We do in fact possess a number of written narratives, almost all from Christian patristic authors, that put forward arguments about how the Christian God displayed power in the destruction of temples and the rise of monumental churches across the urban landscape, but scholars have cast doubt on the reliability of such narratives, which obviously represent the theological mind-set of their authors and must therefore be unreliable. Notable, much-discussed temple-to-church transitions took place, in the Levant, in Aelia Capitolina-Jerusalem, Apamea in Syria, Gaza, and, of course, in Alexandria with the demise of the Serapeum. Strikingly, so far archaeologists have not contributed much to this discussion, evincing little interest in the survival of temples or in their eventual fate.

An exception is our discovery of the Roma and Augustus temple at Caesarea, replaced ca. 500 in the city center by an octagonal martyr church. Unknown from written sources, this case of transition has yielded its secrets—we believe—to careful excavation and exhaustive study of the physical evidence, and thus we are able to propose an articulated narrative of religious change. In this paper I will invite critique of our narrative constructed from archaeology alone.

Ian Randall (Brown University), "Material Shifts and Island Connections: Assembling Cyprus from the Seventh to the Tenth Centuries C.E."

From the seventh to tenth centuries C.E., the island of Cyprus was subject to an agreement of condominium between the Byzantine Empire and the Umayyad and then Abbasid Caliphates. Just how this condominium functioned, or what the exact nature of the interaction between the Cypriots and the nearby Muslim world was, are questions that have yet to be definitely answered. This paper will examine the recently excavated material from Agioi Pente at Yeroskipou and Panagia Kofinou to gain a greater insight into shifting patterns of material culture at this crucial time. These assemblages will then be compared with other published material to provide an island-wide synopsis of diachronic material change, as well as the implications for continued interaction and exchange with the Muslim East. It will be seen that peaceful relations with the Muslim world continued, and even influenced trends in ceramic and metallurgical production and consumption. The role of island socio-geography in structuring this change will also be briefly considered

3A. Landscapes of Settlement in the Ancient Near East I

CHAIR: Emily Hammer (University of Chicago), Presiding

Catherine Kearns (University of Chicago), "Messy Countrysides: Discerning the Landscape Practices of Emerging Iron Age Communities"

As archaeologists and historians of the 21st century, we are setting a remarkable precedent for the use of diverse and sophisticated technologies to understand ancient landscapes, settlement dynamics, and shifting environments. From satellite-based inspections to geophysical surveys, our knowledge of the spaces and places of the eastern Mediterranean and Near East is, rightly, intensifying in rigor and greatly enhancing our field. Arguably, for the study of protohistoric and historic sedentary societies, these multiscalar investigations are predominantly targeted at the city and its associated spatial features, and the contours of noncity/rural practices are often blurred into the concept of the agropastoral countryside. The divergent and diachronic "taskscapes" of this countryside, and their interrelationships with changing institutions and environmental constituents, tend to be defined against developing urban spatialities and political histories. This paper offers an entryway for thinking about recent methods and interpretive challenges of studying the "messy" complexities of land and environment during the eighth–seventh centuries B.C.E., when emergent politics established enduring social distinctions between town and hinterland. By way of an example from southern Cyprus, the paper questions the biases of traditional approaches to the Iron Age countryside and interrogates the use of integrative spatial and paleoenvironmental analyses. In doing so, it confronts the benefits, and limitations, of studying the dynamic intersections between developing regional economies and inequalities, shifts in landscapes and environments, and local practices.

Jonathan White (University of Buffalo), "Cities in Bronze: Cyprus and Shang"

The Late Bronze Age was a time of rapid urbanization in the eastern Mediterranean and southwest Asia. On the Greek mainland, on wave-washed Cyprus and in the highlands of Anatolia, the cities of the Mycenaeans, Cypriots, and Hittites developed to join those of Egypt, the Levant, and Mesopotamia in an extended network of trade and urbanism. Far to the east, the civilization later known as the Shang Dynasty came to power in the Yellow River valley. Archaeology from Shang sites dating to the later half of the second millennium B.C.E. confirms the presence of major settlements and palace centers, as well as some of the oldest writing and finest bronze work in China. A comparison of these two urban systems will include an examination of the cities of a thalassic and mercantile state versus those of an interior and imperial one, how access to resources influences settlement patterns, the role of the copper and bronze trade in two very different civilizations that relied on it, and the collapse of those civilizations. The urban system of Cyprus and that of the Shang share a similar affinity for bronze and therefore, a need for rich and reliable copper deposits. Cypriot urban centers coalesced out of earlier settlements in direct

response to the exploitation of the island's copper deposits, while Shang centers developed in response to earlier urban centers of the so-called Erligang and Erlitou Cultures. The Shang nonetheless made sure to maintain regional outposts to oversee the same copper deposits as their predecessors.

Pinar Durgun (Brown University), "'My Lands Are Where My Dead Lie Buried': Mortuary Landscapes and Memories in Bronze Age Anatolia"

Extramural cemeteries are part of the visual, social, and symbolic landscapes of settlements. The spatial separation between habitation areas and mortuary spaces gives us a unique opportunity to look at how landscape shapes, and is shaped by, social, practical, and symbolic activities. I suggest that with the transition from intramural burials to the emergence of extramural cemeteries, mortuary space became not only a communal place for its inhabitants, but also a landmark for commemorating local or regional histories. The Early Bronze Age in Anatolia marks the beginning of the custom of burying the dead outside the settlements, mostly in the form of collective, large-scale cemeteries. Western and central Anatolian cemeteries show evidence for long-term memory of these earliest extramural cemeteries in later periods, either reused as cemeteries, or marked as important places in the landscape. In this paper I will investigate the role of landscape in the formation of identities, claims on resources, and continuation of social and ritual practices in Bronze Age Anatolia, by looking at the spatial organization of extramural cemeteries, their location in the landscape, their distance from the corresponding settlement, and their orientation in relation to geographical features.

Rolland Long (University of Chicago) and Joshua Cannon (University of Chicago), "Mapping Historical Geography in Hittite Anatolia"

This presentation will detail ongoing efforts to map out the historical geography of Central Anatolia. The Center for Ancient Middle Eastern Landscapes (CAMEL) of the University of Chicago is currently using a multi-disciplinary approach to map out the route and sites of the Hittite AN.TAH.SUM festival. The festival consisted of a series of smaller festivals held at numerous sites around the Hittite capital of Hattusa. The Hittite king toured these sites and performed ceremonies at each location. While the names of the sites visited are given in Hittite texts, few locations have been identified in the archaeological record. Fortunately these settlements are major sites, such as Hattusa and Ankuwa (Alişar Höyük), and are convenient anchor points through which smaller, intermediary sites might be identified.

We are approaching the problem of identifying these sites through three methods. The first is the identification of potential candidates through a detailed GIS databasing of archaeological survey data collected from published reports. The second is the development of a relative network of sites based on data derived from Hittite texts. This draws on military itineraries and texts that discuss the positioning of sites relative to each other. To supplement this approach, we are also using Tobler and Wineburgh's statistical gravity model, which relates the proximity of sites by the number of times they are mentioned together in texts. Finally, we are performing least distance path analyses on ASTER imagery in an attempt to determine potential pathways, through which we can also identify archaeological candidates.

Yuval Gadot (Tel Aviv University), "Assyrian Influence on Jerusalem's Rural and Urban Landscape"

This paper is aimed at exploring dramatic changes taking place in Jerusalem's rural and urban landscape as the city came under Assyrian imperial domination. Judah became a vassal kingdom as early as the second part of the eighth century B.C.E. Following the 701 B.C.E. campaign by Sennacherib, this rule become even more direct and effective. Concurrently with these political events, Jerusalem grew dramatically in size and population and changed its urban layout as new neighborhoods and public buildings were constructed in places uninhabited before. A surge forward is also noticed in the effective exploitation of the rural landscape. This paper explores some of the new developments, namely the reorganization of the city's hinterland and the intensified exploitation of its surroundings for agriculture, the introduction of new water facilities meant for conspicuous consumption of water, the introduction of a new building plan, and the ambitious construction of new neighborhoods. These developments join other previously noted changes in the material culture of Jerusalem's elite. It will be suggested that these new developments should be explored within the framework of the Assyrian ruling strategies and the cultural and political negotiation between Judah's elite and the Assyrian empire.

3B. The Levantine Ceramics Project: Petro-Fabrics of the Southern Levant

CHAIR: Andrea M. Berlin (Boston University), Presiding

Kamal Badreshany (Durham University), "Petro-Fabrics of Southern Lebanon"

The different petro-fabrics appearing in pottery produced in southern Lebanon will be discussed. The diachronic changes in the uses of these sources will be presented according to studies of assemblages from a group of sites in these regions.

Anastasia Shapiro (Israel Antiquities Authority), "Petro-Fabrics of the Galilee and Northern Coastal Plain, Israel"

This paper reviews about 20 years of petrographic investigations of pottery from numbers of the archaeological excavations conducted by the Israel Antiquities Authority in Galilee and northern coastal plain of Israel. The studied sequences represent a pottery repertoire from rural villages and administrative centers, ranging in date from the Hellenistic to Mameluke period, and including storage jars, cooking pots, fine and plain wares. The main feature that ties together the assemblages represented here is that they are the products of local manufacturing centers. The results of the petrographic studies affirm that potters of different cultural phases exploited the same geological formations

Paula Waiman-Barak (Haifa University), "Petro-Fabrics of the Carmel Coast, Israel"

The different petro-fabrics appearing in pottery produced in the Carmel coastal plain of Israel will be discussed. The diachronic changes in the uses of these sources in the Iron Age will be presented according to studies of assemblages from a group of sites in this region.

Barak Monnickendam-Givon (The Hebrew University of Jerusalem), "Southern Phoenician Wares: A Ceramicist's Perspective"

Recent excavations at sites along the northern coastal plain of modern Israel have yielded a rich sequence of well-stratified and datable pottery assemblages dated to the classical periods. The pottery assemblages from excavations such as Tel Dor, Horvat Eleq at Ramat Hanadiv, and the Hebrew University excavations at Akko, assist in forming a regional ware classification of southern Phoenicia. Those three projects are part of a larger effort of categorizing and defining the different ceramic wares produced and consumed in southern Phoenicia.

I will discuss methodological aspects of ware analysis from a ceramicist's perspective, working alongside the petrographer as well as other scholars in neighboring regions. I will focus on macroscopic ware analysis using a portable USB digital microscope, a method that has become popular in recent years for sampling a large number of vessels. The use of macroscopic analysis is complementary to thin section petrographic analysis or NAA as a mean of classifying, arranging, and determining ware groups and does not seek to replace them. I will explore the advantages of macroscopic analysis and it's limits. Lastly, I will discuss the role of technological aspects in pottery production as a significant criterion of defining different wares in conjunction with geological provenance.

Anat Cohen-Weinberger (Israel Antiquities Authority), "Petro-Fabrics of the Judaean-Samarian Mountains, Israel"

This paper reviews the raw materials that have been used for pottery manufacturing in the Judean-Samarian mountains. The data contribute to the petro-fabrics records of the LCP web site.

David Ben-Shlomo (Ariel University), "Petro-Fabrics of the Shephelah and Southern Coastal Plain, Israel"

The different petro-fabrics appearing in pottery produced in the Shephelah and southern coastal plains of Israel will be discussed. The diachronic changes in the uses of these sources throughout the Bronze and Iron Ages will be presented according to studies of assemblages from a group of sites in these regions.

3C. Archaeology of Egypt III

CHAIR: Michael Jones (American Research Center in Egypt), Presiding

Gerry Scott (American Research Center in Egypt), "The Conservation and Training Efforts of the American Research Center in Egypt, 1995–2016"

Since 1995, the American Research Center in Egypt (ARCE) has conducted an ambitious program of monument conservation and personnel training in Egypt. Now numbering more than ninety successful projects, these efforts have been carried out in collaboration with Egypt's Ministry of Antiquities (MOA) and the United States Agency for International Development (USAID). This unique and innovative collaboration has been responsible for the conservation of objects and monuments from Coptic icons to the iconic temples of Karnak and Luxor. In date, the subjects of these projects have spanned a range from the prehistoric period to the Ottoman era. As to personnel training for MOA staff, ARCE began with conducting field schools in archaeology and expanded to include training in the areas of object and architectural conservation, field photography, epigraphy, and creating and training the staff of Egypt's first museum registrar's department at Cairo's Egyptian Museum.

The program came about as a result of a devastating earthquake that struck Cairo in 1992 and damaged several historic monuments and the desire of several US Senators to extend a gesture of assistance to Egypt. USAID was designated as the funding agency and ARCE was selected to devise and implement a meaningful program. This paper reviews twenty years of ARCE's work, funded by USAID and carried out in concert with Egypt's MOA, and looks at a selection of successful projects.

Michael Jones (American Research Center in Egypt), "Archaeology and Anastylosis at the Red Monastery Church, Sohag"

Since 2003, the American Research Center in Egypt has been conducting a conservation project at the sixth century church of St. Bigol and St. Bishai (the Red Monastery Church) near Sohag in Upper Egypt. The project has involved wall painting cleaning and conservation, architectural conservation, archaeological excavation and building archaeology, and documentation. The first phase of the project, completed in 2014, focused mainly on the Late Antique wall paintings in the enclosed sanctuary. Now, the second phase has embarked on a program of wall painting conservation and architectural restoration in the nave aimed at rescuing the historic remains from neglect and displaying them to the local community and to visitors.

The Red Monastery Church has been saved from obscurity but is now at the center of a vigorously expanding community. New buildings, agriculture and population growth affect its preservation. For conservation to succeed, the work of the project needs to be integrated into these developments by supporting the expectations of the community while maintaining international standards.

This paper will present archaeological evidence and archival research that informs the on-going conservation. It will discuss essential critical decisions, the reasons for change and how modifications resulting from conservation interventions have been negotiated in the context of living religious heritage while taking into account the need to maintain authenticity and the social and economic values of the site.

John Shearman (American Research Center in Egypt), "ARCE Luxor: Site Improvement, Job Creation, and Conservation Projects on Egyptian Cultural Heritage Sites"

In 2011, the American Research Center in Egypt (ARCE) received a grant from the United States Agency for International Development (USAID) to focus on temporary employment for local head of families, due to the downturn in tourism as a result of the revolution. The grant was very successful and ARCE received a second grant to continue the job creation and training project in 2015.

The grants encompass cultural heritage site improvements, temporary jobs for locals, conservation and archaeology field schools for Ministry of Antiquities employees. The project not only prepared and improved the sites for tourists but also injected badly needed currency into the local economy. At the completion of both grants, ARCE Luxor will have provided temporary employment for

approximately 1,300 workers for 24 continuous months and opened new heritage sites for tourists. The cultural heritage sites include:

Khonsu Temple (Karnak)
Mut Temple (Karnak Complex)
Luxor Temple
Isis Temple at Deir el Shelwit
Sheik Abdel Qurna (Nobles Tombs)
Dra Abu el Naga (Nobles Tombs)
Qurniet Mauri (Nobles Tombs)
TT110 (Tomb of Djehuty)
TT110 area (Qurna Lower Enclosure)
TT286 (Tomb of Niay)
TT159 (Tomb of Raya)

Mark Lehner (Ancient Egypt Research Associates) and Richard W. Redding (Ancient Egypt Research Associates), "On the Cutting Edge: How Hypotheses Help Teach Field Schools at the Pyramid Builders' City"

In field schools sponsored by the American Research Center in Egypt (ARCE) and deployed by Ancient Egypt Research Associates (AERA), young archaeologists working for the Egyptian government's Ministry of Antiquities are embedded in interdisciplinary excavations at the Heit el-Ghurab (Wall of the Crow) site, the so-called Workers Town, where the builders of the Fourth Dynasty Giza pyramids (ca. 2500 B.C.) arrayed their settlement and infrastructure. As students learn basic skills in archaeological excavation and recording, they also learn how to think about the information they excavate, document, and conserve. Students think critically about ideas that guide research. They formulate and test hypotheses that contribute to the primary research objectives. During the 2015 teaching—excavation of a cattle corral and meat processing compound—material culture, artifacts, and ancient architecture combined in one structure to provide the signature of an official's residence, or a residential office. Team members and students could then identify the same elements in prior AERA excavations of residences within other compounds, of different function. The discovery provided a key to the administration, social hierarchy, and economic structure that supported the building of Egypt's largest pyramids. It was a lesson in one of the AERA field school mottos: "We are not looking for things; we are looking for information," which requires appreciation for context and critical thinking.

3D. Archaeology of the Near East: Bronze and Iron Ages I

CHAIR: Eric Welch (University of Kansas), Presiding

Haskel Greenfield (University of Manitoba), Aren Maeir (Bar-Ilan University), Itzhaq Shai (Ariel University), Tina Greenfield (University of Manitoba), Shira Albaz (Bar-Ilan University), Adi Eliyahu (Bar-Ilan University), and Jeremy Beller (University of Victoria), "The Early Bronze Age Domestic Neighborhood at Tell es-Safi/Gath, Israel: An Update on Recent Research"

This paper provides an update on the recent and ongoing excavations of the EB III nonelite neighborhood in Area E of Tell es-Safi/Gath, Israel. Continuously excavated since 2004, a large area has been exposed on the eastern slope of the Tell. Since 2011, a large multidisciplinary team has undertaken macro- and microscopic analyses of the area and its remains. In this presentation, the results of these more recent studies are presented and placed in larger context. In particular, the nature of Early Bronze architecture, the spatial distribution of activities, and the nature of activities in an Early Bronze neighborhood, and the size and scale of the Early Bronze occupation at the site will be considered.

Shira Albaz (Bar-Ilan University), Itzhaq Shai (Ariel University), Aren Maeir (Bar-Ilan University) and Haskel Greenfield (University of Manitoba), "Foundation Deposit as Domestic Ritual in EB III at Tell es-Safi/Gath"

The phenomenon of foundation deposits is quite common during the Intermediate, Middle and Late Bronze Age at sites in the southern Levant (e.g., Israel); however, they are relatively rare during the Early Bronze Age. In this paper we will present for the first time the assemblage of foundation deposits that were found in the EB III urban center of Tell es-Safi/Gath, where excavations have uncovered the remains of a number of EB III houses in a residential nonelite neighborhood. The particular significance of these deposits is that they provide a window into domestic religious practice not only at Tell es-Safi/Gath specifically, but have important implications for understanding domestic religious practices during the early urban phases of the Early Bronze Age in general.

The uniqueness of these deposits is that most of the other examples of Early Bronze Age foundation deposits in Israel derive from sacred contexts (e.g., Megiddo, Khirbet Zeraqun and Tell Yaqush), burial contexts (e.g., Kinneret) or gate complexes and fortifications (e.g., Leviah site and Arad). While the deposits from Tell es-Safi/Gath are from clear domestic contexts, our preliminary analysis of the assemblage suggests a similarity between quotidian and cultic vessels.

Michael Homan (Xavier University of Louisiana), "The Copper Foundation of Social Stratification: Imperial Metal Source Shifts from Oman and Jordan to Cyprus in the Middle Bronze Age"

Early Cypriot society, which had at times flirted with but ultimately rejected adopting large-scale social complexity, notably and rapidly increased social stratification during the transition from the Middle Cypriot to the Late Cypriot periods (ca. 1700–1450 B.C.E.). Due largely to the onset of Cyprus's international copper trade, dramatic shifts occur in architecture, settlement location and population, material culture, art, the treatment of women, and funerary practices, all demonstrating a new situation where powerful elites sought to control the population. Furthermore, Cyprus and its copper resources are mentioned for the first time in written sources from Egypt, Mari, and Babylon. This early stratification of Cypriot society will provide the foundation for what would later culminate with the formation of a secondary state in the Late Cypriot IIA–B period (1450–1300 B.C.E.). These marked cultural changes from egalitarian towns to hierarchical administrative and social systems fully engaged internationally (e.g., Amarna letters, Uluburun shipwreck, monumental administrative buildings) take place in a strikingly short period of time when compared to societies on the Levantine mainland, which evolved much earlier and at a substantially slower pace. In contrast to Cyprus, the copper rich deserts of Oman and Jordan were sparsely settled until neighboring complex societies began to desire the metal in the EB III

period (ca. 2700–2200 B.C.E.), when industrial sites arose near the mines with clear signs of social stratification and international trade. Due to several reasons including politics, the copper sources of Feinan and Oman are abandoned, and replaced by Cyprus.

Ido Koch (University of Zurich), "Southwest Canaan in the 12th Century B.C.E."

The 12th century B.C.E. in southwest Canaan was a time of a change. The Egyptians were gone, major urban centers lay in ashes, whereas new cities have emerged, and various appropriated innovations modified local production technologies, consumption habits, imagery, and cult practices. The archaeology of this period has in the past been largely based on historical assumptions deriving from extrapolation of written sources, mainly Egyptian inscriptions and literary works alongside Biblical narratives; accordingly, common scholarly wisdom has seen some major developments in various archaeological trends as reflecting the arrival of new populations, predominantly the Philistines. Yet, other scholars have questioned the reliability of these sources and the projection of their interpretation by scholarship over archaeological data. Consequently, they have presented alternative understandings of the archaeological evidence, emphasizing local developments in the region and possible intercultural mechanisms that brought about various innovations in the local settings. This paper seeks to elaborate on these observations based on the historical context of the 12th century being the zenith of both the Egyptian presence in the region and the integration of the local elite within the Egyptian system vis-à-vis the rapid withdrawal of the Egyptian forces and the consequential reorientation of the local social structure.

Josephine Verduci (University of Melbourne), "Metal Jewelry of the Southern Levant and its Western Neighbors: Surprising Results Concerning Cross-Cultural Influences during the Early Iron Age"

This paper presents the results of my Ph.D. thesis, which examines the nature of adornment during the Early Iron Age period of the southern coastal plain of the Levant (ca. 1200–900 B.C.E.). The early stages of this period represent a departure from Late Bronze Age traditions and evidence of cross-cultural influences within the eastern Mediterranean. Metal jewelry is assessed from 29 sites in the southern Levant, the Aegean, and Cyprus, resulting in the creation of the first multiregional typology of metal jewelry for the Iron Age I–IIA eastern Mediterranean. Qualitative and quantitative analyses differentiate subtypes and regional preferences. Combined with the scoring of artifact similarity between geographic regions, these analyses demonstrate specific adornment practices that link the southern Levant to its western neighbors.

This paper demonstrates that in contrast to previous assumptions, jewelry can be a useful tool in identifying cultural identity. Furthermore, I show that (contrary to expectations, perhaps), there is little to suggest a distinctly Aegean presence in the jewelry of Philistia. Statistical analysis of the data and distribution patterns indicates that the main spheres of influence on the jewelry of Philistia and Cisjordan were in fact Cyprus and Transjordan, and that these practices demonstrate strong local traditions, although there are some anomalous Aegean and Anatolian features. This conclusion supports recent suggestions that the Philistines in fact arrived from multiple origins, including the Aegean, Cyprus, Anatolia, Sicily, Sardinia, and the northern Levant, and then became intertwined with local populations in the southern Levant.

Jeffrey Chadwick (Brigham Young University Jerusalem Center), "The 54 cm Canaanite Cubit in Bronze Age Canaan and Iron Age Israel, Judah, and Philistia"

Precise understanding of architectural metrics is vital in correctly measuring, understanding, and interpreting archaeological finds in the land of Israel. Based on finds from Mesopotamia and Egypt, different lineal measurements have been suggested for the ancient cubit, including lengths of 51.9, 52.3, 52.5, 52.9, and 53.1 cm. It has been suggested that the Egyptian cubit of 52.5 cm was in common use in ancient Canaan, Judah, and Israel. But this view must be adjusted, as it is now conclusively demonstrated that a 54 cm measurement, which can only be regarded as a cubit, was in standard use at sites throughout the land of Israel during the Early Bronze, MB II, Late Bronze, Iron I, and Iron II periods. The 54 cm measurement has been documented by Jeff Chadwick at 12 Bronze and Iron Age sites, including Tel Tzafit and Tel Miqne in the coastal plain, Tel Arad and Tel Sheva in the south, Tel Lachish and Tel Gezer in the center of the country, Tel Megiddo and Tel Jezreel in the valley, Tel Hazor and Tel Dan in the north, and also at Hebron and Jerusalem. The data are from both domestic and monumental architecture, and diverse architectural components from mud brick to finely cut ashlar blocks. After researching this metric for several years, the author refers to it as the "Canaanite cubit," since its origins occur early in the Bronze Age. Prior to publication of these data, the author will present them in an illustrated format at the 2016 ASOR Annual Meeting.

3E. The Fourth Expedition to Lachish, 2013-2016: A Report on the First Four Seasons I

CHAIRS: Yosef Garfinkel (The Hebrew University of Jerusalem), Michael G. Hasel (Southern Adventist University), and Martin G. Klingbeil (Southern Adventist University), Presiding

Yosef Garfinkel (The Hebrew University of Jerusalem), "The Fourth Expedition to Lachish: Results of Seasons 2013-2016"

The Fourth Expedition to Lachish is working at the northeast corner of the site, in three different excavation areas: AA, BB, and CC. This lecture will summarize the new results of the four seasons conducted in the years 2013-2016. New data indicates that many aspects of the site need new evaluations. The notable new results include: two systems of Middle Bronze fortifications, a Late Bronze stone built citadel and temple, a new Iron Age city wall (Level V?), a new Iron Age gate, new inscriptions, new radiometric dates, and rich assemblages of pottery and metal objects.

Michael G. Hasel (Southern Adventist University), "The Elite Houses of Area AA and the Date of the Palace-Fort of Tel Lachish"

From 2013–2016, a series of elite houses were excavated north of the Iron Age palace courtyard at Lachish. These rooms, with features dating to Levels I through IV, were very rich in finds indicating a kind of elite zone near the palace-fort. This paper will explore the relationship of these buildings with the palace, the finds, and destruction of the area in the Assyrian and Babylonian campaigns. The orientation of

the buildings with the palace courtyard also seems to clarify questions surrounding the dating of the largest Iron Age structure ever excavated in Israel—the Palace-Fort of Lachish.

Martin G. Klingbeil (Southern Adventist University), "Four Judean Bullae from the 2014 Season at Tell Lachish"

During the 2014 season of The Fourth Expedition to Lachish, four decorated epigraphic bullae, two of them made from the same seal, were found in Area AA. The context was a series of rooms belonging to a large Iron Age building, which was dated to Level III. This paper will discuss the epigraphic, onomastic, and iconographic aspects of the bullae, integrating the data with the historical context of the 701 B.C.E. Assyrian campaign in Judah.

Saar Ganor (Israel Antiquities Authority), "The Six-Chambered Gate and Shrine of Level III at Lachish"

New excavations were carried out on behalf of the Israel Antiquities Authority in the area of the six-chambered gate of Tel Lachish, Level III in early 2016. Three rooms were revealed along the southern half of the gate complex. The area was previously investigated in the 1930s by the British School of Archaeology in Jerusalem and in the 1980s by researchers from Tel Aviv University. These excavations uncovered evidence of the Assyrian destruction of the site in 701 B.C.E., Level III.

In 2016 three rooms were uncovered, the walls of which survived to a height of ca. 4 m. consisting of a stone foundation and plastered mud brick superstructure.

The room located furthest from the gate to the east was found to be a two-roomed shrine divided by a white-plastered wall. The shrine was entered by way of four plastered stairs located opposite a plastered bench that received offerings. The inner room, or debir, contained two altars with horned corners next to a plastered niche. In a later stage of use, the shrine was abolished and the horns were hammered off the altars and a cubical toilet was installed inside the debir.

The gate-shrine is the first of its kind discovered in Iron Age contexts in Israel. The revisions made in the shrine may be attributed to religious reforms in ancient Judah when shrines of this type were abolished, probably during the reign of Hezekiah.

3F. Archaeology of Islamic Society

CHAIR: Beatrice St. Laurent (Bridgewater State University), Presiding

Jeffrey Blakely (University of Wisconsin-Madison) "Is Wadi el-Hesi Really the Wadi el-'Asi?"

Late 18th and 19th century explorers combed Palestine collecting names as they sought connections between the then-modern Arabic place names and biblical place names, searching for the biblical landscape. One such named feature, Wadi el-Hesi, was a major watershed in the south, reaching the Mediterranean near Ashkelon. The precise meaning of the name, however, remains elusive even today. An examination of historical documents, which describe the region between the 13th and 18th centuries, use the following words for the wadi or features along the wadi: el Hessi, Ahsas, al-Hasi, al-Hisy, el Ahsses, and al-'Asi. These spellings probably evolve from the same word, al-'Asi. Historical documents spanning the Early Islamic period show that Amr b. al-'As and his descendants lived in this precise region on the estate Ajlan. The conclusion, therefore, is that the almost uninterpretable name Wadi el-Hesi is really the Wadi al-'Asi, or the Wadi of the al-'As clan. Such a name can only originate in the mid-seventh century C.E.

Hussein Al-Sababha (Bonn University and Yarmouk University), "Islamic Pottery and Its Distribution in Agricultural Fields as a Marker of Land Use Throughout the Islamic Period in Northern Jordan"

Northern Jordan is distinctly different from other parts of Jordan in terms of its cultural history and physical environment. This study is part of a systematic landscape and climate analysis during the Islamic period. The Islamicizing processes of the Byzantine-Umayyad transition, the phenomenon of "decline," and the modernizing tendencies of the Late Ottoman era to that of the modern nation state are topics of on-going debate among historians of the premodern Levant. This study contributes to these debates by investigating questions related to the intensity of field use, the interrelationship between field use and soil properties, field distance from settlement, and the process of field irrigation, which attest to settlement change on the micro level of analysis.

A combination of three integrated methods were utilized: archaeological survey, traditional ceramic analysis, and archaeometry. Surveys were conducted in three major sites: Abila, Umm el Jimal, and Umm Qeis. The survey's purpose is documenting shifts of settlement over time, as villages literally relocated to new locations. Spatial patterning of sherds is relevant for more than dating sites and mapping settlement distribution, which are its primary functions in archaeological surveys. It also indicates the intensity of field use and reflects patterns of land use in general.

Pottery sherds were subjected to two kinds of analysis: a traditional chronological study and archaeometry. Chronology study was used to document change in settlement, land use, and landscape transformation. Archaeometery was used to trace the socio-economic networks among villages in the region by studying the main constituent components of the physical fabric.

Beatrice St. Laurent (Bridgewater State University), "Mu'awiya's Urban Vision for Jerusalem (638-680): Origins in the Regional Periphery & Arabia"

Between 638 and 661, Mu'awiya built the first mosque in the Marwani Musalla or "Solomon's Stables" in Jerusalem where he was invested as the first Umayyad Caliph. He also renewed older entrances to the precinct including the Double, Triple, and Golden Gates, opened the new Single Gate, and initiated construction of the Dome of the Rock and the administrative district south of the precinct which today is the Haram al-Sharif with the intention of making Jerusalem his capital.

The sources for this grand urban scheme are found in Mu'awiya's pre-Islamic Arabian origins and in Jerusalem's regional Herodian and Byzantine past. By 635, Mu'awiya established his winter residence near Tiberias, which possibly included a mosque near Tiberias, the addition of a palace to the earlier site of Sinnabra by the mouth of the Jordan River on the Sea of Galilee, and added to the Roman/Byzantine baths of Hammat Gader southwest of the Sea of Galilee. This complex is west of Mu'awiya's then residence of Ja'biya in the Golan Heights.

The Byzantine capital of Caeserea Maritima west of Jerusalem in the province of Palaestina Prima was both a symbolic and physical model for the Dome of the Rock and its platform in Jerusalem, as are multiple Byzantine commemorative churches scattered throughout the region. Mu'awiya brought with him to Jerusalem the resources of pre/early Islamic Arabia. Significant for Jerusalem are the palatial structures and pre-Islamic sacred precincts called *mahram* or *haram* notably San'a in Yemen, Mecca and Madina or al-haramayn in Arabia.

Bethany Walker (University of Bonn), "Regionalisms in Settlement and Land Use in Late Medieval Syria: Highlands as Hinterlands"

The factors behind the wide-scale demographic and economic changes set into motion in Syria from the 15th century cannot be understood without consideration of regional differences in rural settlement form and exploitation of natural resources. While the distinctive regionalisms of material culture throughout Greater Syria—and particularly pottery—has long been recognized by archaeologists, though rarely studied systematically, the strongly regional character of settlement and land use in the later historical periods has been largely ignored. These regional differences were the result of many factors—differences in microecologies, socio-political structures, and economic networks, for example—and account, in part, for the uneven development of Bilād al-Shām after the Ottoman conquest.

This paper presents the preliminary results of a long-term transregional study of settlement and land use of the Middle and Late Islamic periods, comparing patterns recognized in three highland regions of southern Bilād al-Shām. The result of recent, and on-going, fieldwork at village sites in these highlands—namely Ḥubrāṣ, Ḥisbān, and Khirbet Beit Mazmil—allow for a controlled and systematic comparative study of how the political and agricultural hinterlands weathered in uniquely local ways the decline of the Mamluk state. Comparison will be made among well-watered, mountainous highlands, dry-fed highland plateaus, and highlands devoted to terrace agriculture in terms of settlement history, water management, land use and tenure, village morphology, and relationship to urban centers. Discussion of ways in which the three representative archaeological projects have been integrated into a transregional design will follow.

Tareq Ramadan (Wayne State University), "The Umayyads and their Administrative Legacy in Jordan: The Numismatic and Paranumismatic Records as Evidence of an Evolving State"

The Umayyads, representing the first Arab dynasty of the Islamic era, constructed a state based out of Damascus beginning in 661 C.E., yet little is concretely known about how they successfully governed an empire while constituting a small minority of elites. Fortunately, Umayyad leaders left a major epigraphic imprint behind, particularly in Bilad al-Shamm, which is proving especially useful in interpreting the inner mechanics of the state on the administrative level. Modern-day Jordan, once straddling three of the four early Umayyad territorial divisions (*ajnaad*) and home to some of the most complete Umayyad administrative complexes, is also home to a highly accessible array of state-sponsored material culture intimately linked to the Umayyad caliphs and their bureaucrats. These objects, including coins, weights, and seals, serve as historical snapshots of a given place and time while the messages emblazoned on them attest to the state's domestic political and economic policies to varying degrees. Thus, the aim of this work is to highlight the ways in which changes in the stylistic, epigraphic, and iconographic details of these numismatic and paranumismatic materials relate to the evolution of the state and its leader's policymaking decisions by using materials and data that I collected during two museum-based research projects in Jordan in 2012 and 2015. The archaeo-numismatic evidence clearly suggests that the state under Muawiya ibn Abu Sufyan, the dynasty's founder, and later caliphs differed in their political strategies in both acquiring and maintaining power in the Near East over the course of nearly nine decades.

3G. Material Culture and Identities in the Eastern Mediterranean III

CHAIRS: Helen Malko (Columbia University) and Serdar Yalcin (Columbia University), Presiding

Thaddeus Nelson (Stony Brook University), "Fabric of Whose Land? Geographic Origins of Textiles in Neo-Assyrian Texts"

Neo-Assyrian records contain lists of goods taken during the empire's conquests of foreign lands. The prizes include textiles described as "garments of their lands," which have been interpreted as a fashionable type of clothing that originated in the Levant. This interpretation suggests these garments were a uniform Levantine fashion that crossed political and cultural boundaries. To test the hypothesis that "garments of their lands" were a broad Levantine fashion, I surveyed published Neo-Assyrian tribute and prize lists that include textiles taken from the Levant, Mesopotamia, Anatolia, and Egypt to identify the geographic origins of "garments of their lands." I compared the frequencies that different cities and rulers were identified as the sources of textiles. My results suggest that although the Neo-Assyrian Empire took textiles from all regions in which they campaigned, the "garments of their lands" were only taken from the northern Levant. These textiles were not a Levantine fashion, but they were a specialized northern Levantine tradition. Additionally, I identified a pattern: "garments of their lands" are listed as prizes taken with dyed wool, which suggests they may also have been the products of the well-known shellfish dye techniques of the northern Levant. These results clarify the economic relationships between the Neo-Assyrians and the Levant in the Iron Age and redefine the geographic range over which these fashionable fabrics were made.

Nancy Highcock (New York University), "Identities on the Move: Material Culture and Mobility in the Old Assyrian Period"

Archaeological studies of mobility in the Ancient Near East have generally focused on the traces left behind by inherently itinerant groups such as pastoralists and nomads or on raw materials that have clearly traveled along the routes of long-distance trade networks. This paper will instead focus on merchants, the social actors in such networks, and examine the role that the production and consumption of portable material goods played in shaping their identity as members of professional community that was able to move across political and cultural borders. Through the particular lens of Old Assyrian material culture of the early second millennium B.C.E., this analysis will demonstrate that personal objects such as weights, dress items, weapons, and seals allowed Assyrian men and women to maintain social structures based on their identification as "sons of Assur" (as

clearly reflected in the textual evidence) while forging new identities and social practices in Anatolia. Furthermore, by discussing the effects of mobility on merchant material culture, this study will relocate merchants next to pastoralists and other traveling groups in order to gain greater understanding of how such communities in the ancient Near East maintained a coherent identity despite being spread across great geographic distances.

Yagmur Heffron (University College London), "Factoids of Old Assyrian Visibility: A Historiographical Analysis"

For over half a century, the ruling narrative for the kārum period (20th–17th centuries B.C.) has pivoted on the assertion that communities of Assyrian merchants in Anatolia are visible to us almost entirely through the textual documents they left behind, to the extent that their existence would never be suspected from the archaeological record alone. This view has been taken as evidence of social strategies of emulation; informed views on the limits of archaeological evidence for detecting ethnicity; and generally cited as an intriguing peculiarity of the kārum period. More recently, however, scholars have highlighted the problematic aspects of this narrative (Stein 2008), hinting that it may need to be "checked" (Michel 2011). As yet, a systematic deconstruction of what Lumsden (2008) has aptly called "the mantra of the archaeology of the period" has not emerged, but a storm is indeed gathering. This paper, for its part, takes a historiographical approach to the conventions governing 70 years of archaeological analysis at this key site by considering why certain blind spots came to be formed, how factoids of Assyrian visibility came to be formed, why certain blind spots would have been crucial in maintaining the narrative, and what made it so tenacious when contradictory evidence has been there all along.

Louise Hitchcock (University of Melbourne) and Aren Maeir (Bar-Ilan University), "Pulp Fiction or Tangible Connections?"

In this paper we review and consider the relationship between Mycenaean and Philistine archaeology, outlining the historical and recent treatment of this relationship. We conclude that the polarized views that the Philistines were Mycenaean colonists, or alternatively had no connection with the Mycenaeans, still reifies long held, polarized narratives, while also mirroring the interaction (or in many cases, lack thereof) between archaeologists working in Philistia and in the Aegean. With a handful of notable exceptions, many archaeologists work in one place or the other and remain immersed in the literature of one place or the other. In addition, scholars working in their respective areas tend to find what they are looking for.

We suggest that the pathway out of these extreme models, one which over-simplifies the Aegean evidence and the other which treats it as meaningless, can be achieved by conceiving of the different tribes of "Sea Peoples" as already mixed and entangled cultural entities that had preexisting connections with various parts of the Mediterranean and shared an affinity for particular Mycenaean symbols. Understanding the complex relationship between Mycenaean and Philistine archaeology requires a broad familiarity with Mediterranean archaeology, scholarly collaboration, methods situated in the study of transcultural and transnational identities, attention to context — looking closely at how the objects were used — and a healthy dose skepticism about what one is looking for in order to separate fact from fiction.

Orit Peleg-Barkat (Hebrew University of Jerusalem) and Yotam Tepper (Israel Antiquities Authority), "Archaeology and Cultural Identity in Rural Sites of Judaea/Provincia Judaea in the Early Roman Period: The Case of Horvat 'Eleq"

Scholars normally agree that while the cities (*poleis*) of Roman Judaea/Provincia Iduaea, such as Caeasarea Maritima or Beth Shean/Scthythopolis, are characterized by ethnic and cultural diversity, rural settlements are characterized by a homogenous population that was either Jewish or gentile. The Jewish sites are generally identified by scholars as such, according to their characteristic material culture (chalk vessels, "Herodian" oil lamps, locally made pottery, etc.) and architecture (ritual baths, synagogues), while non-Jewish sites lack those markers. Nevertheless, we suggest that some sites, especially those situated on the borderline between regions of gentile or Jewish dominance, cannot be that easily categorized as Jewish or gentile. This is the case with Horvat 'Eleq in Ramat HaNadiv, situated in the southern edge of the Carmel Mountain, between the gentile coastal plain and the Menasheh Plains and Galilee inhabited mostly by Jews.

The results of the renewed excavations at Horvat 'Eleq, conducted by the authors between 2007–2010, promote a new understanding of the site that contradicts its previous identification by its former excavator, Yizhar Hirschfeld, as a fortified Herodian palace. The site is a multistrata settlement beginning in the Iron Age and fortified at the beginning of the Hellenistic period. The finds from the early Roman stratum raise questions about earlier conclusions regarding the site, including the identification of its residents as Jewish. In our paper, we would like to present our conclusions and discuss them in the broader context of material culture and ethnic identity in the rural sites of early Roman Judaea.

3H. Ancient Inscriptions I

CHAIRS: Heather Dana Davis Parker (Johns Hopkins University) and Michael Langlois (University of Strasbourg, Institute University of France), Presiding

Douglas Petrovich (Wilfrid Laurier University), "Hebrew as the World's Oldest Alphabet: Palaeography and Translation of the Proto-Consonantal Inscriptions of Egypt's Middle Kingdom (Sinai 115, Wadi el-Hol 1 and 2, and the Lahun Bilingual Ostracon)"

For roughly 150 years, scholars have attempted to isolate the proper Semitic language of the elusive proto-consonantal script, universally recognized as the world's oldest alphabet. This script is attested at Egyptian sites such as Wadi el-Ḥôl, Lahun, and—with the most voluminous amount of witnesses—Sinai's Serabit el-Khadim. Until now, these attempts have been largely unsuccessful, although the meaning of several Semitic words has been identified. While drawings and photographs of these inscriptions have been published, most of the texts have gone untranslated in their various publications. After stumbling across the writing of the word "Hebrews" in a text that features the earliest attestation of a proto-consonantal letter, the present writer successfully has identified Hebrew as the language of the proto-consonantal script and translated 18 inscriptions of Egypt's Middle Kingdom and New Kingdom eras. Hubert Grimme actually proposed in 1923 that Hebrew is the proper language behind the script, but he could not prove this conclusively, because he transcribed

some pictographs inaccurately and did not know all of the letters of the first alphabet. This presentation will include electronically-generated drawings, palaeographic observations, and translations of the proto-consonantal Hebrew inscriptions that date to the Middle Kingdom—Sinai 115 (1842 B.C.E.), Wadi el-Ḥôl 1 (1834 B.C.E.), Wadi el-Ḥôl 2 (1834 B.C.E.), and the ceramically datable Lahun Bilingual Ostracon (1831 B.C.E.). All of these inscriptions reflect grammatical conventions and orthographic forms that are perfectly in keeping with an early form of Biblical Hebrew.

Aren Wilson-Wright (The University of Texas, Austin), "A Previously Unrecognized Early Alphabetic Inscription from Egypt in the Hibbard Collection"

While working in the Hibbard Collection at the Garret-Evangelical Theological Seminary in the summer of 2013, I came across a previously unrecognized early alphabetic inscription that has important implications for the history and development of alphabetic writing. The new inscription appears on the concave surface of a large potsherd and consists of three signs, which I identify as *zāyin*, *qôf*, and *nûn*. Library records indicate that Sir Flinders Petrie excavated the sherd somewhere in Egypt and later donated it to the library as part of a larger group of Egyptian artifacts including faience bracelets from Serabit el-Khadem. In this paper, I will introduce the new inscription using Reflectance Transformation Imaging (RTI) technology and offer a tentative palaeographical analysis and dating of it. I suggest that the inscription records either the title *zaqinu* 'the elder' or the adjectival designation *zaqinu* "old," referring perhaps to wine. It thus seems to have served an administrative or economic purpose. I also plan to bring the inscription to the Oriental Institute prior to the annual meeting for ceramic analysis in order to determine the potsherd's time and place of manufacture.

David Z. Moster (Bar-Ilan University), "The Four Lands of Mesha: An Analysis of Jordanian Geography during the Iron Age"

The Mesha inscription, commissioned by Mesha, king of Moab in the mid-ninth century B.C.E., contains a wealth of geographic information. According to the legible lines of the text, there were three "lands" within Moab itself: the land of Madaba, the land of Ataroth, and the land of Dhiban. The goal of this study is to understand what Mesha means by this terminology. What was and what was not the land of Madaba? What was and what was not the land of Ataroth? What was and what was not the land of Dhiban? A fourth land, what I shall call "the land of Horonaim," is not present in the text but can be hypothesized for the last three lines, which are almost entirely broken. This leads to a fourth question, what was and what was not the land of Horonaim? This study attempts to demarcate the basic areas of these four lands and to place them within the greater context of Jordanian geography during the Iron Age. Because the borders of the lands are not described with any detail in the Mesha Inscription, the observations made here are by definition conjectural. However, the underlying premise is straightforward: geographical regions tend to correspond to the natural features of the land. This premise would have been especially true for Mesha's Moab, which was bordered by the Dead Sea in the west, the Arabian Desert in the east, and cut into subsections by deep and wide east-west wadis and canyons.

Adam Bean (Johns Hopkins University), "The Inscribed Incense Altar from Khirbet Ataruz: An Update"

In 2010, a cylindrical stone altar bearing seven lines of inscribed text (forming two apparently separate texts) was discovered in the Iron Age temple complex at Khirbet Ataruz in Jordan during excavations directed by Chang-Ho Ji. A preliminary analysis of these inscriptions was presented by Christopher A. Rollston at the 2012 ASOR Annual Meeting. Since that time, analysis of the texts (based on multiple in-person collations and extensive photographic documentation including conventional and RTI imaging) has continued in collaboration by Adam L. Bean, Christopher A. Rollston, P. Kyle McCarter, and Stefan Wimmer. This paper presents an updated analysis of the inscribed altar concurrent with its forthcoming publication. The Ataruz inscriptions show a script that can be dated to the ninth or eighth centuries (with some apparent idiosyncrasies), and are linguistically consistent with Moabite. The texts make use of abbreviations and Hieratic numerals (and possibly symbols for commodity or measure as well). While much progress has been made in the decipherment of the inscriptions, due to their laconic nature and imperfectly preserved condition several interpretive difficulties remain.

4A. Landscapes of Settlement in the Ancient Near East II

CHAIR: Jesse Casana (Dartmouth College), Presiding

Kathryn Franklin (University of Chicago), Anthony Lauricella (University of Chicago), and David Thomas (La Trobe University, Melbourne) "Settlement and Water Management Patterns in Spin Boldak, Afghanistan"

Remote survey using high-resolution satellite images allows archaeologists to study ancient landscapes in regions made inaccessible by on-going conflict as well as in regions between zones of better archaeological knowledge, often in river valleys. This paper presents the results of remote landscape survey in the territory of Spin Boldak ("white desert") in Kandahar province, Afghanistan. The studied region crosscuts several environmental zones (desert, alluvial plain, and hills) and lies within an important corridor of movement towards mountain passes on the Afghanistan-Pakistan border. The Archaeological Heritage of Afghanistan Mapping Project at the University of Chicago has used modern DigitalGlobe and historical CORONA imagery to systematically map inhabitation sites, forts, caravanserais, nomad campsites, qanats, and other water management features of various periods in the Registan desert and the Dori River valley. We describe and analyze the settlement, fortification, irrigation, and camping patterns identified in this region and compare them to patterns identified by a similar remote landscape survey by David Thomas and Fiona Kidd in a nearby region of the Registan desert.

Maurits Ertsen (Delft University of Technology), "Agencies of the Assyrian Empire"

The close relation between resource control and empires is well studied—with focus on how in the last 5,000 years manipulation of water resources for food production, transport, and other uses has allowed many different empires to flourish. Ancient states encouraged the spread of irrigation systems by exerting power over vast areas and by creating the conditions for the free flow of information on

technological developments. The Assyrian Empire stands out as one of those ancient states heavily reconstructing its imperial core landscape around modern Mosul as much as regions further away. Kings commissioned monumental canals and dams to redirect surface water in the hinterlands toward the cities. Ancient states are typically studied as entities that managed to create new landscapes as purely top-down entities. Work within (environmental) history, however, suggests that any colonial project is not something that rolled over passive colonized landscapes and societies. Empire was to be acted out every day and imperial control was shaped by daily actions in government offices and muddy fields. This paper will combine the author's work on 19th and 20th century colonial efforts in Africa and within the Erbil Plain Archaeological Project (EPAS) to re-assess both the settlement landscape in the heartland of the Neo-Assyrian Empire and the methodological consequences of such assessment. Production of Assyrian imperial space was not stamped out just like that onto the landscape. Empire was (re)produced in a process of cooperation, struggle, conflict, and contradiction—within all possible combinations of human and nonhuman agencies.

Marco Ramazzotti (La Sapienza, Rome), "A Neural Spatial Analysis of the Ur and Eridu Subregional Settlement System"

The present paper explores the natural and cultural assessments of the subregion between Ur and Eridu through the integrated use of Geomatic Technologies and Natural Computing. In this approach, the ecological complexity has almost removed from the undisputed supremacy of an external interpretation, able to be explored through mechanical and linear systems, and the symbiotic relationships between *Habitat* and *Biome* became the structured matrix of a neural modeling. The artificial neural networks learning of the collected, codified and organized survey's *records* and *variables* displays different data-mining processes and elaborates multifactorial semantic hypersurfaces. The computational testing algorithmic procedure of the Ur and Eridu landscape neural model contributes to better define the settlement dynamics and the adaptive polymorphisms of the southernmost ecotope of the *Marshlands* during the fourth and third millennium B.C. At the same time, the neural spatial analysis reveals both a complementary epistemic perspective in the recent historiography of Settlement Archaeology and a heuristic Artificial Intelligence method to investigate the economic, political, and cultural aspects of the Mesopotamian urban revolution.

Eric Rupley (University of Michigan), "Games of States: Toward a Dynamics of Settlement Structure in Late Chalcolithic Protostates"

The 70 years since Willey have given us, globally, a wealth of spatial data on regional settlement change. These data open new windows onto periods of radical social invention including, in the Near East, the Late Chalcolithic transition into states. A key question concerning the evolution of states is: How is the scale of social cohesion increased alongside increasing diversity of social and economic roles? Traditional answers focus on elite manipulation of political economy by symbolic invention and information control. More recent answers recognize the driving importance of competitive social interactions enmeshed in reciprocal economic relations. Previous analyses of regional settlement sequences leading to the earliest states identified several general spatial characteristics of early states. Yet, regional settlement pattern data of the quality now being produced can illuminate previously difficult-to-approach aspects of this question: How does settlement structure affect competitive interaction dynamics? This paper presents answers to this question from a spatialized game theoretic perspective with, importantly, no assumed rationality, using survey data from Tell Brak, Syria.

James Fraser (British Museum), "A New Model for Understanding the Relationship Between Dolmens, Settlement, and Geology in the Southern Levant in the Fourth Millennium B.C."

Although megalithic dolmens are some of the most striking features of the Levantine archaeological landscape, their relationship with regional settlement systems and the physical landscape is poorly understood. This paper argues for a direct correlation between the distribution of dolmen fields and the spread of late prehistoric settlement sites into previously uninhabited geological zones. During the fourth millennium B.C. (Late Chalcolithic–EB I), settlements shifted from the alluvial fans of the Jordan Valley floor to the lateral wadis of the rift escarpment, where communities could exploit newly domesticated, higher-altitude tree crops. Discrete areas of the escarpment are dominated by microcrystalline sandstone, limestone, and basalt formations that are more conducive to the extraction of megalithic slabs for above-ground tomb construction, than to the excavation of traditional subterranean shafts. Dolmens are present near EB I settlements in areas dominated by these formations, and are absent in areas where softer geological strata are found, even if these areas were also settled in the fourth millennium B.C. This model implies that dolmens were not part of a vaguely defined "megalithic phenomenon," as commonly described, but are better approached contextually as part of a complex mortuary landscape, in which above-ground and subterranean tomb chambers were associated funerary traditions.

Ralph Hawkins (Averett University) and David Ben-Shlomo (Ariel University), "Settlement in the Jordan Valley during the Iron Age I"

Fifty-one newly discovered Iron I sites in the Jordan Valley have been discovered and published by the Manasseh hill-country survey. These include several types: The first consists of simple oval compounds, which probably functioned as pastoral tent sites. The second is comprised of complex oval compounds, which are larger and have architecture. The third contains an unusual type of site that has been referred to as "sandal-sites." These have been interpreted as having functioned as sites for cultic gatherings, but are poor in terms of finds and architecture. In this region, the area of the southern Jordan Valley, between Wadi Tirzah-Farah and Jericho, is the more remote and less-studied. However, it is also rich with potential for illuminating the early settlement history of the region. In this paper, we will survey some of the sites discovered in the region and explore the possible implications for understanding its settlement in the early Iron Age I.

4B. Archaeology of the Black Sea and the Caucasus

CHAIRS: Ryan C. Hughes (University of Michigan) and Elizabeth Fagan (University of Chicago)

Tiffany Earley-Spadoni (University of Central Florida), Roberto Dan (ISEMO, Rome), Arthur Petrosyan (National Academy of Sciences of the Republic of Armenia Institute of Archaeology and Ethnography), and Boris Gasparyan (National Academy of Sciences of the Republic of Armenia Institute of Archaeology and Ethnography), "Preliminary Results from the 2016 Vayots Dzor Survey Project (Armenia)"

This paper will present preliminary results from the inaugural season of the Vayots Dzor survey project. The survey area, home to the important Chalcolithic site of Areni-1, has otherwise been little explored for settlement related to later periods, although the region boasts a number of Late Bronze and Iron Age fortresses. An extensive survey is focused upon broad regional settlement in a 25 km^2 study area and accomplished by vehicle-based discovery, pedestrian site exploration, and drone-assisted reconnaissance in remote, hilltop areas. Surface collection at sites and the documentation of visible architecture are particular priorities of the anticipated summer research. Based upon the achieved results, future work may take the form of extensive, transect-based surveys to elucidate smaller-scale features such as off site residences, pyrotechnic installations and defensive walls.

Hilary Gopnik (Emory University), "Moving Up? The Middle to Late Bronze Age Transition in Naxçıvan, Azerbaijan"

The Naxçıvan Archaeological Project has spent the past three summers investigating the Middle to Late Bronze Age transition in the Sharur Valley, Naxçıvan. In the past, this transition has been understood as a shift from small settlements of mobile pastoralists building kurgan burial mounds, to hilltop fortresses and cemeteries. Our excavations on the Sharur valley floor have revealed a more complex pattern. Here, relatively elaborate Middle Bronze burials were dug directly into a dry riverbed and subsequently built over by substantial Late Bronze buildings and defensive walls. Continuously used cooking pits suggest that the later inhabitants may have been aware of the earlier ritual/burial areas. On-going isotopic analyses of animal and human remains reveal different patterns of mobility in the two phases, and the ceramic style and fabric suggest changes in transregional interactions. The unusual preservation of these ground-level settlements suggests possible new interpretations about the transition to the fortress-based communities of the Late Bronze to Early Iron periods. This presentation will discuss the results of our on-going research.

Walter Crist (Arizona State University), "Playing in the Periphery: The Game of 58 Holes in Azerbaijan"

New evidence from the Absheron Peninsula in Azerbaijan suggests that Near Eastern games were adopted in Transcaucasia. A series of artifacts, which display patterns of depressions and channels pecked into stone, are strikingly reminiscent of the Near Eastern game of "58 Holes," also known as "Hounds and Jackals" in Egypt. This game had a long history, spanning from the Eleventh Dynasty in Egypt to the Neo-Assyrian Empire in Mesopotamia, but its origins and mechanisms of dispersal throughout the region are poorly understood. Morphological analysis of the markings reveals that these artifacts display characteristics that reflect both Egyptian and Mesopotamian types. While difficult to date due to their uncertain archaeological context, the presence of two of these games in kurgans seem to date them to the second millennium B.C.E., a time period when seasonal pastoralists seem to have wintered in the Caspian lowlands and summered in the highlands to the south. The game of 58 holes may have functioned as a type of common ground that facilitated interaction between these pastoral groups and those in neighboring lands, as the well-attested presence of Near Eastern artistic motifs and goods points to interaction with the wider Near Eastern world. Parallels are drawn with the adoption of *senet* in Cyprus, to discuss the ways in which games cross cultural boundaries with relative ease, even when there is indirect contact with the cultures from which the games originated.

Hannah Chazin (Stanford University), "The (Pre- and Postmortem) Social Lives of Herds: A Zooarchaeological and Isotopic Analysis of Late Bronze Age Pastoralism in the South Caucasus"

This paper presents an analysis of pastoralist human-animal relationships and their political implications for Late Bronze Age (1500–1100 B.C.E.) societies in the South Caucasus. Building from the zooarchaeological and isotopic analysis of faunal remains from excavations in the Tsaghkahovit Plain, this paper explores how the pre- and postmortem social lives of herd animals reflects the political organization of social life in the Late Bronze Age. Radiogenic strontium and stable oxygen isotope analysis suggest that seasonal mobility was on the small scale, but that there were multiple seasons of animal birth throughout the year. Analysis of the faunal assemblages from fortress sites reveals a complicated system in which animals (alive and dead) circulated. Together, these results productively expand what is known about Late Bronze Age social organization, and suggest that mobile pastoralists played a key role in shaping Late Bronze Age political life.

Nathaniel Erb-Satullo (Harvard University), "Craft Production in Iron Age Fortress Complexes: New Fieldwork at Mtsvane Gora, Southern Georgia"

The Late Bronze and Early Iron Age in the South Caucasus are characterized by the emergence of fortified complexes following a period when substantial settlements were scarce. The beginnings of iron production in these fortress-building societies is poorly understood, in part because direct evidence is rare.

In 2015, excavations were begun at Mtsvane Gora, a fortified hilltop site on a major transportation corridor between the Kura River lowlands and the Lesser Caucasus highlands. Surface collections and excavation uncovered evidence of metal production. Analysis of production debris suggests that iron production, mostly likely smithing, and copper-alloy work took place at the site. Preliminary radiocarbon dates and ceramic evidence point to a date in the second quarter of the first millennium B.C., making this some of the oldest direct evidence for iron production in the South Caucasus.

In summer 2016, further excavations and geophysical survey will investigate the contexts of iron production in more detail. Excavation will probe the relationship between the metal production debris

and the wall encircling the hilltop, while geophysical survey will examine the spatial structure of the site and determine whether metal production was restricted to certain areas or widespread across the site. This fieldwork will place the evidence of metal production within its social context, illuminating the relationship between producers and elites during the period of early iron use.

4C. Sicily and the Levant

CHAIR: Elisabeth Lesnes (Andrews University) and Randall Younker (Andrews University), Presiding

Lorenzo Nigro (Sapienza University of Rome), "Across the Sea: Phoenicians at Motya and Mediterranean Interconnections in the Second and First Millennia B.C."

Archaeological investigations by Sapienza University of Rome and the Superintendency of Trapani in the island of Motya, western Sicily, provided new insights into Levantine and Phoenician expansion toward the west Mediterranean. Early Levantine materials testify to the functioning of sea-routes connecting the Levant, Sicily, and Sardinia in the second half of the second millennium B.C., as well as illustrating the timing and peculiarities of Phoenicians' settlement.

The excavation of two major religious compounds, the Temple of Baal and Astarte and the Tophet, moreover, allowed for the investigation of the origins of the settlement, the role of religion in cultures mixing together, and the relationships with local indigenous population, the Elymians.

Further on, in the seventh–fifth centuries, Motya played a central role in the cultural mediation between the Carthaginians and Greeks of Sicily, as thoroughly illustrated by the archaeological record.

Rossella Giglio (Direttore del Servizio per i Beni Archeologici pressola Soprintendenza per i Beni Culturali ed Ambientali, Trapani, Italy),"Byzantine Presences in Lilibeo"

The city of Lilybaeum, today Marsala, on the western end of Sicily, rose after the destruction of Mozia in 397 B.C. This paper will present several examples documented by archaeological research (since 1994) during the process of urban transformation, after the destruction related to the Vandals invasions in the area of Cape Boeo, in Via Gramsci, in quarries of the Niccolini area, and in the Santa Maria della Grotta area. Of considerable interest is the case of the two graves, perhaps venerated, built on the pavement of a major paved artery (the *Decumanus Maximus*), connected to a building with an apse of the Byzantine period (sixth–seventh centuries A.D.); defined the Tomb of Hope (Tomb A) and the Tomb of Life (Tomb B); both tombs have a high documentary value for the presence, on the inner walls of each burial, of a series of Greek rubricated epigraphs, painted in red and bordered by crosses, with references to the theme of Constantine's cross.

The existence of a Christian community and the figure of Pascasino, bishop of Lilybaeum in the fifth century, confirms the importance of the city, raised to an episcopal see (as reported in the letter sent by Pope Leo the Great on the 21 October 447 to the bishops of Sicily).

Justin Singleton (Andrews University), "The Cultural Adaptation of a Semipalatial System at Mokarta, Sicily"

The people of Mokarta are known as Proto-Elimi, but who were the Proto-Elimi of Mokarta? This paper will work toward identifying the people of Mokarta, Sicily through analysis of their household goods and architecture of their huts/village. Additionally, a comparison of these goods and architecture will be made locally, as well as in the repertoire of the ancient Near East, to better understand their autonomous lifestyle.

Giorgia Lanzarone (San Miceli Project, Salemi, Trapani, Italy), "The Sacredness of the Water between Paganism and Christianity: The Movement of a Symbol from the Near East to Sicily"

Water and sacredness are a common combination in almost all cultures and religions in our land; they belong to rituals related to fertility, purification, and healing. The indispensability of the water for every people contributed to recognizing it as a divine gift. Moreover, Christianity assigned a very important role to water in the liturgy, both in the baptismal ceremonies and in the rites of blessing and sprinkling.

In the early Christian art in Sicily, the symbol of vivifying water or the *kantharos* where birds of all kinds drink, or from which sprout plant's boughs, symbolizing life, occurs quite frequently, especially in the production of mosaics, both inside religious buildings and private houses, often in a close connection with the function of some well-defined liturgical spaces.

But the origin of this symbolism is much older; it was born initially in Mesopotamia, during the Akkadian age, originally connected to the geomorphology of the region and to the power of the great Sumerian kings. In this discussion, we intend to highlight the evolution of this symbol and how it has adapted its meaning, in the course of its movement from East to West, from a "pagan" context, to the Christian culture that adopted it.

Elisabeth Lesnes (Andrews University and San Miceli Project, Salemi, Trapani, Italy), "The Village and Basilica of San Miceli in its Historical and Cultural Context"

Research in San Miceli (Salemi, Sicily) is a privileged way to contribute to those studies that deal with the spread of Christianity and its religious structures in Sicily, as well as with the dynamics of the rural population, in an area of the province of Trapani, where the surface surveys have proliferated in recent decades.

Sicily appears as one of the Italian regions that witnessed the rise of the most ancient Christian communities of the Mediterranean. There is no doubt, based on the evidence of the Christian catacombs in Syracuse, that Christianity had gained a foothold on the island by the early third century.

In western Sicily, the affirmation of the new faith would be a bit slower, but the port city of Lilybaeum-Marsala, in contact with neighboring Africa was undoubtedly the first port of Christianity in the province of Trapani, at least in the mid-third century.

Lilybauem was a conduit for introducing Christianity inland along the major route that passed through Salemi (Alicia?) and San Miceli. The fact that archaeological evidence shows that San Miceli was occupied during this time, makes it an intriguing candidate for examining the interaction between the traditional but declining pagan philosophy of Rome with the emerging beliefs of Christianity. The

existence of an early Christian basilica, dated to the middle of the fourth century, at San Miceli is a testimony to the eventual dominant position of Christianity within the western Sicilian hinterland.

Randall W. Younker (Andrews University), "The Emergence of Christian Culture in Western Sicily"

New Excavations at San Miceli (Trapani Province) have revealed a small hinterland settlement near Salemi (probably ancient Alicia) in western Sicily. San Miceli had revealed an occupational history from the late third century B.C. through the seventh century A.D. when the village was finally destroyed. As early as the third century A.D. the village appears to have been influenced by the newly emerging Christian faith. By the fourth century a small basilica had been established along with a Christian cemetery. The archaeological evidence points to a vibrant and relatively wealthy Christian community that remodeled or rebuilt their church twice before its final destruction in the mid-seventh century. This presentation will discuss the nature of the emergence and growth of early Christianity in western Sicily based on, both, the results of the recent excavations in this hinterland village, as well as within the larger context of what was happening at the important port city of Lilybaeum and its connections with Carthage, Rome, and Syracuse.

4D. Archaeology of the Near East: Bronze and Iron Ages II

CHAIR: Eric Welch (University of Kansas), Presiding

Steven Karacic (Florida State University) and James Osborne (University of Chicago), "Production and Consumption of Cypro-Geometric Pottery in the Amuq Valley"

One of the ceramic markers of the early first millennium B.C.E. in the northern Levant and southern Anatolia is the presence of Cypriot and Cypriot-style pottery including Cypro-Geometric and Black-on-Red Wares. While Black-on-Red vessels have received significant scholarly attention regarding their provenience, Cypro-Geometric Ware is often assumed to have been imported. Findings at sites such as Tarsus and Kinet Höyük have challenged this assumption, however. In this paper we use geochemical analysis to investigate whether this style of pottery was imported to the Amuq Valley or locally produced. Excavations conducted by the Oriental Institute's Syrian-Hittite Expedition in the 1930s recovered several hundred examples of Cypro-Geometric Ware from the sites of Tell Tayinat, Çatal Höyük, and Tell Judaidah. This material was analyzed with nondestructive portable x-ray florescence and select specimens were sampled with instrumental neutron activation analysis. Our findings were then compared with archival data from Cyprus, Cilicia, and the Amuq. The results demonstrate that multiple locales, at least one of which is likely to have been within the Amuq, produced the Cypro-Geometric pottery. Intriguingly, only one geochemical group occurs at the secondary and tertiary settlements of Çatal Höyük and Tell Judaidah. In contrast, the inhabitants of Tell Tayinat, the capital city, consumed Cypro-Geometric pottery from at least one other source, a likely indicator of wider economic connections for this regional center.

Gilad Itach (Bar-Ilan University), "The Wedge-Incised Bowl and the Assyrian Deportation"

Several recent studies explore the ceramics of the Assyrian period in the southern Levant, emphasizing the relationship between empire and local populations in this period. This paper will explore a specific ceramic phenomenon and its possible relationship to populations deported from Mesopotamia to the southern Levant.

Since the early 20th century, large and deep bowls with a unique type of wedge-shaped incision have been discovered in excavations in the region surrounding Samaria. The bowls are ware typical of the late Iron II period in the region, but the wedge-shaped incision is unique. In 1989, Adam Zertal suggested connecting these bowls to deportees from Mesopotamia brought to Samaria in the Neo-Assyrian period.

Since 1989, surveys as well as excavations have discovered more of these bowls both in the region around Samaria and elsewhere in the southern Levant, including Transjordan. These findings allow us to more precisely establish the chronology of these bowls, their geographic distribution, and the nature of the sites at which they were found. We show that most of these bowls date to the seventh–sixth centuries B.C.E. They are found primarily (although not exclusively) at unfortified single-period rural sites near valleys in the northern Samarian highlands, and at a small number of multiperiod sites. Petrographic studies of these bowls show that they were locally produced. We examine the function of these incisions and similarities between them and incised wares found in Mesopotamia.

Avshalom Karasik (Israel Antiquities Authority), Ortal Harosch (The Hebrew University of Jerusalem), and Uzy Smilansky (The Hebrew University of Jerusalem), "'Revealing A Palm [*Tefach*] and Covering The Rest': On Ancient Measurements, Gender, and The Laws of Purity in the Production of Iron Age Storage Jars"

Storage jars were probably one of the most important vessels for ancient kingdoms and administrations. These containers enable the monarchs and their officials to collect and store products that were mandatory for every political entity. In the current research we have compared hundreds of Iron Age commercial storage jars that are considered to be part of central administrations. From Khirbet Qeyafa on the edge of Iron II, continuing with the "Hipo" jars of the Israelite kingdom during the ninth and the eighth centuries B.C.E, and up to the royal Judean storage jars at the later phases of Iron Age II–III. Despite the fact that the various assemblages belong to different morphological types, were found at different geographical regions, and have a significant chronological gap between them, it seems that there is one quantity that remains almost identical and with a remarkable uniformity. We shall show that this measurement corresponds to the ancient measure of the "Tefach"—the hand-breadth of the palm. The paper will present the comparative results of the various measurements and will suggest possible explanations. The unique uniformity could be the effect of technological and functional constraints, but might also be related to issues of gender and ancient traditions of purity and impurity.

Nancy Serwint (Arizona State University) and Jimmy Hardin (Mississippi State University), "The Zoomorphic Head from Khirbet Summeily"

During work conducted by the Hesi Regional Project at Khirbet Summeily in July 2011, a cult room was discovered in the course of excavation. Among the artifacts found, several were key: a kurkar altar, a broken chalice, and an adjacent zoomorphic terracotta head. Stratigraphic analysis and the archaeomagnetic record suggest that a conflagration destroyed the cult room about the year 920 B.C.E. Located in southern Israel on the ancient border between Judah and Philistia, the political and cultural orientation of the site is not certain. Detailed study of the animal head during July 2015 and subsequent scientific testing have confirmed that the nearly half life-size head was crafted from a clay coil technique, anomalous for its time period. Discussion of the technical procedures, the leonine aspect of the head, and its presence within a religious context allow for greater understanding of the methodologies of the coroplastic arts and the likely appearance of lion iconography in the service of cult during the late Iron Age I and early Iron Age II periods on the border of Judah.

Rami Arav (University of Nebraska at Omaha), "Symbols of Authority; Bethsaida During the Tenth Century B.C.E."

The level of statehood during the tenth century B.C.E. has been a much-debated issue in the past several years. The opinions vary between claiming that statehood was not established in the southern Levant before the ninth century B.C.E. to a claim that statehood reached a full-fledged development already in the tenth century B.C.E.

Situated north of the Sea of Galilee, Bethsaida, which most probably served as the capital of the kingdom of Geshur, discloses some important archaeological features possible only in established statehood. This presentation points out to some of these features and claims that during the first half of the tenth century B.C.E. the kingdom of Geshur was already a state.

The features are:

- Preplanned city
- A 4 m wide road leading to the city gate.
- A thick and solid city wall.
- A palace, the seat of the ruler

In close proximity of the palace and most plausibly under the aegis of the ruler are the following structures and institutions:

- An impressive city gate that serves not only as an entryway to the city, but hosts the following functions:
- Bullae found in the palace testifying for long and short term correspondence.
- Scarabs and other stamps used by officials at the city gate
- Long-term trade testified by Cypro-Phoenician vessels.
- Granary for the collection and distribution of taxes
- A city cult in the form of a very large high place.

These features discovered at Bethsaida, date from the tenth century B.C.E. and are possible only in a full-fledged statehood.

4E. The Fourth Expedition to Lachish, 2013-2016: A Report on the First Four Seasons II

CHAIRS: Yosef Garfinkel (The Hebrew University of Jerusalem), Michael G. Hasel (Southern Adventist University) and Martin G. Klingbeil (Southern Adventist University), Presiding

Hoo-Goo Kang (Seoul Jangsin University) and Soonhwa Hong (Institute of Bible Geography in Korea), "The Area CC Fortifications at Tel Lachish"

Area CC was excavated for three sequential seasons by the Fourth Expedition to Lachish and produced tremendous archaeological results. A series of fortification systems from Level I to Level V were revealed to confirm the size and feature of the site throughout its occupation periods. The results indicate that Lachish existed as a fortified city from the Iron Age to Hellenistic period. In contrast to previous expeditions, it was established that Level I yielded three different phases attested by walls of a probable domestic building built perpendicularly abutting the outer city wall. Level II was destroyed by a massive conflagration, indicating that the Babylonians destroyed the entire city from the gate to the extreme northern end of the site. A six-meter wide city wall confirmed the size of Levels IV–III. Notably, the fortification system of Level V, unknown so far from previous expeditions, was uncovered for the first time. It was constructed under the stone foundation of Level IV–III and above the destruction layer of Level VI. A floor abutting the 3.5 m wide city wall yielded a small ceramic assemblage consisting of red slipped, hand burnished pottery dates the wall to Iron Age IIA.

Itamar Weissbein (The Hebrew University of Jerusalem), "The Recently Discovered Late Bronze Age Temple at Tel Lachish"

During the 2014-16 excavation seasons of The Fourth Expedition to Lachish a Late Bronze Age temple was unearthed in the northeast corner of the site (Area BB). The temple is attributed to Level VI, a stratum that represents the last Canaanite city at Lachish, and was dated by D. Ussishkin, from approximately 1200 to 1130 B.C.E. when it was destroyed in a large conflagration. This Northeast Temple seems to be a secondary temple, while the previously known Acropolis Temple, excavated by Ussishkin's expedition, was the main temple of the city of that time. As opposed to the Acropolis Temple which suffered from looting, the recently discovered temple is relatively rich in finds. The new temple and its finds will be presented while focusing on the special metal objects and its pottery assemblage. These finds reflect the culture and beliefs of the temple worshippers and the ritual activity that was performed in it. The finds could also shed some light on the lives and activity in the temple, and in Canaanite Lachish on the eve of its final destruction.

Igor Kreimerman (The Hebrew University of Jerusalem) and Ruth Shahack-Gross (University of Haifa), "The Destruction Process of the Newly Discovered Late Bronze Age Temple at Tel Lachish"

The 2014-2016 seasons of excavations of The Fourth Expedition to Lachish uncovered a new Late Bronze Age temple in Area BB. The temple itself was covered with debris of burnt mud brick, charred organic material and many broken pottery vessels as well as other small finds. Thus, already during the excavation seasons it was clear that

the temple met a very violent end. Consequently, a research project that involved an integration of micro- and macro-archaeological methods was initiated in order to understand the destruction process of the temple; the abandonment process before the destruction, the possible mutilation of objects, the progress and temperatures of fire and the identification of the organic materials that were burnt. This paper will present the results of the study and will compare them to what is known about the destruction of the Acropolis temple that was excavated by the previous expedition. Eventually, the data from the other areas that were excavated by all the previous expeditions would be integrated in order to generate a picture of the destruction of the last Canaanite city at Tel Lachish and try to decide what brought this terminal event.

Shifra Weiss (The Hebrew University of Jerusalem), "The Judean Shephelah in the Seventh Century B.C.E. in Light of New Results from Tel Lachish"

The last four seasons of excavations by the Fourth Expedition to Lachish challenge previous conceptions regarding Level II of the site. This paper presents the results of the Level II excavations at the site. These results are integrated with results of the past three expeditions. This synthesis offers a better understanding of the character of the Judean city of Lachish in the seventh century B.C.E. The resettlement of Lachish after the Assyrian destruction of 701 B.C.E. reflects on this process in the entire region. The settlement pattern of the Judean Shephelah during this period is thus also reconsidered.

Daniel Perez (University of Nevada, Las Vegas) and Jon Carroll (Oakland University), "Mapping and Modeling at Tel Lachish"

Technological advances in data collection, management, and visualization have notably progressed over the last decade in archaeology. Through the expanded use of both aerial and conventional photographic methods, Geographic Information Systems, photogrammetry software, and other data modeling programs, the adaptation of such advances in data management and visualization have spread throughout various archaeological projects around the world. This paper presents the implementation of some of these technological advances at Tel Lachish, comparatively noting the GIS data management and spatial visualization used in the Fourth Expedition to Lachish in comparison to previous expeditions to the site, and how these approaches help in addressing the current expedition's research design.

4F. Archaeology of the Near East: The Classical Periods II

CHAIR: Lisa A. Çakmak (Saint Louis Art Museum), Presiding

Jane DeRose Evans (Temple University), "Seleucid Sardis: the Problem of Political Control and the Third Century B.C. Mint"

Although it is well known that the Seleucids struck coins at Sardis beginning in the early third century B.C., continuing through the reign of Antiochus III, the intersection of the official Seleucid issues and the local bronze coins is not well understood. Since most scholars would argue that the city must be a polis in order to strike coins with the name of the city in the legend, the issuing of the local bronze coins should reflect an important political shift within Sardis. These coins have never been dated any closer than "before 133 B.C." or "after 133 B.C." Using iconography, metrology, a special minting technique that appears on the coins, and especially archaeological contexts, I suggest a date for the coins that is much earlier than has been envisioned by any other numismatist. And, when the date of the initiation of the minting of civic coins becomes clear, the interpretation of the coin types (Herakles and Apollo with a bird) becomes richer and the relationship between Sardis and its Seleucid rulers shifts subtly.

Jennifer Gates-Foster (University of North Carolina at Chapel Hill) and Caitlin Clerkin (University of Michigan), "A Roman Ritual Assemblage from the Upper Galilee"

In the summer of 2014, a deposit was recovered from the site of Horvat Omrit in the Upper Galilee that included an unusual vessel with few parallels in published archaeological literature. Found in a mixed deposit of likely Late Roman (fourth–sixth century) date in the eastern half of the site, this deposit included 17 fragments of a large handmade vessel that incorporated nine lamp spouts around its rim and panels of incised decoration around its outer surface. Although only partially preserved, this now-restored polycandelon is one of only a few examples of this distinctive vessel type recovered from antiquity, and one of only a handful with a secure archaeological context. Known parallels suggest its use in a ritual context; other examples have been recovered from burial caves as well as church contexts in the later Roman era. This paper will discuss the possible interpretations of this vessel in relation to the deposit in which it was found, which included several other distinct forms, as well as its analysis in light of other evidence for religious practices at Horvat Omrit in the later Roman period.

Michael Zimmerman (Bridgewater State University) and Martha Risser (Trinity College), "A Lamp Manufactory at Caesarea Maritima"

Numerous Byzantine lamp fragments, lamp molds, and kiln wasters were found in Square 19 of Field C at Caesarea Maritima, and thus the excavators inferred that this area was a site of lamp production in that era. However in a paper presented at the 2015 Annual Meeting of the American Schools of Oriental Research, Kenneth Holum argued that the architectural treatises of Julian of Ascalon imposed strict rules about industrial zoning at Caesarea that would have prevented the establishment of manufactories in the southwestern sector of the city. In this paper, I will examine the ceramic, architectural, and stratigraphic evidence from Field C to address a series of questions: Was there a lamp manufactory in Square 19 of Field C at Caesarea Maritima? If so, does it predate the architectural treatises of Julian of Ascalon, perhaps providing evidence of exactly what the building codes were set up to stop? If later, does the presence of a lamp manufactory show that building codes were ineffective? Or is it possible that fill containing the debris of a relatively distant lamp manufactory was transported across the city to Field C? And finally, what does the evidence found in Field C at Caesarea Maritima reveal about lamp production in the eastern Mediterranean during the Byzantine Period?

Ilan Sharon (The Hebrew University of Jerusalem), Jeffrey Zorn (Cornell University), Rebecca Martin (Boston University), Yiftah Shalev (Israel Antiquities Authority), and Ayelet Gilboa (University of Haifa), "Ekistics at Dor: The Story of a Public Square"

As far as can be ascertained, Bronze and Iron Age urbanism in the Levant lacked the concept of public space. There were royal or administrative spaces whose wide, open courts sharply contrast with the crowded domestic domain; but these were presumably only available to administrative staff and to supplicants admitted through the enclosure gate. Sacred spaces (*temenoi*), too, belong to the god, not the public. With the possible exception of gate plazas (at the liminal point between urban space and wilderness), there was no space for the gathering of people and for civic activities. At the other end of the chronological spectrum, the concept of a congregation—a civic community which, inter alia, holds joint custody of structures and open spaces—is fundamental to Talmudic Judaism and early Christianity.

The publication of Area G at Dor, located in the exact center of the mound, offers an opportunity for a *longue durée* perspective of the development of a public space—from domestic use in the Iron Age; to industrial/trash disposal in the Persian Period; to a central street junction/square fronting a public edifice in the Hellenistic and finally to a public plaza at the intersection of the Roman *cardo* and *decumanus*.

Simeon Ehrlich (Stanford University), "Public, Private, and Intermediate Spaces in Ancient Near Eastern Cities"

This paper serves to move discussion of ancient urban plans beyond binaries of planned vs. unplanned and gridded vs. ungridded cities. It undertakes a functional analysis of the morphological elements of urban plans, investigating how the interactions of streets and blocks define public, private, and intermediate spaces. It finds that classical cities are anomalous in the ancient Near East, owing to their lack of intermediate, restricted-access spaces between public and private spaces.

By contrast, Mesopotamian and Egyptian cities feature large, walled, restricted-access precincts further subdivided into private spaces. Similarly, Islamic cities feature neighborhoods organized around branching alleyways, each more restricted than the last and each serving as an intermediary conduit between public and private areas of the city. It is only in the classical tradition that intermediate spaces do not hold together the urban fabric; blocks can be public or private, but are always bounded by public streets. The block is the defining morphological unit of the classical city, in contrast to the precinct or the neighborhood.

Ultimately, this paper contends that urban form is more about social relationships than geometric patterning. It is not enough to identify forms and patterns; we must account for why these forms arise instead of others. Defining the morphological relationships that govern urban plans helps to clarify the social, political, religious, economic, and legal forces that constrained urban forms. This in turns aids in understanding the processes whereby certain forms survived through rigid enforcement while others became more malleable and transitioned to other paradigms.

4G. Archaeology of the Kurdistan Region of Iraq I

CHAIR: Glenn Schwartz (Johns Hopkins University), Presiding

Hasan Qasim (Director of Antiquities in Dohuk), "A New Neo-Assyrian Palace at Girê Sêmêl: Rescue Excavations in the Duhok Region"

Rescue excavations conducted by the Directorate of Antiquities of Duhok at the site of Girê Sêmêl in 2011 have revealed unexpected evidence of the site's important history. Girê Sêmêl is a small mound (3.20 ha) located about 16 km to the west of the city of Dohuk along the modern highway leading to Zakho and was settled almost continuously from the Halaf period to the Islamic epoch. During Saddam Hussein's regime Sêmêl became a military site and a large communication tower was erected on its summit, the foundations of which destroyed part of the mound. Today the expansion of the modern town is seriously endangering the archaeological site and modern houses have already partly covered it.

Salvage excavations have partially brought to light the courtyard of a Neo-Assyrian palace paved with baked bricks and large gypsum ("Mosul Marble") flagstones. A reception room with the remains of parallel rails probably used to move a mobile brazier opened onto the paved courtyard. An inscribed baked brick containing three lines of script mentions a palace built at the site by Shalmaneser III (859–824 B.C.). With the brick, several terracotta models and cylinders seals were also found in the building.

Luca Colliva (Missione Archeologica Italiana nel Kurdistan Iracheno – MAIKI) and Dara al Yaqoobi (High Commission for Erbil Citadel Revitalization – HCECR), "HCECR and MAIKI Joint Activities on the Erbil Citadel"

Since 2012 the High Commission for Erbil Citadel Revitalization (HCECR) and the Italian Archaeological Mission in Iraqi Kurdistan of Sapienza, University of Rome (MAIKI), have fruitfully cooperated on the study and enhancement of the Erbil Citadel. This archaeological site, with more than 6,000 years of continuous occupation, is among the most significant in the region and has been recently inscribed in the UNESCO World Heritage List.

The HCECR and MAIKI joint activities center on the analysis of the archaeological data from the citadel and the study of its imposing archaeological stratigraphy. This paper will present the preliminary results of the 2015 and 2016 researches, focusing on the new data provided by the electrical topographies and the study of the rich ceramic collection from the HCECR archaeological excavations of the recently discovered defensive wall of the citadel. The geophysical survey gave significant data about the deep stratigraphy of the tell and identified interesting anomalies. The study of the ceramic material provided new information on the ceramic production, distribution networks, and imports of the area in Islamic and pre-Islamic periods.

Alexia Smith (University of Connecticut) and Lucas Proctor (University of Connecticut), "Bronze and Iron Age Plant Use in Iraqi Kurdistan: Archaeobotanical Results from Kurd Qaburstan and Gund-i Topzawa"

The return of intensive archaeological fieldwork to Iraqi Kurdistan over the past several years allows for new insights into ancient plant

use. This paper presents archaeobotanical data from two dissimilar sites, providing information on chronological and regional variation in agricultural production, pasturing, and fruit use. During the 2014 season, Glenn Schwartz's team excavated 27 Middle and Late Bronze Age archaeobotanical samples from Kurd Qaburstan, a 118 ha walled mound located on the Erbil Plain. These samples were preserved via mundane charring and provide support for the widespread use of dung fuel and intensive pasturing or foddering activities. Excavations conducted at Gund-i Topzawa in the mountainous region of Sidekan between 2013 and 2014 under the direction of Michael Danti as part of the Rowanduz Archaeological Program, have yielded 41 archaeobotanical samples from a small Early Iron Age domestic structure. These samples were preserved via catastrophic fire and provide a rare snapshot of household storage activities and fruit use. The plant remains from Kurd Qaburstan and Gund-i Topzawa reflect different depositional histories. Nevertheless they highlight striking contrasts between plant use in the highlands and the plains and the foundations of agrarian life during the Bronze and Iron Ages.

Kyra Kaercher (University of Pennsylvania) and Katie Downey (The Ohio State University), "Ghabrestan-i Topzawa, an Achaemenid Tomb in Iraqi Kurdistan"

This paper presents an analysis of Ghabrestan-i Topzawa, an Achaemenid tomb in Iraqi Kurdistan. In the summer of 2013, the Rowanduz Archaeological Project, under the direction of Michael Danti, was called in to investigate a stone-built tomb outside Sidekan, Iraqi Kurdistan. Ghabrestan-i Topzawa was found during a road widening, when a bulldozer clipped the outside wall. The tomb was constructed from large worked limestone slabs and contained two use-phases separated by a thick sterile matrix. The original phase contained burials that were laid on a packed floor, some articulated, others had been disturbed in antiquity. This burial episode contained a large assemblage of pottery, a few items of personal adornment, and a large amount of animal bones. A radiocarbon date was obtained from charcoal on the earliest surface and provided a date in the late Achaemenid or post-Achaemenid period (359–389 cal B.C.). After this first use-phase the stone blocking of the entrance was either pushed or fell inward, and the tomb may have been partially looted. The tomb was then reused for a large number of burials, which were tightly packed into the tomb in extended positions with the heads to the west. There were no grave goods associated with this phase. This paper seeks to analyze the tomb, both the human remains and the grave goods, in order to look at this local late-Achaemenid or early post-Achaemenid assemblage. Ghabrestan-i Topzawa gives us a look at this extremely rare assemblage from a sealed Achaemenid context.

4H. Ancient Inscriptions II

CHAIRS: Heather Dana Davis Parker (Johns Hopkins University) and Michael Langlois (University of Strasbourg, Institute University of France), Presiding

Gareth Wearne (Australian Catholic University), "The Second Rubric in the Deir ʿAlla Plaster Texts as an Instruction for the Oral Performance of the Text"

Since their initial publication it has been recognized that the rubrics of the Deir ʿAlla Plaster Texts (DAPT) may hold important clues to the intended function and purpose of the inscription(s). This paper will focus on the rubric in combination 2 (line 17), and in particular the lacuna in the first half of the line. Despite significant palaeographic and syntactic difficulties, past scholarship has tended to interpret the rubric as a continuation of the frame narrative in which the seer Balaam addresses "his people." However, this paper will propose a new restoration based on close examination of the published photographs and the physical texts, as well as the syntax and semantics of the line. It will argue that the rubric marks an important transition within the text, and that it directly addresses the implied audience of the DAPT with an exhortation to heed the preceding oracle and to preserve it orally. That is to say, there is reason to believe that the material text included explicit instructions for its oral performance. This new proposal is consistent with the view that much ancient literature existed within an oral-literate continuum, and holds important implications for the textualization of prophetic utterances in the ancient Near East and the function of early literary texts more generally.

Jacco Dieleman (University of California, Los Angeles), "The Materiality of Textual Amulets in the Ancient World"

This paper investigates the material properties of textual amulets from Egypt, the Near East, and the Mediterranean. Textual amulets are short apotropaic texts inscribed on linen, papyrus, or metal foil, which when folded or rolled and tied with a piece of string were worn around the neck for protection in life. These artifacts have been found across the region, inscribed in various languages with a variety of apotropaic designs. Differences in design and usage between the various regions and across time suggest that the practice started in Egypt as early as the Bronze Age and found its way into the Levant and across the Mediterranean in the Iron Age. The textual amulets from Egypt, Ketef Hinnom, and Phoenician sites across the Mediterranean will be compared to identify commonalities and differences in design that might throw light on the question of how these different cultures conceived communication (verbal, visual, and material) as a tool to influence the course of events.

Jessie DeGrado (University of Chicago) and Matthew Richey (University of Chicago), "An Inscribed Pazuzu Statuette at the Ashmolean Museum"

In 1892, G. J. Chester presented the Ashmolean Museum with a statuette allegedly from San el-Hagar, Egypt. The statuette was first published seventy years later by Moorey (1965), who identified the figure as the infamous Mesopotamian demon Pazuzu. In addition to his striking iconographic attributes, the winged demon bears on his legs a four-line Northwest Semitic inscription, interpretation of which was entrusted, in the statuette's *editio princeps*, to G. R. Driver. At the time, Driver admitted that his understanding was preliminary, owing largely to corrosion on the statue's surface. Scholars have since noted the desirability of a reexamination employing modern photographic techniques and more rigorous philological method. We propose to present a new reading, translation, and discussion of this important text on the basis of unpublished photographs, courtesy of the Ashmolean Museum, and summer 2016 collation. As the only Northwest Semitic inscription associated with a Pazuzu representation, this text reveals

interaction with Mesopotamian demonology in a Northwest-Semitic-speaking context. Given Driver's and our reading of {ssm} as the first lexeme of the present inscription, we will also examine proposals to find Pazuzu or an associate behind the figure "Sisinios" in later Aramaic, Greek, and other sources.

Bezalel Porten (Hebrew University of Jerusalem), "Presenting a Textbook of Aramaic Ostraca (TAO), Volume 2"

Whereas volume 1 (presented at the 2014 ASOR meeting) included ten dossiers of clans and prominent individuals, volume 2 covers forty dossiers (= forty individuals), divided into four groups arranged in descending order, from 25/20 to 7/4 per dossier. Since most individuals lack patronyms, there are numerous cross-references to persons appearing in volume 1. There are nine tables, five (updated) for the processed grains measured by capacity—semolina+flour, resh, sifted/crushed grain, grindings, and barley flour; and four for containers measured by number—bundles, bales, loads, and a master chart. While the individual dossiers chronicle personal transactions—dated and undated; with or without payee, agent, source, depository, signatory, or sealing sign—the tables trace the frequency of eight different commodities. Not only do they reveal scribal practice, showing how some six recognizable scribes produced chits for one or two commodities only, the large number of unidentifiable ones were part of a trained pool of equally skilled scribes. Most significantly, analysis of these tables leads to the conclusion that these chits are *not* records of a government taxation system, as some scholars have maintained. As we did for volume 1, so here, too, we shall illustrate these points through photos from the book, with adjacent sidebars. Links will be provided for the three updated KWIC's that appear in the CD for volume 1.

5A. Archaeology of Arabia I

CHAIR: Michael Harrower (Johns Hopkins University), Presiding

Geoffrey Ludvik (University of Wisconsin-Madison) and Jonathan Mark Kenoyer (University of Wisconsin-Madison), "Bead Curation in West Asia: Stone and Glass Beads from the Tell el-Hesi Bedouin Cemetery"

The curation or reuse of beads is an important cultural pattern documented in many parts of the world. This paper examines a unique example of reuse in the bead corpus from the Bedouin cemetery (A.D. 1500 to 1800) at Tell el-Hesi, Israel, excavated by the Tell el-Hesi Regional Project in the 1970s. Using scanning electron microscopy (SEM) at high magnification and LA-ICP-MS geological sourcing, we present a detailed analysis of these beads, including their geological sourcing, manufacturing sequences, and use indicators. Based on technology, style, and mineralogy, it is possible to propose regions of origin and specific chronological periods during which most of the beads were produced. A few of the stone beads appear to have been made during the third millennium B.C. and can be traced to areas as distant as Afghanistan and the Indus Valley region. It is possible that some of these beads were passed down as heirlooms, or found fortuitously eroding from ancient sites, or obtained through other mechanisms. Ethnographic observations of traditional jewelry of nomadic communities and some settled groups in West and South Asia provide parallels for the use of ancient and exotic beads in ornaments. Banded agate and carnelian have significant symbolic value among these groups and may provide some insight into the patterns found in the Tell el-Hesi cemetery. The rigorous methodology developed in this study for the identification and interpretation of curation and/or collection can provide an important model for the reanalysis of other bead assemblages in West and South Asia.

Jonathan Mark Kenoyer (University of Wisconsin-Madison) and Dennys Frenez (University of Bologna), "Production, Trade, and Reuse of Stone Beads in Oman during the Fourth to First Millennia B.C.E."

The study of stone beads from sites in Oman dating from the fourth millennium to the first millennium B.C.E., provide a unique perspective on the production, trade, and reuse of stone beads in Eastern Arabia. This paper will present the analysis of stone beads from a wide range of sites excavated by numerous different teams over the past 30 years. In addition to morphological and stylistic analysis, the methodology used for this study includes high magnification imaging using the Scanning Electron Microscope (SEM) and chemical analysis of raw materials for sourcing using Laser Ablation Inductively Coupled Mass Spectrometry (LAICPMS). A variety of stone bead production techniques are represented in the stone bead assemblages, but so far only soft stone beads are known to have been produced in Oman during the prehistoric period. Hard stone beads, made from carnelian, banded agate, jasper, or quartz may have been produced in adjacent regions such as Iran, the Indus Valley, Yemen, Western Arabia, Mesopotamia, Egypt, or even Anatolia. The distribution of specific bead-types and the reuse of beads over millennia, provide an important window into the nature of interactions between communities in Oman and adjacent regions during the Prehistoric and Early Iron Age periods. This study has been supported by the Sultan Qaboos Cultural Center and the Department of Archaeology, Ministry of Heritage and Culture, Sultanate of Oman.

Matthew Jameson (Bryn Mawr College), "Ubaid Interaction in the Arabian Gulf in the Light of New Research on the Origin and Technology of Ubaid and 'Local' Pottery from Dosariyah (Saudi Arabia)"

Interaction between Ubaid Mesopotamia and eastern Arabia was first discovered in the 1960s. The drivers for this interaction, and the effects it had on both societies, is still poorly understood. In this paper we present new research on ceramics from the key of site of Dosariyah in Saudi Arabia. This research seeks to better understand the economic and technological impact that this interaction had on both societies. Compositional analysis demonstrates a more complicated origin for the imported Ubaid pottery than hitherto thought, as well as new information on the putative "local" Neolithic pottery. Magnetic susceptibility is also used to determine the firing background of both ceramics. We conclude with some tentative thoughts on the long-term impact of interaction between a sedentary agricultural society and the Neolithic pastoral communities of Arabia.

William Zimmerle (Dhofar University), "The Archaeological Biography of Small Bronze Shaft-Hole Axeheads from MAGAN: An Ethnographic Case-Study on Metal Craftsmanship from the Musandam Peninsula (Sultanate of Oman) and Ras al-Khaimah (United Arab Emirates)"

The well-preserved cultural community of Musandam today in the Sultanate of Oman provides a unique insight into how the domestic manufacturing of small metal tools might have existed in the past. In this paper, I will address the archaeological biography of small axe head bronze/copper-making within the Musandam Peninsula and apply the evidence found from ethnographic observations there to the types of axe heads that were traded and deposited within Bronze Age tombs throughout the Magan-Iranian-Mesopotamian interaction zone. The paper will offer an updated catalogue, typology, and chronology on the form and function of small axe heads in the archaeological record from the third until the early first millennia B.C. including how their geometric designs were made and metals forged, while also concluding the presentation with high resolution photographs from the author's ethnographic fieldwork. Finally, a short video will also illustrate the contemporary manufacturing of axe heads (jerz) as an endangered cultural heritage craft in the United Arab Emirates and the Sultanate of Oman.

Peter Magee (Bryn Mawr College), "Qanat/Falaj Irrigation in the *Longue Durée* of Arid Zone Occupation in the Ancient Near East."

New archaeological evidence from southeastern Arabia refutes the dominant narrative that ties qanat/falaj technology to imperial and state power in the ancient Near East. Our research indicates that the initial use of this technology finds its raison d'être in those societies that lived in the arid, desert conditions that prevailed on the so-called margins of the Near East. It is here that people had lived for thousands of years developing knowledge and technology that permitted them to thrive where rainfall was minimal and no rivers flowed. The qanat/falaj system is perhaps the most compelling evidence of their adaptability and innovation when faced with the challenges that this environment presented.

5B. Materiality of Communication I

CHAIRS: Emily Cole (Institute for the Study of the Ancient World, NYU) and Alice Mandell (University of Wisconsin-Madison), Presiding

Jacob Lauinger (Johns Hopkins University), "The Look and Shape of Things: Extralinguistic Features of the Statue of Idrimi Inscription as Metadiscursive Phenomena"

The Statue of Idrimi inscription has been dated to the both the beginning and the end of the Late Bronze Age as well as to points in between. The lack of scholarly consensus derives, in part, from the statue's troubled archaeological context and from the inscription itself, which purports to offer a relatively straightforward historical narrative but may in fact be a pseudo-autobiographical literary construct. In this paper, I shift focus away from find spot and content and instead onto some extralinguistic features of the inscription. I argue that these features—the material into which the inscription is carved, the visual arrangement of words on the statue, and the paleography of the individual cuneiform signs—are metadiscursive phenomena that shape the communicative function of the inscription. Better comprehending the inscription's communicative function, in turn, allows us to better reconstruct the statue's historical context.

Rita Lucarelli (University of California, Berkeley), "Ancient Egyptian Magical Spells in 3D and the Materiality of the Book of the Dead"

The textual corpus of the ancient Egyptian Book of the Dead is mainly known for its attestation on papyrus, while the textual variants copied on coffins are generally left unpublished or even unnoticed. However, it is on tridimensional objects such as coffins that one can get a better understanding about the way magical texts are mapped and disposed outside and inside the coffin according to their main protective function of the body, how they interact with the accompanying illustrations, and how they are strictly correlated to the "architecture" of the coffin itself. In this paper a few 3D models of coffins decorated with Book of the Dead texts will be presented, which are kept in the Phoebe A. Hearst Museum of Anthropology. They will be taken as case studies in order to discuss the materiality of the Book of the Dead.

Jody Washburn (Walla Walla University), "The Family Tomb as an Inscribed Artifact: A Material and Spatial Analysis of the Beit Lei Inscriptions"

Studies of Hebrew epigraphic material often privilege either textual analysis (palaeography and content) or contextual analysis (setting and related material culture remains). The complex nature of the Beit Lei corpus—curses and petitions, images, private, incised in stone, set in a hewn family burial chamber, lack of identifying epitaphs—requires a more holistic approach. Materiality studies call for an integration of questions regarding content, setting, relationship, and production. This leads to a more nuanced analysis than has been offered in previous treatments of the inscriptions. Considering the cave as an inscribed artifact with different phases of production and use opens the possibility of multiple subgroups of inscriptions as well as multiple original purposes for the space and inscriptions. Careful analysis of stroke order, where it is visible, reveals phases of inscribing and brings up questions regarding the relationship between the inscriptions as well as the relationship between the inscriptions and the space. Noting the specific setting of each inscription within the tomb antechamber reveals their concentration around chamber entrances. These examples illustrate the types of questions that come up when applying a materiality approach to the Beit Lei corpus. The combination of familiar formulae and drawings in a space that would have carried connotations of family identity and continuity reveals the innovative nature of the inscriptions—either as early predecessors to the burial inscriptions common in later periods, or as special harnessing of the powers associated with writing and tomb space in a time of community crisis.

Catherine Bonesho (University of Wisconsin-Madison), "Aesthetics of Empire: The Importance of Presentation in Palmyrene and Latin Bilingual Inscriptions"

Scholars have assumed that many Palmyrene Aramaic–Latin bilingual inscriptions consist of unrelated "biversions" rather than translations because of discrepancies between both (a) the content of

the texts and (b) the respective formulae employed by each text (e.g., Latin *dis manibus* vs. Palmyrene *ḥbl*). However, bilingual inscriptions found throughout the Roman Empire consistently demonstrate their adherence to the conventions of inscriptional genres and material presentation. Material presentation of a bilingual inscription indicates which text was intended to be visually primary, that is, which is meant to be seen most prominently. Multiple features constitute the material presentation, including the relative positioning of the texts, the presence or absence of a frame around the texts, and the overall quality of the script. While visual primacy is not necessarily indicative of a text's conceptual priority, when compounded with other features, it can illuminate the texts' relationship to one another. Using *Palmyrene Aramaic Texts* (*PAT*) 248 and 250 and incorporating a visual analysis of the inscriptions, in addition to a close analysis of the texts, one finds that the Latin and Palmyrene Aramaic texts are related to one another, with each Latin text serving as the source text for its Palmyrene counterpart. Moreover, in the case of *PAT* 248, an analysis of the material presentation can assist in the reading of the text: the presentation illuminates the relationship between the Latin and Palmyrene texts and offers new evidence for understanding the Aramaic.

Elizabeth Wueste (University of California, Berkeley), "Managing Multiple Conversations: The Multileveled Communication of Late Antique Honorific Monuments and Epigraphy"

The barriers to understanding the epigraphy of late antique honorific monuments are high. One must be able to parse the epigraphic abbreviations, recognize the hierarchy of offices, and understand the bureaucratic processes involved in granting the monument. The messages are further obscured as the bases themselves are often reused monuments or funerary stelae, and would have stood several bases deep, topped by similarly reused sculpted bodies and newly carved portrait heads. Who could possibly have been the intended audience of such visually complicated and coded honors? To declare that the epigraphy was intended to communicate honors that only other public magistrates and local elite could appreciate is to dismiss the considerable effort and expense that went into the erection of the monument as a whole. Only when the epigraphy is reinserted into its original context of base, body, and head does it become apparent that late antique honorific monuments were communicating prestige, power, and imperial proximity to several demographics simultaneously. While the inscribed base might have only been fully valued by the honorand's peers, the classically sculpted body would speak to a wider cultured audience, and the contemporary portrait head would be recognizable to the local public with whom the honorand interacted. The written, visual, and cultural communicative ability of the monument is stifled when the epigraphy is studied in isolation. Only the full original display context of the honorific monument is able to reveal the varied conversations it was simultaneously engaged in at multiple levels of late antique society.

5C. Archaeology of Israel: The 2011–2016 Excavations at Huqoq

CHAIR: Jodi Magness (University of North Carolina at Chapel Hill), Presiding

Matthew Grey (Brigham Young University), Jodi Magness (University of North Carolina at Chapel Hill), Shua Kisilevitz (Israel Antiquities Authority) and Dennis Mizzi (University of Malta), "The 2015–2016 Seasons of Excavations at Huqoq"

Since 2011, Jodi Magness of the University of North Carolina at Chapel Hill has directed excavations in the ancient village of Huqoq in eastern Lower Galilee, assisted by Shua Kisilevitz of the Israel Antiquities Authority. The excavations have brought to light parts of the Jewish village of the fifth–sixth centuries and the Ottoman period Muslim village of Yakuk. In this paper, we report on the results of the 2015–2016 excavation seasons, which focused on a monumental, Late Roman (fifth century) synagogue paved with extraordinary mosaics. The mosaics include the first depiction of a non-biblical story, and the first scene from daily life ever discovered decorating an ancient synagogue. The synagogue was expanded and reused as a public building in the Middle Ages (12th–13th centuries), when the stylobates and pedestals were lifted a half a meter, and the aisles were paved with mosaics. Column drums from the synagogue that were used in the medieval building to support the lifted stylobates still preserve their original painted decoration. This paper provides an overview of these recent discoveries, which shed new light on Galilean Jews and Judaism against the background of the rise and spread of Christianity.

Martin Wells (Austin College), "The Architecture of the Huqoq Synagogue"

In 2011, the Huqoq Excavation Project began work near a surface cluster of architectural fragments that suggested the presence of a monumental structure close by. Excavation in that area over the next five seasons revealed the entire east wall, and parts of the south and north walls of a large synagogue building dating to the fifth century. The plan of the building uncovered to date indicates that it was rectangular, with the short walls on the north and south sides. The inside of the east wall still preserves white plaster. A pi-shaped stylobate carried pedestals with columns decorated with painted vegetal designs, creating aisles on the east, north, and west sides. The plan, together with in situ architectural fragments, those scattered on the surface (including a lost fragment reportedly decorated with a menorah), and spolia in the modern village houses of Yakuk are typical of Galilean type synagogues.

Even more interesting is the reuse and expansion of the synagogue architecture in the 12th–13th centuries for another monumental public building, the identification of which remains unclear. The builders reused much of the synagogue, for example, cutting new doorways through the original east wall and making benches out of ashlar blocks. They also reused the entire stylobate, including the column bases, raising it to the level of the new floor and supporting it with architectural fragments. This paper will examine the architecture of the Late Roman synagogue and its transformation into this enigmatic medieval structure.

Karen Britt (Western Carolina University) and Ra'anan Boustan (University of California, Los Angeles), "Recent Mosaic Discoveries from the Huqoq Synagogue: Local and Regional Perspectives"

Since 2011, the Huqoq Excavation Project has been bringing to light a monumental, Late Roman (fifth century) synagogue paved with stunning mosaics. In fact, mosaics have been found every season since 2012 in all areas excavated inside the synagogue. As in previous seasons, the subject matter of the most recently uncovered mosaics departs in significant ways from the common repertoire of images found in other synagogues in Galilee. After providing an overview of the mosaics discovered in 2015–2016, we offer preliminary observations concerning their relationship to the mosaics uncovered in previous seasons, as well as to comparable material from the surrounding region. The distinctive character of the Huqoq mosaics challenges conventional scholarly assumptions concerning the relative uniformity and limited range of imagery used in synagogue mosaics. The Huqoq mosaics also call into question the extent to which overarching programmatic principles guided the production of synagogue mosaics or shaped the viewing experience of synagogue-goers. On the contrary, especially when considered in their immediate local context, the Huqoq finds demonstrate just how flexible synagogue mosaics were as a resource for communal self-fashioning.

Ra'anan Boustan (University of California, Los Angeles) and Karen Britt (Western Carolina University), "The 'Elephant Panel' from the Huqoq Synagogue: Historical Memory in a Late Antique Jewish Community"

The 2013–2015 excavations in the Late Roman (fifth century) synagogue at Huqoq revealed a mosaic depicting a subject that is unparalleled in ancient synagogue art. The mosaic panel displays an enigmatic narrative over three registers of unequal size. Although there are no inscriptions identifying the episodes represented, the presence of battle elephants and period-specific dress sets the Huqoq mosaic apart in the corpus of ancient synagogue art. In all other known synagogues, the subject matter depicted in narrative scenes derives from the Hebrew Bible. In this paper, we present what we believe are the likeliest interpretations of the events portrayed in this mosaic. The iconography and composition of the mosaic, when set alongside Jewish and non-Jewish textual traditions suggest that it portrays an historical event, either real or invented, from the late Classical or Hellenistic periods. The memorialization of a nonbiblical event in a synagogue challenges conventional scholarly assumptions concerning the historical consciousness of Jews in late antique Galilee. We suggest that Jewish knowledge of and interest in the past were not governed solely by the reiteration of biblical narrative in liturgy, homily, and art, but also incorporated historical events and figures from the relatively recent past.

Daniel Schindler (University of North Carolina at Chapel Hill), "The Late Roman and Byzantine Pottery from Huqoq"

This paper focuses on the Late Roman and Byzantine (ca. 300–700 C.E.) pottery from the site of Horvat Huqoq, in particular, the finds recovered from area 2000 (the ancient village), excavated for four seasons (2011–2014). The ceramic data is placed within the context of Late Roman and Byzantine Galilee and the wider eastern provincial/Mediterranean market. The paper concludes by discussing the role the site of Huqoq has played in the creation of a typology and chronology of common (local) Galilean pottery and the preliminary results of that endeavor.

Carolyn Swan (University College London, Qatar), "The Glass from Huqoq"

The glass finds from six seasons of excavation at the site of Huqoq (2011–2016) offer good insight into the presence and use of glass objects during the Late Roman and Early Byzantine periods in the Galilee region of Israel. Glass artifacts were recovered from village contexts as well as from the area of the monumental synagogue. Inhabitants of the village used glass primarily for domestic dining and toiletry purposes, and vessel forms and styles reflect repertoires and tastes characteristic for this region and era. There is also some glass evidence supporting the impression that Huqoq was a prosperous village, with rare examples of figural facet-cut luxury glass. Glass fragments from the synagogue contexts are of particular interest, and will be compared with recent examinations of glass finds associated with contemporary churches and synagogues in the region.

5D. Archaeology and Biblical Studies I

CHAIR: Jonathan Rosenbaum (Gratz College), Presiding

Wolfgang Zwickel (Johannes Gutenberg-University of Mainz), "The Land of Geshur in the Light of Settlement History"

The history of Geshur has been heavily debated in recent years (Arav, Pakkala, Na'aman), based mainly on biblical and extrabiblical texts. No consensus has been reached. However, in the last 30 years, several surveys and excavations have explored the area. In addition, the settlement history from the Middle Bronze Age to the Persian Period in the Golan territory can elucidate the historical situation.

This paper will combine survey and excavation results with texts in order to understand more fully historical developments. While the area was nearly unsettled in the Late Bronze Age, numerous sites had been founded in the Iron Age I period. Many of those sites had been previously settled in the MBA II period. Many Iron Age I sites were abandoned at the end of that period. At the transition from Iron Age I to Iron Age II, likely to be dated around 950 B.C.E., Bethsaida/et-Tell and En Gev were developed as fortresses that guarded the roads up to the Golan area. The kingdom of Geshur was then included in the territory of Aram-Damascus. There seems to have been a floruit of settlement activities in the ninth century B.C.E., which came to an end in the eighth century, either due to an earthquake (ca. 760 B.C.E., cf. Amos 1:1) or to the Assyrians (733/732 B.C.E.).

Peter Feinman (Institute of History, Archaeology, and Education), "Canaanite Myth in the Hebrew Epic: The Elyon Case Study"

The discovery of the Ugaritic texts changed biblical scholarship. Now it was possible to hear the stories of Baal, Asherah, Anat, and even El from the Canaanite perspective. Biblical scholars quickly identified vocabulary, motifs, and stories that seem to have been derived from Canaanite source material. This study will address one specific example of an apparently non-Israelite deity in the Hebrew Bible, the god Elyon. In the narrative tradition, Elyon appears most prominently in Gen. 14 and in the poetry of Deut. 32. He appears scattered among the psalms with Ps. 82 garnering the most attention. This analysis

seeks to determine the historical process by which this non-Israelite deity entered the Israelite tradition. In particular the emphasis will be on the political context through which this deity assumed a position of prominence in a tradition of Yahweh and Israel. It will seek to identify both the champions of this deity and those who resented both Elyon and his champions. On the basis of this effort, suggestions will be made for what this means for understanding Israelite history and the composition of the Hebrew Bible.

Chris McKinny, (Bar-Ilan University), "Struck Down for Error: A Discussion of Two Early Iron Age Israelite Temples and Their Possible Connection to the Movements of the Ark of Covenant in Samuel"

In 2012, two early Iron Age temples in the region of Judah were discovered. The first of these temples was uncovered at Tel Beth Shemesh in the Judean Shephelah near the border between the Israelites and the Philistines. The second temple is from Tel Moza in the Judean Hill Country near one of the main routes between Jerusalem and the Shephelah/Coastal Plain. According to the excavators, the Tel Beth Shemesh temple dates to the 11th century B.C.E., and the Tel Moza temple was active from ca. 10th–9th centuries B.C.E. In this paper, I will argue that the presence of these temples should be connected with the traditions of the movements of the Ark of the Covenant detailed in the book of Samuel. I will argue that the Beth Shemesh temple may be associated with the return of the Ark of the Covenant to Israel and the subsequent divine execution of some of the city's inhabitants (1 Sam 6:11–7:1). Subsequently, I will offer the possibility that the temple from Moza should be linked to the journey of the Ark of the Covenant to Jerusalem in 2 Sam 6:5–11 and, specifically, the "house of Obed-edom the Gittite." The paper will conclude with a brief discussion of the role of Israelite cult sites in the formation and preservation of their national cultural memory.

Zachary Thomas (Macquarie University), "The Archaeology of the United Monarchy: Reconsidering Interpretive Frameworks"

The archaeological and historical debate concerning the period of David and Solomon in ancient Israel has now been ongoing for over two decades, and caused scholars to seriously reconsider the historicity of the biblical text and its relationship to its archaeological correlates. However, the major practitioners in this debate have never really reflected upon or justified their shared underlying interpretative framework, in particular their methodological assumptions about how to interpret the material evidence for the early Iron Age in Israel.

This paper will argue that upon closer examination, this shared interpretative framework is found to be functionalist in nature, in that it is preoccupied with material factors and the assumed functional role of material remains in the social and administrative system of an ancient kingdom, not to mention their ability to indicate that kingdom's degree of "development" in a distinctly evolutionist sense.

Using the work of David Schloen, this paper will then discuss how this functionalist approach is both anachronistic for the ancient Near East and inapplicable to Israel's native social context. Rather, Schloen's model of household patrimonialism and its incorporation of the symbolic and practical ordering of society in the idea of the "house of the father" will be described as the appropriate framework. This paper will then discuss the primary ways in which taking Schloen's approach differs methodologically from the functionalist approach in interpreting the United Monarchy's archaeological correlates, with particular attention to the relevance of material factors of the archaeological record and their relationship to state formation.

David Clint Burnett (Boston College), "When the Twain Do Not Meet: Material Culture and Paul's Letters"

Imperial cults pose two problems for historians of early Christianity. First, the majority of data related to emperor worship is found in material culture, not literary sources. The interpretation of these materials is difficult and evidence must be set into its archaeological context and interpreted in its own right before any extrapolations about its connections with early Christianity can be made. Second, imperial veneration was such a diverse phenomenon, operating at four different levels in the Roman world, that one cannot assume it was monolithic. Consequently, determining the type of imperial cult to which a piece of evidence belongs is necessary for its proper interpretation. This paper highlights these two problems by examining a particular Pauline text, 1 Cor 8:5, and comparing it with evidence for emperor worship in a particular place, Corinth. In the process, this paper asks: Were the Julio-Claudian emperors gods in the Corinth of Paul's day? The thesis of this presentation is twofold: (1) Most of Paul's converts would not have considered the Julio-Claudians gods. (2) Paul does not attempt to relate accurately the pagan cults of Roman Corinth in 1 Cor 8:5. Rather, his purpose is to explicate Christian monotheism in 1 Cor 8:6 and its consequences for the Corinthians. First Cor 8:5, therefore, is one case in which a Pauline text and material culture are not in conversation with each other.

Yinon Shivtiel (Zefat Academic College and C.R.C. – the Cave Research Center), "Hiding Complexes and Cliff Shelters: Refuge Caves in the Galilee during the Early Roman Period"

Two phenomena in the Galilee shed light on the history of Jewish defense methods during the Early Roman period. The first is the 'hiding complex'. The plans of 70 underground chambers are compared to those of hiding complexes discovered in Judea. The unique typology of the Galilee underground chambers suggests that not all Judean hiding complex criteria can be applied to the Galilee complexes. Hence, a broader definition of hiding complexes is needed. The second phenomenon is natural caves modified for human habitation found at the tops of steep cliffs near Jewish settlements extant in the Second Temple period, possibly associated with the Jewish population that participated in the First Revolt. I term this type of chamber a 'cliff shelter.' In two of his books Josephus describes his activity in the Galilee, where he was sent to make preparations for the Great Revolt including fortifying and defending settlements. Five such settlements were next to steep cliffs containing karstic caves inaccessible except through rope descent. The wall plastering together with numerous finds helps date the cave modification to the Hellenistic and Early Roman periods and possibly prior to the First Revolt. My research suggests that the Galilean Jews used underground or elevated complexes as places of refuge or hiding when they felt a palpable threat to their lives from the Roman authorities.

5E. Archaeologists Engaging Global Challenges

CHAIRS: Catherine P. Foster (Ancient Middle East Education and Research Institute) and Erin D. Darby (University of Tennessee), Presiding

Howard Cyr (University of Tennessee), "Methods for Examining Social-Environmental Interaction within the Archaeological Record; An Example from ʻAyn Gharandal, a Late Roman Fort in Southern Jordan"

The burgeoning stresses placed on society by climate change have increased the need for a better-informed body politic. Historical and archaeological sciences and their emphasis on the *longue durée* provide invaluable data and unique perspectives concerning human-environmental relationships through time at local, regional, and global levels. The inclusion of theoretical frameworks such as Resilience theory and Panarchy have strengthened informative, interpretive, and predictive narratives by providing agent-based, environmentally contextualized explanations of social-ecological resilience, innovation, and transformation. In recent decades, multidisciplinary research programs such as geoarchaeology, environmental archaeology, and historical and political ecology have not only accentuated the interconnectedness of ecological and social systems, but have also provided methodological and theoretical frameworks to study complex human-environmental interaction within the archaeological record. Oftentimes, however, the acquisition of environmentally sensitive data is not routinely incorporated into Near Eastern archaeological research designs. Using recent geoarchaeological and paleoenvironmental investigations of the Roman military site of ʻAyn Gharandal, located along the eastern margin of the Wadi Arabah desert in southern Jordan, this paper presents efficient and affordable methods to collect and analyze data necessary for site-level environmental reconstructions. Ecological data are often absent from historical narratives, leaving researchers to speculate not only on the significance of changing human-environmental relationships but also on those specific environmental conditions upon which they are based. A better understanding of past environments increases our understanding of historic adaptive responses within social-ecological systems and, in doing so, greatly increases archaeology's relevancy in addressing global challenges facing humanity in the 21st century.

Paul Christians (Stanford University), "Restoring Ancient Umm el-Jimal's Reservoir System: Archaeology, Water, Resilience, and Community Building in Northern Jordan"

Water is the second of the UN Millennium Project's global challenges for a sustainable future. Yet water resources have been a central concern for life in the arid southern Hauran *badiya*—as in many parts of the Middle East—for millennia. The modern community and ancient site of Umm el-Jimal is no exception. One of its major features is an extensive system of more than 40 reservoirs and channels that trapped and stored enough run-off water to sustain the ancient town's citizens year-round. However, with the advent of deep drilling technology in the latter half of the twentieth century, modern Umm el-Jimal's community and hinterlands increasingly rely on regional aquifers being drained at several times their replenishment rate. This crisis has been exacerbated by the influx of tens of thousands of Syrian refugees into northern Jordan, with Za'atari camp located less than 5 km away. Given this complex context, a salient question for an engaged archaeology becomes how historical understanding might inform sustainable policy solutions for communities like Umm el-Jimal. As such, restoring the ancient water system for use by local residents is a key goal of the Umm el-Jimal Project and its local partners. This paper will develop an appropriate theoretical framework, report on the project's planning and recent fieldwork, and explore the challenges and potential for this project's long-term outcome as a social good. It thereby aims to contribute to the growing dialogue of archaeologists with living communities and the global challenges we all face.

Katie Paul (Antiquities Coalition), "New Methodologies in Visualizing Data: Identifying Patterns and Solutions for Culture Under Threat"

Economic and socio-political destabilization sine the Arab Spring has launched an unprecedented acceleration of antiquities looting and destruction across the Middle East and North Africa (MENA). Using new technologies and methodologies to visualize data has provided unique insights into patterns that can inform policy solutions in combatting destruction of cultural sites and the looting and trafficking of antiquities to fund that continued destruction. The development of an interactive MENA-wide mapping of not only heritage, but also terror-controlled regions, primary and secondary sources of terror funding, and tactics of destruction has provided a new look at patterns.

The Culture Under Threat Map was a two-year long project developed to illustrate a regional-scale perspective of heritage losses to date and threatened areas that remain at risk. This mapping has allowed us to discern crimes against heritage and reveals that not only Daesh, but a slew of extremist groups increasingly using heritage destruction as a tactic of terrorism.

The Millennium Project emphasizes long-term solutions; these solutions cannot be understood without broad-reaching examination of heritage alongside the socio-political landscape of the region at large, including the security threats both within and outside of Iraq and Syria. Addressing heritage destruction must involve an understanding of threats to national and regional stability.

Mapping threats on a MENA-wide scale yields new means of visualizing the widespread destruction of heritage in relation to known hot spots of terror holdings, trafficking flows, and demographics of likely offenders, thus providing data toward actionable solutions in protecting culture under threat.

Øystein LaBianca (Andrews University), "Archaeology Engaging the Anthropocene"

The Anthropocene is the epoch in human history when the activities of humans begin to alter and eventually "overwhelm the great forces of nature." This paper will discuss ways that archaeologists may engage the current discourse about the historical antecedents of and a way forward for humanity in the Age of the Anthropocene. To this end, recent efforts to narrate the past of Tall Hisban from the perspective of global history will be drawn upon as an illustration. Global history is a new kind of history that seeks to crystallize a new narrative of humanity's past that focuses on the cumulative story of the impact of humans on the Earth's ecosystem. The anthropological work initiated by the Heshbon Expedition at Tall Hisban already during

the 1970s and 1980s anticipated the research agendas embodied by global history and the Anthropocene. In particular, the crystallization of the food systems approach led to pioneering work (for historical archaeology in Jordan and the southern Levant) in collection, analysis and interpretation of environmental, palaeobotanical, and zooarchaeological data. During the 1980s, research was expanded to include geographic information systems' supported investigation of cycles of environmental degeneration and regeneration of the local environment that pointed to a pattern of cumulative environmental degradation linked to long-term cycles of boom and bust in the local food system.

5F. Archaeology of Cyprus I

CHAIR: Nancy Serwint (Arizona State University), Presiding

Alan Simmons (University of Nevada, Las Vegas), "No Neolithic Is an Island: Cyprus's Role in the Neolithic Revolution"

The so-called "Neolithic Revolution" first occurred in the Near East around 10,000 years ago, transforming human society forever. For many years, the Mediterranean islands were often considered little more than footnotes to this event. Recent research, however, has demonstrated a Neolithic on Cyprus that is as early as on the mainland. Kritou Marroutou Ais Giorkis is one of these sites. Unlike most contemporary (ca. 7500–8000 cal. B.C.) settlements, it is located in the foothills of the Troodos Mountains in western Cyprus, whereas others are closer to the coast. These sites, generally referred as Cypro-PPNB, along with a handful of even older PPNA sites, are important, confirming a Cypriot Neolithic far earlier than what was previously documented. Several seasons of interdisciplinary investigations at Ais Giorkis have revealed a small community with an incredibly rich assemblage, including some of the largest faunal and chipped stone assemblages documented on the island. The fauna included limited amounts of cattle, an unusual occurrence since these animals had not previously been documented until the Bronze Age. Additionally, Ais Giorkis has unique architecture and some of the earliest directly dated domestic plants in the Near East and Anatolia. This paper summarizes our studies at the site, examining its role both in the colonization of the island and within a larger circum-Mediterranean context. I conclude with a brief discussion on the significance of the early Neolithic in Cyprus and its relationship with broader events that characterized the Neolithic Revolution.

Laura Swantek (Arizona State University), "The Emergence of Social Complexity on Cyprus during the Prehistoric Bronze Age: A Small-World Network Approach"

During the prehistoric Bronze Age on Cyprus, a 700-year period from 2400 to 1700 cal B.C.E., small village-level societies across the island exhibit the unique socio-economic characteristics associated with changes in social complexity, such as the amassing of wealth and power. This research examines how people form socio-economic relationships across space and time, and through these connections are able to exert control of labor, maintain long-distance trade contacts and differentially access material and ideological resources, and, as a result, become wealthy and powerful members of society, while others cannot. The social networks or the arrangements of people into complex social structures that these relationships form are organized and reorganized through time and manifest as changes in overall social complexity seen in the material remains uncovered through the archaeological investigation of settlements and cemeteries. Using small-world network analysis, a methodology derived from other sciences, and estimations of wealth through Gini coefficients, this research shows that social complexity varies regionally, increasing, decreasing, and cycling through time, contrary to the unilinear trajectory of increasing complexity often stressed in the literature.

Alexander Donald (La Trobe University), "Socio-Political Structure in Late Bronze Age Cyprus: The Evidence from Glyptic"

In the absence of a comprehensible written record from the island itself, the socio-political structure of Cyprus in the Late Bronze Age (1650–1100 B.C.E.) remains a subject of some debate. Foreign references to a "Great King of Alashiya" (thought to be the ancient name for Cyprus) have led some to identify the island as a single polity. However, the distribution of sites, the lack of a clear settlement hierarchy, and inconsistencies in the architectural features of major coastal centers challenge this notion of centralized rule. This paper reconsiders evidence for political relations on the island based upon analysis of over 250 provenanced cylinder seals from the period. Since cylinder seals were first appropriated from the Near East in the 17th century B.C.E., they are thought to have served a potent role in the signaling of social status and the articulation of a unifying ideology. The capacity of cylinder seals to shed some new light on the question of Late Cypriot social structure is discussed through close examination of glyptic style and deposition.

Caroline Sauvage (Loyola Marymount University), "The Textile Industry at Enkomi"

Textile craft was practiced at all levels of Late Bronze societies in Cyprus and was central to the Late Bronze age trade. Enkomi, throughout its British, Swedish, French, and Cypriot excavations yielded a substantial number of textile tools from funerary, domestic, and official contexts. Although these tools represent the perfect assemblage to study and contrast the different types of production taking place within one of the main trading centers on the island, they have been hardly published. This paper, therefore, proposes to compare the industries and their production throughout the city and in different contexts in order to gain a better understanding of the textile producers, places of production, and possible finished products.

Simon Jusseret (University of Texas at Austin), Joachim Bretschneider (Katholieke Universiteit Leuven), Jan Driessen (Université Catholique de Louvain), and Athanasia Kanta (Mediterranean Archaeological Society), "Renewed Excavations at Pyla-Kokkinokremos (Cyprus): First Results from the 2014–2016 Campaigns"

Located 10 km to the northeast of Larnaca, the Late Cypriot IIC–IIIA (ca. 1230–1180 B.C.) settlement of Pyla-Kokkinokremos represents a key site for the understanding of the end of the Bronze Age in the eastern Mediterranean region. Occupied only for a few decades coinciding with the Mediterranean's "crisis years," Kokkinokremos provides a unique opportunity to investigate the material, social, economic, and political contexts of a Late Bronze Age community before its final and, to date, unexplained abandonment. Following

earlier explorations by Dikaios (1952), Karageorghis and Demas (1981–1982), Karageorghis and Kanta (2010–2011) and Kanta (2012), a joint project of the universities of Louvain, Leuven, and the Mediterranean Archaeological Society resumed excavations at Kokkinokremos in the fall of 2014. Centered on the western, central/northern, and southern sectors of the plateau, these renewed investigations have shed new light on the settlement's spatial organization and material culture, demonstrating the existence of a continuous perimeter wall and the presence of constructions in all sectors of the plateau. Although evidence for metal-working and weaving activities in the northern sector of Kokkinokremos suggests a degree of functional specialization within the settlement, the widespread character of imported goods and locally made products highlights the integration of foreign elements into local traditions. The discovery of a number of rock-cut shafts of various shapes and sizes in all excavated areas indicates that these structures may have functioned as cisterns or storage facilities and poses, once again, the question of subsistence and landscape exploitation in this waterless citadel.

5G. Archaeology of Jordan I

CHAIR: Jesse C. Long Jr. (Lubbock Christian University), Presiding

Carroll Kobs (Trinity Southwest University), Gary Byers (Trinity Southwest University), and Steven Collins (Trinity Southwest University), "Early Bronze Age Domestic Structures in Field LA, Tall el-Hammam, Jordan"

This paper will address the EB III domestic structures and features in Area L, Field A (=Field LA; lower city) at Tall el-Hammam, Jordan. Excavation began in Field LA during season four (2009) and continued systematically thru the end of season ten (2015). Interpretation is based on the overall architectural layout of the houses in this sector of the tall, with evidence of phase separations, coordinated with associated ceramics. The presentation also includes the most recent architectural drawings and photographs exhibiting the continuity of wall placements and a "ring-road" carrying over into the Intermediate Bronze Age (EB IV). The configuration of this domestic area provides insights into Early Bronze Age settlement planning and its relationship to the subsequent Intermediate Bronze Age phase(s).

Gary Byers (Trinity Southwest University), Carroll Kobs (Trinity Southwest University), and Steven Collins (Trinity Southwest University), "Intermediate Bronze Age (EB IV) Domestic Structures in Field LA, Tall el-Hammam, Jordan"

This paper will address the Intermediate Bronze Age (EB IV) domestic structures and features in Area L, Field A (=Field LA; lower city) at Tall el-Hammam, Jordan. Excavation began in Field LA during season four (2009) and continued systematically thru the end of season ten (2015). Interpretation is based on the overall architectural layout of the houses in this sector of the tall, with evidence of phase separations, coordinated with associated ceramics. The presentation also includes the most recent architectural drawings and photographs exhibiting the continuity of wall placements and a "ring-road" carrying over from EB III. The configuration of this domestic area provides insights into Intermediate Bronze Age settlement planning and its relationship to the previous EB III phase(s).

Douglas R. Clark (La Sierra University) and Kent V. Bramlett (La Sierra University), "The 2016 Excavations at Tall al-'Umayri, Jordan"

The Madaba Plains Project-Tall al-'Umayri excavations entered their 18th season during the summer of 2016. An extremely well-preserved Bronze and Iron Age site, 'Umayri has produced important finds from the EB IB (dolmen containing 25–28 individuals), EB III–IV (large unfortified settlement), MB IIC (massive defense system), LB IIB (unique temple complex), Iron I (domestic neighborhood), Late Iron II (administrative center and domestic sectors), and Hellenistic (agricultural complex).

Given pressing ongoing issues surrounding private land ownership of the site, the project faces the possibility of complete closure to future research at this promising archaeological settlement. Thus, objectives for 2016 were urgent and several in number.

Chronologically organized, objectives include exploration of the area around the Early Bronze dolmen for evidence of additional burials. The Middle Bronze–Late Bronze transition demands further investigation in the area of the Late Bronze temple, as do stratigraphic connections among structures from across the Iron I period. So does the southern fortification system, which appears, at this stage, to mirror reasonably closely the already exposed western defenses. The Iron II period continues to pose several questions leading to (1) examining the stratigraphic relationship between structures along the southern escarpment and the southern perimeter wall; (2) completion of digital mapping of Late Iron II Site 84, an expansive agricultural complex to the south of the tell; and (3) further exploration of Iron II remains (defensive, domestic, public) for evidence of occupation under Ammonite control, as part of a larger funded collaborative project: On the Trail of Ancient Ammonites and Moabites.

(Rev.) Amanda Hopkins (Madaba Plains Project) and David Hopkins (Madaba Plains Project), "Viticulture on the Rocks: An Investigation of Wine Production and Distribution at Site 84"

Site 84 is a hinterland site fourteen kilometers south of Amman. In 1994, excavation began at Site 84 as part of the Madaba Plains Project's exploration of the rural zone surrounding Tall-al- 'Umayri.

The site's most prominent architecture consists of a 10 x 10 m rectilinear structure dating from the Late Iron II/Early Persian period (seventh–sixth century B.C.E.). The surviving foundation, constructed of megalithic boulders, sits atop a hill that slopes gently to the northeast. Surrounding this building are apparent food-production installations: cisterns, cup holes, basins, pressing surfaces, channels, and reservoirs. The excavation produced an abundant sample of "rural" material culture: seals, beads, grinding tools, whetstones, and reconstructable ceramics, notably large pithoi. Excavation and survey results offer parallel sets of data suggesting the function of Site 84 as an administrative center.

This paper investigates the interrelationship of the rectilinear building to the cluster of rock-cut features surrounding it. GIS mapping examines the positioning of these features and how they constitute a single entity used for wine production. The material cultural remains found within the rectilinear building, including several faience beads and three seals, suggest the social and political importance of both the rectilinear building and the overall farmstead.

The relationship between the rectilinear building and the rock-cut features raises questions about how the rural landscape was

peopled. This paper will attempt to answer these questions and further examine archaeology's ability to articulate both the environmental and nonenvironmental parameters of life.

Mark Green (Indiana State University) and Gerald Mattingly (Johnson University), "By the Sweat of Your Brow: Quarrying, Dressing, and Transporting Stone on Central Jordan's Karak Plateau"

Between 1995 and 2014, Karak Resources Project (KRP) completed seven seasons of multidisciplinary fieldwork in central Jordan. This research team collected data concerning the acquisition and use of natural resources by working on three fronts: (1) excavation at the Iron Age II fort of Khirbat al-Mudaybiʿ (KaM); (2) regional archaeological survey; and (3) regional scientific studies. The Karak Project's agenda includes the study of water resources, flora and fauna, soils, and surface geology. KRP is, in several ways, a continuation of the 1978–1983 Miller-Pinkerton Survey of the Karak Plateau. Together the two projects have documented 600 archaeological sites; the more recent project recorded most of its new sites in this territory's southeastern quadrant. KRP has excavated for six seasons at KaM, located ca. 21 km southeast of Karak. Because of its strategic location and architectural features, KaM (which measures 83.5 m N-S X 88.75 m E-W) has attracted the attention of many scholars who have traveled through this area. The purpose of this paper is to combine KRP's interests in (1) the plateau's diverse archaeological sites, especially KaM, and (2) the exploitation of natural resources. The Karak region contains many sources of basalt, limestone, and chert. We will present the direct evidence for tools and techniques used to quarry, dress, and transport building materials for the construction of Mudaybiʿ and neighboring sites. Textual and artistic sources from ancient Egypt and Mesopotamia provide additional insights into these labor-intensive activities.

Craig Tyson (D'Youville College), "Central Jordan in the Ninth–Eighth Centuries B.C.E.: Emerging Polities in Competition"

The Iron IIB (ca. ninth and eighth centuries B.C.E.) saw the emergence of tribally oriented polities in central Jordan in ways that are archaeologically and epigraphically visible. The small polities that emerged in this marginal space would eventually (perhaps inevitably) come into conflict with one another. Aspects of such conflicts can be seen in the Hebrew Bible and in the ninth century B.C.E. Mesha Inscription. A more recent addition to our knowledge of the eighth century B.C.E. comes from the remnants of a nonprovenanced octagonal basalt column with seven partial lines of text most likely from Moab. The item is on loan to the Israel Museum from what appears to be a private collection in New York (Aḥituv 2003: 9 n. 1; Accession number: 2002.92/1). What is left of the inscription mentions building projects completed using the labor of prisoners, including Ammonite prisoners. While the fragmentary nature of the text means that the history behind it cannot be reconstructed with confidence, the brief mention of Ammonite prisoners provides a glimpse into what must have been ongoing conflicts between the two fledgling polities. After a brief introduction to the text, this paper analyzes the sociopolitical and economic dynamics of the ninth and eighth centuries B.C.E. in central Jordan in order to understand clearly the reasons for the conflict between these small emerging polities just prior to Assyrian hegemony.

5H. Senses and Sensibility in the Near East I

CHAIR: Kiersten Neumann (Oriental Institute, University of Chicago), Presiding

Elke Friedrich (Hebrew University of Jerusalem), "A Semantic Examination of Akkadian Verbs of Perception"

Anyone dealing with the fields of senses and sensory perception from antiquity until modern times will immediately realize that a hierarchic ranking of senses appears to be the most convenient way to provide an overview of the psychology of perception. This paper constitutes a chapter of my Ph.D. thesis and seeks to study and to present the ancient Near Eastern hierarchy of senses or sensory order and the ranking of senses such as smell, sight, sound, taste, and touch based on the semantic examination of Akkadian verbs of sensual perception. The examined verbs, which date from 1900–1000 B.C.E., are mainly taken from epistolary texts, because the use of everyday language in communication only survived in this form to some noteworthy degree. However, in addition to the epistolary texts, other literary sources will be considered as well. My analysis first provides a definition of "verbs of perception" and consequently, sets forth to list the Akkadian verbs of single sense modalities. A comprehensive examination and initial semantic study of these verbs will follow, which will produce a division of those verbs according to their respective activity, experience, and copulative components. Then, I will scrutinize the semantic extensions in reference to other sense modalities, e.g., the case of the word šemû, which may extend its meaning to the sensory field of sight. I will also examine Akkadian adjectives that refer to any primary sensory experience. I will then conclude my findings by means of a generalization on semantic change in Akkadian synaesthetic adjectives.

Shiyanthi Thavapalan (Yale University), "Colorful Persuasion: Evoking Luxury in Ancient Mesopotamia"

Color was fascinating to the ancient Mesopotamians. They consciously procured polychrome gemstones, pigments, and dyes, often from distant lands and at great cost, in order to beautify themselves and enliven their surroundings. The sensory experience of color took on new dimensions in the late Bronze Age, as developments in certain technologies for color production facilitated the manufacture of inexpensive alternatives for traditional colorful materials. Near Eastern craftsmen learned how to emulate the visual qualities—glossiness, light-reflectivity, and hue—of rare minerals through glass, a substance that could be fabricated in large quantities using locally available products. At the same time, advances in glazing, painting, and dying allowed new types of colorful media to become more widely available. This explosion of color in the art, architecture, and fashion of the Bronze Age Near East is well documented in the archaeological record. My paper will argue that the written sources mirror this tendency to use color to evoke precious materials. In Akkadian, the language of color transforms the ordinary and the familiar into an experience of exotic luxury.

Allison Thomason (Southern Illinois University Edwardsville), "The Sensory Experience and Biopolitics of Royal Banquets in Assyria"

Recently, there has been a spate of research about feasting and banqueting in the ancient Near East. Often, these studies take the

approach of political economy, exploring the way that beverages, foods, and the utensils of commensal banquets take part in the negotiation of wealth and status. This topic, however, is "ripe" for an exploration of the sensory experiences of its participants. For the Neo-Assyrian culture, the abundant textual and pictorial information along with archaeological finds from elite spaces allows an in-depth analysis of how the elite sponsors of banquets attempted to affect the sensory experiences of the guests through manipulation of material goods of both a perishable and nonperishable nature. In this paper, I interrogate Yannis Hamilakis' concept of biopolitics and sensorial flow to explore how royally sponsored and provisioned banquets in the Neo-Assyrian period not only displayed status and wealth, but also played a role in the court's desire to control bodily experience and produce commensal memories for their banquet guests.

Anne-Caroline Rendu Loisel (University of Toulouse Jean Jaurès, University of Strasbourg), "Meeting the Divine in Rituals: Substances, Material, and Multisensory Experiences in Cuneiform Texts"

Theorized by Artistotle, the five-senses model of modern Western societies may not always be applicaple to other cultures, especially those of the ancient Near East. In human experience, senses usually merge and interact with each other. Inviting modern scholars to cast aside their own bearings regarding perception, a multisensory approach is fruitful and crucial for understanding the significance of cultural concepts related to the senses in a community, as the anthropologist Joël Candau (2011) has shown. In the cuneiform sources, the efficiency of the ritual procedure depends on the right manipulation of different objects. With the sensory phenomena they produce, a new atmosphere is created. The place is neither human, nor divine. It is a liminal space where two realms of different natures meet, communicate, and interact with each other. The ritual scene is then full of sensations: the sounds of musical instruments, the sweet-smelling fragrance of cedar doors at the entrance of the temple, the shiny colors of precious stones, the brightness of metal objects… The human and the divine bodies are fully solicited, acting on each other thanks to the sensory phenomena.

Focusing on ritual texts of the first millennium B.C.E., this paper will investigate the role played by substances and materials in various ritual procedures. Activating more than one single sense, the ritual objects and their sensory properties come together to contribute to a multisensory experience.

Rick Bonnie (University of Helsinki), "How Would Jews have Experienced the Early Synagogues?"

Over the last couple of decades, a little over a handful of synagogue buildings dating to the first century B.C.E. and C.E. have been exposed in the region of modern Israel (e.g.. Masada, Gamla, Magdala). Scholars focusing on early synagogue buildings have tended to view the material world as a coloring picture; archaeology is the picture, while textual traditions (e.g., Josephus, Philo, NT) provide the colors symbolizing the community's functioning. This metaphor suggests that people's lived practices and experiences are detached from the actual material world—something that somehow already existed in its absence. However, as argued from the recent "material-turn" within the social sciences, these building's particular layout, access routes, and decoration played an active role in shaping the senses, perceptions, and actions of a community. Building upon this line of argument, this paper aims to explore to what extent these early synagogue buildings' material dimension and related sensory aspects shaped the practices and experiences of ordinary Jews at street level. In order to achieve this aim, we will examine how these buildings were integrated within the larger settlement, how accessible they were from the outside, and how visible their interior would have been. In addition, to further assess the social integration and visual perception of these spaces, we will also seek to model daylight condition within these synagogues.

6A. Object Biography for Archaeologists III: A Multivocal Narrative (Workshop)

CHAIRS: Nancy Serwint (Arizona State University) and Rick Hauser (IIMAS - International Institute for Mesopotamian Area Studies; Visiting Research Fellow, Department of Asian Languages and Literatures, University of Minnesota), Presiding

Sarah Kielt Costello (University of Houston–Clear Lake), "Object Biography: Materiality"

Object: II. Specialty: Archaeology/Public Humanities.

As an archaeologist working in an art history program, I move among archaeological methodologies, anthropological theory, and an increasing emphasis on the "visuality" of ancient objects. I have added the specialty of "public humanities" to my identification here to acknowledge that I am increasingly concerned with the interface between our academic work and the public. The stories we tell about the objects we find are, in many instances, the only form of biography those objects have in our time. My object biography, therefore, while focused on the past life of the object, is aimed at interrogating the ways in which institutions mediate between modern audiences and ancient artifacts. I use traditional archaeological methodology along with an interpretive theoretical framework that focuses on the materiality of the object. Materiality gives an object agency, but it is also the quality of the object that persists across time, and therefore provides a point of connection to a modern audience.

Massimiliano Pinarello (University College London), "The Perpetual Platypus"

Object: IV. The methodology I propose relies on two notions: Umberto Eco's paradox of the platypus (1997) and Awam Amkpa's intuition about the state of perpetual becoming (2010). In the search for meaning of an archaeological object, we need to ask how we categorize objects through engaging our modern social reality in place of that which pertained in the ancient world. In the process of categorization, we can adopt the paradox of the platypus: we may see it as made of other animal parts, or other animals made of platypus parts. My recent work on the implements of writing practice in ancient Egypt questions the reliability of our perception of past identity and how that was defined by its original actors. Literacy in itself is not a consistent identity marker. Also, we need to consider another property of the archaeological object: its innate ability to be repurposed, hence its constant regenerative life, its perpetual becoming. Unidirectional object-biography gains only one of many sides of the object's life. In discussing Object IV, I propose to suspend a direct association of it with a confined material culture in order to return instead to the object's cultural materiality. The identification of the object with a

specific "type/class," i.e. a structure, risks eclipsing multiple sides of the historical narrative attached to the object and only imperfectly determined by its observers. Analysis of visible manufacturing marks combined with semantic examination will offer a perspective different from a traditional approach.

Emily Miller Bonney (California State University-Fullerton), "Hiding Small Animals from View"

Objects II and III demonstrate how cultures create energetic renderings of animals for deposition and not display. Object III depicts the fore part of a small bronze lion, posed as though reading a newspaper, with a tapered base suggesting he was a foundation peg. Momentarily distracted he looks up from his reading, head turned and mouth open but paws still planted on the document with its upturned corner. Is he reading something related to the building under which he came to rest? How much of the inscription is still intact, and what does it say? Was he deposited because they couldn't find a real lion to subdue with their construction? He evokes the wild beasts of the Late Bronze and Early Iron Age Near East and perhaps his ferocity served as a proxy for the real thing. Object II, the other quadruped (?) mystifies. The ear (?) behind the enormous eye suggests a dog as does the proportion of the girth of the body to the forelegs. But why such a tiny canine (or any other animal) in what appears to be marble? Where was it found and what company was it keeping? Surely there were other objects but what? Like the clay animals from Bronze Age Crete the style tells us little of time or place. Yet someone was moved to work a hard stone to create this little critter and produced an image of alert vitality - mouth open slightly and in a seemingly erect posture. Naturalism mattered.

Brent Davis (University of Melbourne), "A Temple Foundation Peg"

In this short workshop presentation, I will discuss Object III, a bronze foundation peg for a Hurrian temple. My area of specialty is the archaeology of ritual. My approach to the biography of this object will be based on its archaeological context, though that context is imperfectly known. The presentation will end with a discussion of the additional contextual information that would be necessary for creating a more secure biography of this object.

Annelies Van de Ven (University of Melbourne), "The Role of Object Biographies in Museology"

The biographies of objects are essential to constructing narratives in museums. They determine the parameters of possible display strategies, and contribute to the structure and content of interactions between the viewer and the exhibition. However, museums also contribute to writing object biographies themselves. The process of museological interpretation—the categorization, conservation and curation of the object within a collection—can add to or alter what is known about the object's life story. The statue I have chosen (Object IV) is interesting because it was discovered in its secondary use in a paved floor. For a museum professional this provides a challenge. Besides choosing what physical characteristics of the object to communicate and in what form (labels, catalogues, digital media), you now also have two archaeological contexts to consider, the unknown primary context that must be deduced from physical features and comparison, as well as the secondary known and recorded context. In this workshop I will simulate a museological interpretation of Object IV, considering the implications that its physical and contextual attributes may have on display and publication strategies. My aim is to demonstrate the importance of the object biography as a technique of analysis when constructing and evaluating museum narratives.

Erin Averett (Creighton University), "The 'Authentic' and the Digital: 3D Imaging Technologies and Object Biography"

This paper will explore a ceramic anthropomorphic vessel in the form of a nude female figure (ca. 12th–11th century B.C.E.) allegedly from the site of Marlik, currently housed in the Cleveland Museum of Art, through the lens of object biography. Given the lack of contextual information, a traditional object biography exploring the ancient uses of this object is not possible. Instead, this paper will focus on how new technologies can provide dynamic ways of looking at the afterlives of artifacts. While scientific technologies for such an object might focus on establishing authenticity given the prevalence of modern forgeries imitating terracotta sculpture from this region, recent applications of 3D scanning and printing offer new ways of interacting with antiquities. 3D imaging has shifted the conversation from such traditional concerns to issues of authenticity in the digital realm. For example, a portable 3D image of a Marlik terracotta is manifestly fake when compared to the real object, but at the same time potentially more useful and productive for scholarly inquiry and dissemination. Such technologies create new value for the inauthentic and portable, and thus extend the life histories of the "original" artifacts, bringing them digitally and tangibly into the 21st century.

William Caraher (University of North Dakota), "Excavating in the 21st Century: A Fictional Biography Mediated by Technology"

The object under consideration for this workshop is of less inherent interest to me than the technological processes necessary for it to enter the archaeological context; as a result, I will focus on the dense network relationships that led to this object's *inventio*. Because of the remote, unstable, and still confidential location of the object's penultimate deposition, it was uncovered using remote, automated excavation equipment. The primary tool was the Mini-Rathje Remote Excavator™ running a prototype of Binford™ 2.0 software. This device provides continuous, near-nanostratigraphic, excavation and on-site, real-time, multispectral and XRF recording of both natural clast and cultural artifacts as well as conventional high-resolution photography and submicrometer 3D laser scanning. Data from the excavator was uploaded to a private, geostationary satellite positioned both to ensure continuous communication with the remote excavator and to provide subnanometer geospatial accuracy. When sensitive contexts were encountered, we cooperated with the USAF 183rd Archaeological Drone Wing from Grand Forks Air Force Base. Pilots stationed in secure locations around the world deployed Global Tourist Class drones which enabled us to collect real-time aerial photographs and LiDAR imaging. A proprietary suite of software on our CenterTel PowerScreen II™ tablets allowed our data collectors to communicate in real time with our remote base on a repurposed Russian Ekranoplan. Most of the technologies deployed during the excavation remains proprietary, but we feel that our project offers a model of remote, digital analytic excavation for the 21st century.

Morag Kersel (DePaul University) "Context Matters: Objects, Materiality, and Law"

As an anthropological archaeologist and someone who thinks about materiality and law, I will focus my contribution to the Object Biography Workshop III on what we know and what we don't know when all we have is the object or a picture of the object. I will demonstrate that context matters in creating object biographies.

6B. The Archaeology of Feasting and Foodways

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

Tate Paulette (Brown University) and Michael Fisher (University of Chicago), "Where the Beer Flowed Like Wine: Brewing and Intoxication in Bronze Age Mesopotamia"

In Bronze Age Mesopotamia, beer was produced on a massive scale and was consumed on a daily basis by people across the socio-economic spectrum. Cuneiform documents provide ample testimony to its political, economic, and cultural importance. Beer was a gift from the gods, a marker of civilization, a dietary staple, a social lubricant, a ritual necessity, and a reason for celebration. Why, then, has beer left such faint traces in the archaeological record? And how does this absence skew our understanding of the urban experience and the textures of daily life in ancient Mesopotamia?

In this paper, we attack this problem of archaeological invisibility from two angles. First, we discuss the difficulty of identifying archaeological evidence for the production and consumption of beer, and we describe some of our own efforts to make progress in this direction. Second, we draw attention to a more challenging issue: the archaeological invisibility of intoxication; that is, the invisibility of alcohol and its effects. For the Mesopotamians, as much as for us, what gave beer its distinctive power and appeal was its psychoactive nature. If we ignore or downplay the intoxicated atmosphere that must have pervaded many parts of the urban landscape—that is, if we remove the alcohol from Mesopotamian beer—we are perpetuating a censored, sanitized version of the past and failing to adequately appreciate a key cultural touchstone.

Jennie Ebeling (University of Evansville), "Wine, Beer, and the Daily Grind at Jezreel"

In 2013, a large and well-preserved example of Frankel's rock-cut simple treading installation featuring a square treading floor connected to a square vat was excavated by the Jezreel Expedition team next to the agricultural fields northeast of Tel Jezreel in Israel's Jezreel Valley. Among other features associated with this winery complex are some two-dozen bedrock mortars, cupmarks and other use surfaces on the adjacent limestone outcrop. A review of similar winery installations in the southern Levant dating from the Chalcolithic through the Byzantine period reveals that most have associated bedrock mortars and cupmarks, yet archaeologists have done little more than speculate about their functions in relation to viniculture or other food and drink production technologies. In this paper, I argue that these features were used to process a variety of agricultural products—including cereals, olives and grapes—from as early as the Natufian period through the first millennium C.E. and should be considered part of the uniquely large, predominately basalt, ground stone artifact assemblage excavated at Jezreel to date. The longevity of the use of this space as an agricultural processing area, along with the size and diversity of the Jezreel ground stone assemblage, illustrates the association of Jezreel and the valley named after it with agricultural plenty from antiquity to the present day.

Elizabeth Arnold (Grand Valley State University), "Animal Production Over-Consumption? How Stable Isotopes of Animal Remains can Address These Questions"

Stable isotope analyses are well established as a means to determine the diet of animals, reconstruct environments, and examine the herd management strategies for domestic animals, as well as the mobility, trade, and exchange of animals both within a local economic system and regionally. In this paper, consideration is given to the question of how these techniques can be utilized to identify animal production strategies that may indicate specialized conditions of husbandry and/or care for animals destined from birth for special consumption in feasts or sacrifices. Feasting is often identified through unique contexts of consumption and/or distinctive pottery and disposal of remains. Can animals raised specifically for feasting consumption be identified through stable isotope analysis? Data from the archaeological site of Tel Dan, Israel suggests this is possible, as previous isotopic analyses (Arnold et al. 2015) highlight that while all sheep and goat were raised locally, individuals from the temple/cultic area were raised in the immediate area alone. This may suggest that those sold for sacrifice were only permitted to be raised in a designated area close to the temple itself. This question will be further explored with data from other urban contexts in the Levant.

Tina Greenfield (University of Manitoba) and Chris McKinny (University of Manitoba), "Late Bronze Age Feasting in Canaan: A View from Tel Burna"

A 13th century public building has been exposed at Tel Burna, Israel. Although the architectural remains were buried only a few centimeters below the surface, a myriad of interesting finds were discovered that illuminate ritual activity at the ancient Canaanite town. Among these finds are cultic-oriented objects like goblets, chalices, cup-and-saucers, votive vessels, and ceramic masks. These artifacts led us to assume that within this building cultic activity was undertaken. In this paper, we will present our analysis of various finds in association with the faunal remains. Preliminary results from the faunal remains suggest that feasting activities were part of the ritual ceremonies that took place in a Canaanite town during the 13th century B.C.E.

Stephanie Brown (University of California, Berkeley), "Eating Like Elites? Domestic Foodways at Busayra"

The site of Busayra in southwest Jordan has long been identified as the capital of the Iron Age Edomite kingdom. Previous excavations at the site identified an elite building program that included a monumental temple and palace, both of which exhibit aspects of Assyrian architectural influence. Recent work at the site, carried out by the Busayra Cultural Heritage Project (BCHP), has focused much of its attention on the exploration of domestic life at Busayra in an attempt to understand the daily lives of the city's inhabitants.

The proposed paper will examine the foodways evidence associated with two newly excavated domestic structures at Busayra. As an essential cultural element often associated with the household, foodways can inform scholars of the daily choices made by individuals within the private sphere. Furthermore, foodways-centered research can be used to explore the ways in which social practice involving the production and consumption of food can be used to establish and strengthen social boundaries that exist between individuals of different social strata, genders, or ethnic groups. The foodways analysis discussed in this paper will focus on three types of archaeological evidence—paleoethnobotanical, ceramic, and faunal evidence—excavated from the domestic structures at Busayra. The paper will use these data in order to understand the social activities and status of the individuals living within the domestic structures at Edom's capital city.

6C. Reports on Current Excavations—Non-ASOR Affiliated

CHAIR: Robert Homsher (W. F. Albright Institute for Archaeological Research), Presiding

Robert Homsher (W. F. Albright Institute for Archaeological Research), Matthew Adams (W. F. Albright Institute for Archaeological Research), and Yotam Tepper (University of Haifa), "A Preliminary Report on the First Two Seasons of Regional Survey Conducted by the Jezreel Valley Regional Project"

The Jezreel Valley Regional Project endeavors to study the history of human activity in the Jezreel Valley during all archaeological periods by integrating multi-disciplinary approaches toward excavation and survey throughout the valley. Connecting major geographic zones, the Jezreel Valley has always been a landscape of critical importance for societies in the region, and consequently contains a rich archaeological record. Although many parts of the valley have been surveyed or excavated during preceding decades, there remain many gaps and problems in our understanding of the human and natural landscape over time. Using a host of remote sensing tools, paleoenvironmental study, and innovative data management, this project embraces methodological problem-solving as it develops a long-term strategy for documenting the Jezreel Valley. This paper summarizes the results of the first two seasons of physical survey (2015-2016), particularly highlighting the challenges, solutions, and long-term goals of the project.

Daniel Warner (New Orleans Baptist Theological Seminary), "Is it Just Water? 6 Seasons of Excavations at Tel Gezer Water System"

This report is an update on the excavations of the Tel Gezer Water System after 6 seasons of digging. Additional new materials have been surfacing to assist in the dating of the water system from the supposed "water pool" but also, the team has expanded the excavations to include new areas on the surface. It is believed there is a connection between the massive Canaanite gate and the water system, therefore, the areas between the Canaanite gate and the water system (to the North) have been opened, as well as, the area between the Canaanite Gate and the massive stone tower (to the West). None of the previous excavations have opened these areas to settle once for all their relationship to the water system. These excavations should have a significant impact, we trust, on the function of this massive "water system."

David Vila (John Brown University), "Excavating Abila of the Decapolis: The 2016 Season"

The 2016 season of excavation at Abila of the Decapolis will mark thirty six years of discoveries that have yielded important information about the place of Abila in the broader historical and archaeological contexts of northern Jordan. In addition to the excavated materials from the Bronze and Iron ages, the significant Byzantine and Early Islamic materials demonstrate that Abila was an important cultural center from early in recorded history up through the middle of the 10th century C.E. and beyond. In this paper I will present an overview of the findings of our 2016 season of excavation. Work during the summer of 2016 will focus on the continued excavation of two of our Byzantine churches (Area E and Area G) and Area B, which has been closed since 2000. In particular, several Arabic inscriptions found during the 2014 season in Area E – one of which mentions a Christian monastery, have led us to re-open our Area B "Early Islamic Period Monastic Complex" in 2016 to see if there is a co-relation between the Arabic Christian inscription and the proposed monastic complex. Work will continue also in Area E recognizing that structures on the north side of this building may also have served monastic purposes.

Alexandra Ratzlaff (University of Haifa) and Ofra Barkai (University of Haifa), "A New Byzantine Basilica at Tel 'Afar, Israel"

Located approximately 6 km south of Caesarea atop a kurkar hill, Tel 'Afar lies above a small bay. Previous excavations at Tel 'Afar revealed a monumental building at the crest of the hill with mosaic floors, columns, and column bases, as well as other architectural elements and pottery dating from the fifth to early seventh century C.E. Based on these remains, initial interpretation of the building has focused on its function as a wealthy house or seaside villa. This paper will present new findings regarding the identification of the monumental remains at the site, and a new interpretation of the building as a Byzantine basilica. In support of the new interpretation we will discuss the richly decorated building, including columns adorned with carved crosses and the architectural plan, which offers the best indication that this was in fact a basilica. Following a typical Byzantine plan, the Tel 'Afar basilica's architectural design closely parallels that of the basilicas at Dor, Gerasa, Kursi, and even the earliest phase of St. Peter's basilica in Rome. Through the reevaluation of the basilica complex we aim to better understand the relationship between such coastal ecclesiastical sites and the regional economy as well as to learn how the basilica connected to the ancient seaside and inland road networks.

Nicholaus Pumphrey (Baker University), "Tel Akko Total Archaeology Project: Seven Seasons of Excavation and Survey"

Situated on Israel's most important natural Mediterranean harbor, Tel Akko has been a significant maritime site throughout its history. First settled during the Early Bronze Age, the tell served as a major urban industrial center until the receding coastline forced the then Hellenistic city to move westward. Buried below Akko's "old" and "new" cities, the Hellenistic settlement served as the foundations for the Crusader and Ottoman settlements, which today are recognized as a UNESCO World Heritage site. The Tel Akko Total Archaeology Project offers a multi-dimensional approach to archaeological methods of the 21st century, which includes excavation, archaeological survey, an extensive conservation plan, archaeological sciences, a

community outreach program, and the incorporation of the largely unpublished finds of M. Dothan's earlier excavations of Area A/AB/B. This paper will present the preliminary results of the seven seasons of excavation and survey at Tel Akko and the Akko Plain, with a focus on: 1) the large-scale Phoenician iron working industrial area of the 7th-5th centuries B.C.E.; 2) our community outreach program to Akko's diverse populations; 3) the application of cutting edge new technologies including 3D photogrammetry, GIS and LiDAR; and 4) the results from the project's pit-testing survey on the tell and the exploration of its hinterland in the Akko Plain.

6D. Archaeology and Biblical Studies II

Critical Reviews of *Beyond the Texts: An Archaeological Portrait of Ancient Israel and Judah* by William G. Dever

CHAIR: Jonathan Rosenbaum (Gratz College), Presiding

Ziony Zevit (American Jewish University), "Dever, Deduction, and the Invention of New Knowledge"

This review will discuss "deduction" in general and illustrate how it is the analytical method preferred by Dever for reaching conclusions in his book. It will also evaluate what Dever considers the realistic, but ultimately limited types of conclusions that the archaeology of things can provide historians hoping to write a general, broad-based history of ancient Israel.

Susan Ackerman (Dartmouth College), "Some Thoughts on W. G. Dever's *Beyond the Texts: An Archaeological Portrait of Ancient Israel and Judah*"

This paper is part of a session responding to W. G. Dever's *Beyond the Texts: An Archaeological Portrait of Ancient Israel and Judah* and will comment on the book from the perspective of biblical studies and the study of ancient Israelite religion.

Ann E. Killebrew (The Pennsylvania State University), "A History of Ancient Israel and Judah without Texts: A Critique"

Beyond the Texts: An Archaeological Portrait of Ancient Israel and Judah is an ambitious endeavor by William G. Dever to compose a history of biblical Israel and Judah centered on the archaeological record. This *magnum opus* represents the culmination of over a half-century of the author's research, fieldwork, public outreach and mentorship of a generation of scholars and archaeologists. Building on the premise that objects are truer, or more authentic, than texts, what distinguishes this book from other histories of ancient Israel and Judah is its reliance on archaeology as the starting point and main source of primary evidence. In this tribute to Bill Dever and review of his *"Beyond the Texts,"* I critique the book's main premise that it is possible to write a history of Iron Age Israel and Judah based on material culture. I also address the author's attempts to utilize archaeology as a tool to evaluate and detangle the multiple layers of the biblical narrative.

Lawrence Stager (Harvard University), "Archaeology and Biblical History: A Critique of '*Beyond the Texts*'"

Utilizing the literature of both biblical studies and archaeology, this paper will examine and test the methodology, applications, and conclusions proposed and presented by William G. Dever in *Beyond the Texst: An Archaeological Portrait of Ancient Israel and Judah*

6E. Archaeology of the Southern Levant

CHAIR: George A. Pierce (Brigham Young University), Presiding

Casey Sharp (University of Haifa) and Michal Artzy (University of Haifa), "In the Shadow of Tel Nami: A Newly Examined Middle Bronze IIA Settlement on the Carmel Coast"

This paper presents a previously unexamined late 19th to early 18th century MB IIA settlement located approximately 700 m southeast of Tel Nami on the Carmel coast of Israel. The site has been all but destroyed by modern agricultural activity as well as quarrying, but a large amount of ceramics and small finds were salvaged during the 1985–1986 survey of Tel Nami's hinterland, as well as subsequent geoarchaeological research of the area. Following Y. Salmons's GPR study, it became clear that very little of the site remains, and the current study functionally amounts to a salvage project for an MB IIA site as much as an archaeological survey. The geomorphology of the area is also presented and reveals how the sandstone Kurkar ridges in this area of the coast governed the dynamic relationship between Tel Nami and its hinterland. Comparable ceramic chronology is derived from Aphek-Antipatris, Megiddo, Kabri, Tel Ifshar, Tel Nami itself, and other MB IIA coastal sites of the southern Levant. The assemblage includes well-produced local wares as well as imports from coastal Lebanon, Syria, and Cyprus. Finds suggest a small agro-industrial site, which benefitted from the far-reaching trade connections of the anchorage at Tel Nami. Petrographic analysis provides additional confirmation of local manufacture as well as imports, which include Levantine Painted Ware, Tell el-Yahudiyeh Ware, and an abundance of Red Slip Burnished Wares. Late Bronze ceramics were virtually nonexistent at the site as well as the coastal survey, which is interesting considering the heavy LB IIB/III presence at Tel Nami.

Itzhaq Shai (Ariel University), Chris McKinny (Bar-Ilan University), Matthew Spigelman (Independent Scholar), Avshalom Karasik (Israel Antiquities Authority), David Ben-Shlomo (Ariel University), Dvory Namdar (Hebrew University of Jerusalem), and Joe Uziel (Israel Antiquities Authority), "Two Cypriot Pithoi from Late Bronze Age Tel Burna"

Excavations and surveys conducted at the site of Tel Burna have provided significant data on the Late Bronze Age settlement at the site, one of the most significant periods of human activity noted to date. The major feature discovered thus far from the Late Bronze Age is a large public building where cultic practices were undertaken. Within this building, two large pithoi were discovered, which were analyzed and found to have been produced in Cyprus. Various analyses were conducted (petrography, 3D scanning, NAA, residue analysis) on the pithoi, in order to understand the reasons behind their arrival at Tel Burna and this specific building in particular. This paper will present the results of the various analyses conducted, as well as ponder on their role in Late Bronze Age Mediterranean sea trade and the path and reasons that led them to the inland site of Tel Burna.

Phillip Silvia (Trinity Southwest University), "When Data Defy Demagogy: What We Have Learned from Tall el-Hammam and Its Neighbors"

Pioneers of any great enterprise often take on legendary status as the authoritative experts of their field. Such a status is certainly warranted at the beginning stages of said enterprise when their initial research, analyses, and conclusions constitute the only body of available information. Over time, the positions proffered by these pioneers become the accepted and traditional points of view that are unquestioningly repeated by succeeding generations. Tradition eventually morphs into demagogy, and anyone who questions the status quo is labeled a heretic and accused of sullying the reputation of the "greats." When new information comes to light, however, what should we do with data that defy demagogy? A case in point is the traditionally accepted view of the occupation history of the Middle Ghor versus what we have learned from Tall el-Hammam and its neighbors. Author P. Silvia (TeHEP Field Archaeologist and Director of Scientific Analysis) presents a summary of his research and the implications driven by the data he has compiled.

Owen Chesnut (Andrews University), "The Hellenistic Period at Tall Safut"

The site of Tall Safut is located 12 km north of Amman in Jordan. It was excavated over ten seasons between 1982 and 2001. During those seasons significant remains from the Bronze and Iron Ages were found. No material from the Hellenistic Period had previously been identified at the site. This paper will examine the sparse, yet important material remains from the Hellenistic Period. The pottery and its context will be examined, as will the numismatic finds. These artifacts will then be placed in their regional context and what they have to say about occupation at the site will be discussed.

Brita Lorentzen (Cornell University), Deborah Cvikel (University of Haifa), Sturt W. Manning (Cornell University), and Yaacov Kahanov (University of Haifa), "Anatolian Forests on the Sea: Dendrochronological Dating and Timber Sourcing of the Akko Tower Shipwreck"

During the 18th–19th centuries, Akko was one of the Levant's key commercial ports and site of several naval campaigns as the militarily strategic "Key to the East." Ottoman-era shipwrecks in Akko's harbor affirm its maritime importance and provide physical evidence of maritime activity absent from historical records. Dendrochronology is a critical tool for dating the physical evidence from Akko harbor's shipwrecks on a high-resolution time frame, so that they may be synchronized with, and enrich, the site's rich historical record. Dendrochronological timber sourcing ("dendroprovenancing") also grants critical new insights into ship construction and timber procurement.

We present here the first results of the dendrochronological analysis of one Ottoman-era ship from Akko, the Akko Tower shipwreck, which is the first shipwreck from Israel to be successfully dendrochronologically dated and provenanced. The ship's hull and finds indicate that it was built under the influence of French construction techniques, and it was proposed that the ship was built in the first half of the 19th century. However, dendrochronological analysis of the ship's ceiling planks and frames show that these timbers were cut around 1850 and are likely from the Anatolian Black Sea coast. The ship's late 19th century construction gives evidence of continued maritime activity in Akko after the town's 1840 bombardment, a period of "decline" traditionally neglected in historical narratives. The dendroprovenancing results provide further evidence of the importance of the Anatolian forests as a source of timber for buildings in, and ships traveling to, Levantine ports in the Ottoman Period.

6F. Yerushalayim, Al Quds, Jerusalem: Recent Developments and Dilemmas in the Archaeological and Historical Studies from the Bronze Age to Medieval Periods I

CHAIR: Yuval Gadot (Tel Aviv University), Presiding

Doron Ben-Ami (Israel Antiquities Authority) and Yana Tchekhanovets (Israel Antiquities Authority), "Has the Acra Citadel Been Discovered in Jerusalem?"

The Israel Antiquities Authority's archaeological excavation in Jerusalem's Givati Parking Lot has apparently led to solving one of the holy city's greatest archaeological mysteries: the location of the Greek (Seleucid) Acra. Over the past 100 years numerous theories have been put forth seeking to identify the location of the Acra, the famous citadel built by Antiochus IV in order to subjugate Jerusalem and monitor activity on the Temple Mount. Uncertainty has stemmed from the paucity of architectural remains that could be traced to the Greek presence in Jerusalem.

Moran Hagbi (Israel Antiquities Authority), "The Nature of Roman Building Projects: A View from the Western Wall Foundations"

Recent excavations within the confines of the Jerusalem Archaeological Park have exposed the foundation courses of the southwest corner of the Temple Mount and a constructional support system for the Herodian street. The results of the excavations have shed light on the extent of construction enterprises undertaken in Jerusalem during the late Second Temple period. These building projects, which continued well into the first century C.E., influenced the city's landscape significantly. The excavations provide important information regarding the preparation and planning of the area prior to the laying of the foundations and first courses of the Western Wall, as well as the paving of the street above. As opposed to the portions of the street exposed further downhill and uphill, the support system here included chambers filled with layers of earth up to six m thick, in order to overcome the drop into the Tyropoeon Valley and create a raised street level. These thick layers of fill yielded numerous artifacts that attest to the organization of labor and methods entailed in the construction of the Second Temple street; the exposure of the Western Wall foundations provides us with an opportunity to study the building of the wall itself.

In an effort to consider how the unique nature and topography of the city affected the manner in which the planners approached their project, the building project exposed here will be compared to other monumental constructions in the Roman world.

Helena Roth (Tel Aviv University) and Dafna Langgut (Tel Aviv University), "Jerusalem's Arboreal Environment and Wood Economy during the Early Roman Period"

Jerusalem of the first century B.C.E.–first century C.E. was a thriving Roman city with its economic, political, and social core centered around the temple. Numerous excavations and detailed historical accounts allow us to reconstruct the social and economic dynamics of the city. Yet, very little is known about the environment adjacent to the city. Only a few dendroarchaeological studies have been conducted thus far, none of which have focused on the Early Roman period. It is against this background that the wood economy of the city should be explored: Wood, which was mainly collected from the forested areas surrounding the city, was essential not only for fuel, but also for construction and tool making. Pyrotechnical industries, evidently operating from within the city, the eternal flame in the temple, and domestic ovens all required a large amount of firewood. The wealthy private and public constructions revealed a wide array of high quality building and tool making wood, some imported from other regions.

By analyzing large dendroarchaeological assemblages of charred wood from four excavation areas in the lower city of Jerusalem—a constructional fill for a street, the content of a wealthy domestic building, the destruction layer unearthed on top of the stepped street, and the city's garbage landfill—we will attempt to evaluate how function, wealth, and symbolism have shaped patterns of wood economy, including sources, usage, and distribution. We will also evaluate how the finds reflect the immediate environment surrounding the city and its exploitation during this period.

Ilana Peters (Bar-Ilan University) and Ehud Weiss (Bar-Ilan University), "Food Remains from Jerusalem During the Second Temple and Its Destruction"

Recent excavations in Areas S and D3 in the City of David have uncovered thousands of plant remains. Excavations in Area S date to 70 C.E., the destruction of the Second Temple, and the Area D3 assemblage, which is from a garbage dump, is dated to the Early Roman period just prior to the destruction. Both assemblages shed light on the food habits and natural environment in Jerusalem.

The Area S assemblage, found above an Early Roman street, is rich in both variety and quantity. This assemblage has started to elucidate the diet of the city's inhabitants, and includes ancient as well as present-day food items: cereals, legumes, fruits, and oil plants. Interestingly, almost no chaff remains were found, which indicates that the high-level end product of food was used in the city. In addition, various wild plants are visible, which gives us a good view of the origin of the food plants.

The Area D3 assemblage is also rich in variety, and cereals, legumes, and fruits are present. It also contains a large amount of wild plants, which affords us an in-depth look at the seasons during which the garbage dump was in use. The high quality food plants found in the City of David represent a rich assemblage, as would be expected from a central city in this time period. Historical sources claiming famine and starvation among the city's population during the days of destruction, and the anomaly of contradicting evidence from archaeobotanical remains will also be discussed in the presentation.

6G. Archaeology of Jordan II: Ritual Practices in Ancient Jordan

CHAIR: Debra Foran (Wilfrid Laurier University), Presiding

Abelardo Rivas (Andrews University), "Figurines of Jalul Field G: What Is Left of Domestic Religion?"

The debate as to the nature of small figurines found in domestic and cultic contexts has scholars proposing a variety of interpretations of these artifacts. The suggestions go from toys to the representation of local or foreign deities. This also raises the question of how one understands a "cultic" object found in a domestic setting and how one interprets a "domestic" object found in a cultic setting. Tell Jalul is located on the outskirts of Madaba in Jordan and is part of the Madaba Plains Project. The site has yielded, during the last 10 years of excavations, a number of figurines from Field G which has been identified as a domestic area. The comparative and systematic analysis of these figurines casts light not only on the debate surrounding these figurines and our understanding of the cultural practices present in Jalul, but also on the local/foreign influences merging at the site. This paper aims to do a descriptive, comparative, and functional analysis of these figurines by relating them to others found at Tell Jalul and other sites in Transjordan and the southern Levant. An analysis of the artistic and cultural features represented in these figurines will allow the identification of their function.

Chang-Ho Ji (La Sierra University), "The Ataruz Inscription and Iron II Temple at Khirbat Ataruz: New Light on Stratigraphy, Chronology, and Cultic Activities"

This paper will discuss the stratigraphy and chronology of the Ataruz inscription. In recent excavations carried out at Ataruz in central Jordan, the stratigraphic relations between the area where the inscription was excavated (Field E) and the early Iron II temple on the acropolis (Field A) were examined. After examining the stratigraphic and ceramic details, this paper points out that in the early–mid ninth century B.C.E. the architecture in Field E was first built as part of the early Iron II temple's outer courtyard. The area was rebuilt and redesigned as a sanctuary with a stepped altar after the early Iron II temple and its inner courtyard were destroyed. Two stone columns/incense burners, one of which was inscribed, stood inside this sanctuary building dated to the late ninth–early eighth century B.C.E. Its ceramic and cultic evidence are reminiscent of the Moabite sanctuary at Khirbat al-Mudayna. A fireplace inside the sanctuary, along with several fire pits around the site, indicates the importance of fires to the mid-Iron II cultic activities at Ataruz. In the mid–late eighth century B.C.E., the sanctuary was sealed off with walls, and the cultic function of Khirbat Ataruz came to an end.

Annlee Dolan (San Joaquin Delta College) and Debra Foran (Wilfrid Laurier University), "The 2016 Excavations at the Ancient Town of Nebo (Khirbat al-Mukhayyat, Jordan)"

Khirbat al-Mukhayyat is located approximately 9 km northwest of Madaba and has been identified as 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 impact of pilgrimage across multiple cultural and historical periods. This paper will present the results of

KMAP's second season of excavation, which were concentrated on the site's Late Hellenistic remains.

KMAP's inaugural season of excavation took place in 2014 at which time three fields of excavation were opened. Two of these fields will form the focus of excavations during the 2016 season. In Field C West, the discovery of a Late Hellenistic miqveh in 2014 was of particular importance. This stepped ritual bath does not appear to be associated with any architectural features. However, numerous wine presses in the vicinity indicate that the site may have had an agricultural function at this time. This hypothesis will be further explored in the 2016 season, with continued excavation in the area around the miqveh.

Excavation will also continue in Field B to the south of the site's acropolis. In this area, the corner of a monumental building was unearthed. The sloping layers of soil outside of, but adjacent to, this building produced over 20 intact and upright Late Hellenistic cooking pots. The excavation units in Field B will be reopened in order to expose more of these cooking vessels and perhaps elucidate the nature of these deposits.

Husam Hjazeen (Department of Antiquities of Jordan), "Hercules Temple (Great Temple of Amman) Marcus Aurelius time (A.D. 161–166)"

The classical city of Amman was built during the Second Ptolemaic period (ca. 285 B.C.) and was known as Philadelphia. The Romans replanned the city and built many monuments. Philadelphia was meant to be a model Roman city. They built theaters and other monuments in the center of the city and made use of the acropolis (Jabal **al-**Qala'a) where they constructed many buildings including the temple of Hercules. The Amman Citadel site (acropolis) is the largest and one of the city's most important heritage attractions. Its outstanding archaeological and historical architecture make it culturally significant for Amman.

In 1990–1993, the American Center of Oriental Research and the Department of Antiquities implemented nine seasons of excavations in the temple area in order to understand and define the architectural design of the temple, restore the structure, and prepare it for presentation to the public. However, this work did not uncover any evidence for a staircase that led to the temple.

In 2004, the Department of Antiquities decided to complete the excavation work at the site, focusing on the southeastern part of the temple in order to understand the significance of the southern gate, which was exposed, along with the internal corridor, in 2002. During the archaeological excavations of 2004, important remains and foundations dating to the Hellenistic, Roman, and Byzantine periods were uncovered. One of the important features that was found is the staircase that provided access to the Hercules temple from the lower residential area.

6H. Theoretical and Methodological Approaches to the Study of Dress and the Body: Dress and Gender Identity

CHAIR: Megan Cifarelli (Manhattanville College), Presiding

Cynthia Colburn (Pepperdine University), "Colorful Meaning(s) in Bronze Age Men's and Women's Dress"

Given its embodied and performative nature, dress, or bodily adornment, can powerfully communicate social identities, whether real or imagined. At the same time, the meaning of dress is also dependent on the community of the lived body and the spaces in which it performs. As an embodied subject, the dressed body can convey a multitude of identities that are constantly being negotiated within the context of a given society. As both a boundary and a point of connection, bodily adornment plays a rather complex role in constructing social identities.

It is well known that throughout antiquity certain materials used to adorn the body conveyed distinct associations and meanings. In this paper I analyze the significance of colors and materials in the bodily adornment of men and women in the Bronze Age Aegean. In most societies bodily adornment plays a dynamic role in negotiating gender relations, and this appears to be the case in the Aegean Bronze Age. However, given the lack of textual evidence one has to work with from Bronze Age Greece, in this paper I turn not only to the archaeological and artistic evidence of dress from the Aegean, but also to contemporary Near Eastern and Egyptian evidence, as well as evidence from later Greece. Based on this evidence, I glean potential meanings for the color and materials used to adorn the Aegean Bronze Age body.

Kathleen McCaffrey (Independent Researcher), "The Clothes Make the Man: Male and Female Cross-Dressing in Mesopotamia"

Wearing the clothing of the opposite sex on stage or as a deceptive ruse did not affect a person's gender status in ancient Greece because gender in that cultural context was understood to be fixed and aligned with sex (genitalia). This paper proposes that cross-dressing in the ancient Near East had different conceptual underpinnings.

Mesopotamian and Ugaritic texts indicate that people in the East had a gnostic understanding of gender, attributing behavioral traits to aggressive or passive essences housed within the material body. Examples from literary texts demonstrate that cross-dressing in the ancient Near East was fraught with consequence. Similar to the transfer of *lemuttu* in and out of people, gender essence could leak from gendered objects (for instance clothing, dress pins, weapons) into people and vice-versa. This conceptual framework explains why deceptive cross-dressers in the ancient Near East had to wear two layers of clothing to protect their preferred gender status.

Neville McFerrin (Sweet Briar College), "Embodied Meanings: Gendered Biases, Semiotic Slippage, and the Functions of Adornment in Achaemenid Persia"

The story of fifth-century Greek encounters with Persian dress is a discourse structured around binaries. For Athenian authors, the decorative nature of jewelry makes it more appropriate for women than men, thus bringing the character of the well-adorned Persian man into question. Such dichotomies have proved persistent; the

biases of modern investigators often resonate with those of the Greeks, preserving distinctions that oversimplify both the complexities of gender identities and the communicative potentials of adornment.

To step away from binary oppositions, this paper suggests a reformulation of the visual functions of dress and its relationship to the outward projection of gendered identities. Using the visual and material record of Achaemenid Persia as a lens, it focuses on jewelry to explore how space is defined visually, comparing the reduplicative communications between spatial mediations on the body and in architecture to consider the ways in which stone, fabric, and metal serve to reinforce and highlight boundaries, thus acting as visual and material fortifications of individual agency. This approach suggests that gender is enacted rather than encoded, and it considers the body as a space of negotiation, with meaning evolving from experience predicated on sensory perception. Rather than asking what adornments signify, attention is given to what they do, privileging the individual's sensorial relationship with the body as an essential component of gender identity and highlighting the visual boundaries created by dress as key elements in the outward projection of this personal experience.

Maura Heyn (University of North Carolina at Greensboro), "Dressed by Whom? Interpreting Agency and Identity in the Costume Choices for Palmyrene Women"

This paper addresses the function of female portraiture in Roman provincial society, looking in particular at the funerary portraits from Palmyra, a thriving caravan city in the eastern empire. There is an intriguing switch in attributes that occurs in the Palmyrene portraiture in the mid- to late-second century C.E., when the women cease to hold the spindle and distaff and instead bedeck themselves with increasing amounts of jewelry. Scholars in the past have equated this transition with the emancipation of Palmyrene women, but this seems unlikely. It has long been established that female portraiture is not a reliable indication of the roles of women in ancient society. Rather, it reflects societal mores, creates or solidifies group identity, and functions as an advertisement of proper dress and comportment, but the question remains: Did the women in ancient Palmyrene society have any agency in the manner in which they were portrayed? Did they "bedeck themselves" or were they "bedecked?" Can we talk about a female identity that is communicated via the portraiture? Does female portraiture function differently from that of males? This paper will incorporate theories about identity and agency in the funerary sphere in order to answer these questions and to reflect on the function of female portraiture in the Roman world.

Aliza Steinberg (Independent Researcher), "Gender, Status, and Dress Code as Reflected on the Mosaics Pavement within the Historical-Geographic Area of Eretz Israel toward the End of Late Antiquity"

Clothing constitutes an element pertaining to the material culture, enveloping the individual's body and serving as a sort of "second skin." As depicted in the mosaics that decorated houses and places of worship in Late Antiquity, it reflects gender, social norms, aesthetic aspects, and functions of men, women (and children). These images enable examination of the role and status of these figures in society among a multicultural population comprising pagans, Jews, and Christians, against a background of the changes that began with the transition from the Greco-Roman world to that of Christianity and the influences that reached it from both East and West.

Ancient texts suggest that in many cases the gestures, items of clothing, and their accessories appearing in the mosaic floors imitated reality, reflecting the accepted forms and appearance of the periods during which the mosaics were created. These findings correlate well with archaeological discoveries of woven fabrics and dress together, confirming the accuracy of the depictions of clothing and their accessories appearing in the mosaic floors. This paper focuses on the terminology, typology, iconography, the adoption of both Western and Eastern influences, and the attitudes of ancient and modern writers to clothing and appearance.

7A. Career Options for ASOR Members: The Academy and Beyond I

CHAIR: Susan Ackerman (Dartmouth College), Presiding

John Paul Christy (American Council of Learned Societies), "Extending the Reach of the Humanities Ph.D."

In this presentation, I review recent initiatives aimed at mitigating the challenges facing humanities Ph.D.s who seek careers outside of the professoriate. These include programs sponsored by universities and scholarly societies, as well as the American Council of Learned Societies Public Fellows program, which is entering its sixth year. Drawing on data collected in the first five years of the Public Fellows program, I discuss how the skills acquired in the course of advanced research and teaching in the humanities can support a professional narrative that speaks to employers in a variety of contexts.

Frederick Winter (F. A. Winter Associates), "Looking Beyond the Campus for Career Options in the Humanities, Archaeology, and Ancient Near Eastern and Mediterranean Studies"

The era in which advanced degrees in the humanities were perceived as leading exclusively or even predominantly to tenurable teaching or research jobs in the academy has long since passed. These jobs still remain, but many of the tenure-track jobs have been replaced with low-paid contingent or adjunct positions, and even if they had not, traditional academic positions are simply not present in sufficient numbers to accommodate the current generation of degree holders. National foundations with interests in the humanities and even federal granting agencies, most notably the Andrew W. Mellon Foundation and NEH, have recognized this trend with funding streams to investigate and support nonacademic career tracks, and even the vocabulary of higher education has changed to reflect the breadth of "alt. ac.," initially understood as campus-based nonteaching positions, but now more broadly construed as nonacademic or alternative, career options, and the new genre of "quit lit" or testimonials from former academics who have left the academy. The speaker, who began his career as a traditional, tenured faculty member with a Ph.D. in classical archaeology, will discuss his own transition out of the academy and into the federal government, where he served as a program officer in multiple federal agencies before retiring a few years ago to open his own higher education consulting firm. The presentation will address his career path as well as national trends in nontraditional humanities hiring.

Michael Smith (Lower Colorado River Authority), "Cultural Resources Management: Reconciling Past and Future"

While progress marches ever forward, professionals within Cultural Resources Management (CRM) endeavor to record, evaluate, and preserve our history before it is lost. This year marks the 50th anniversary of the United States' enactment of the National Historic Preservation Act, which recognized an awareness of our national heritage and the need to protect it. This legislation created the National Register of Historic Places (NRHP) and, as a result, the field of CRM. CRM specialists work to ensure that various entities comply with federal and state antiquities regulations. Thus, they interact closely with state and tribal archaeologists and historians, as well as clients, contractors, and landowners, whose focus is typically more on their present and future than someone else's distant past. A full-time and often fast-paced profession, CRM offers fieldwork and reporting opportunities throughout the year, as well as a crash course in project, time, and fiscal management. The field employs a wide range of specialists, including archaeologists (both terrestrial and nautical), historians, architectural historians and historic architects, artifact analysts, and conservators. The presenter began his career in CRM after focusing on the Old World in academia for 12 years, and has spent the last 15 years trying to catch up in the New World. He has found CRM to be a career that can range from fun and fascinating to challenging and horribly frustrating … but one that is always very rewarding.

Suzi Wilczynski (Dig-It! Games), "From the Known to the Unknown: Utilizing Archaeology in Software Development"

What do the study of archaeology and educational software development have in common? Ostensibly, not much; however with further scrutiny, surprising similarities appear. At its core, archaeology is a process of creative problem solving, analyzing patterns and data, making connections, and communicating clearly and concisely—skills that translate to numerous other fields including software development. The skills developed through the study of archaeology, such as the ability to analyze large amounts of information and the desire to search for answers to complex questions, have helped me build a company with a growing catalog of best-in-class K–12 learning games, many of which focus on archaeology.

Bringing archaeology into the K–12 classroom provides an important opportunity for students to see clearly the value of studying the past. The study of archaeology is a powerful tool to help students understand diverse topics, including culture, government, belief systems, and societal development. Our goal is to introduce elementary and middle school students to ancient civilizations in a way that is meaningful and understandable within their lives and to truly engage children in the science of archaeology. We seek to educate children about civilizations and cultures in an immersive way that goes beyond what they can experience from a textbook or film.

As my journey illustrates, there are numerous creative ways to use archaeological learning outside the traditional academic path. In this presentation I will discuss that journey and investigate the ways in which my study of archaeology has helped me build award-winning educational games.

Mitchell Allen (Mills College), "Scholarly Publishing as an Archaeological Career"

Should junior scholars and graduate students interested in an alternative career path to the traditional scholarly route consider a career in scholarly publishing? As a long-term publisher who began as a Syro-Palestinian archaeology student, I point out several advantages to this option: the lack of need for a Ph.D., ability to work with ideas, and applicability of many types of skills. Disadvantages include the salary, the limited geographical locations, and the frustration of starting all over. Anthropologists and archaeologists are uniquely suited for scholarly publishing because of the similarities of the publishing process to traditional ethnographic and archaeological fieldwork. Job opportunities exist not only in more traditional publishing houses, but in universities, government, and cultural resource management firms. Younger scholars should assess their level of commitment to archaeology, and recognize the limits of working in the business world, before embarking on a career change.

7B. Maritime Archaeology

CHAIR: Caroline Sauvage (Loyola Marymount University), Presiding

Marine Yoyotte (IFAO), "Ancient Fluvial Harbors in Late Bronze Age Egypt: A Major Interface between Terrestrial and Maritime Roads"

In Egyptology, even though the Nile constitutes the main travel route, it is only with recent geoarchaeological studies of the evolution of the Nile that interest in fluvial harbors has considerably grown. This theme is of primary importance in Egyptian maritime archaeology because it helps to reconstitute the landscape during antiquity as a whole, and to show that fluvial harbors are often located at the crossroads of terrestrial routes leading to the sea, or directly nearby it.

Among the issues raised by fluvial harbors is the existence of a harbor implementation strategy. While Late Bronze Age (i.e., New Kingdom: 1550–1069 B.C.) fluvial Egyptian harbors are being examined in Thebes and the Delta, harbors between them have yet to be sufficiently studied. This paper will discuss the entrance of the Fayyum through the fluvial harbor of Mi-wer (modern Gurob). Closely connected with the presence of a royal Harem, this harbor could have been used as a mooring place for the royal family and its court, as a stopover for the Fayyum strategic zone and as a transit point for military campaigns. Hence, its location is not trifling as it is situated near the Bahr Yussef (a canal derived from the Nile), enabling one to navigate to Memphis, or to reach the Libyan desert and the caravan roads. Finally, Egyptian fluvial harbors are an emerging subject for ancient Egypt and the Near East, leading to the crucial question of networks and mobility.

Ehud Arkin Shalev, (University of Haifa), Ayelet Gilboa (University of Haifa) and Assaf Yasur-Landau (University of Haifa), "Coastal and Underwater Bronze Age Assemblages from Tel Dor"

This paper presents new and unpublished coastal and underwater Bronze Age assemblages from Tel Dor. We focus on finds originating from two areas: the well-built ashlar stone walls at the south bay, currently partially submerged under the sea and interpreted by Avner Raban as Late Bronze and Iron Age quays; and the massive walls in the "Love Bay" in the immediate vicinity of the current coastline, interpreted by Raban as Middle and Late Bronze Age architecture. To date, a large part of the ceramic assemblage from these two areas remains unpublished, including a number of Middle and Late Bronze Age imported ceramic wares. In addition, recent underwater surveys

conducted by the University of Haifa yielded further evidence for Bronze Age activity in the bays of Dor; this includes pottery, some of which is imported, as well as possible Bronze Age anchors. We shall, in this paper, combine new and unpublished underwater evidence for maritime activity in Dor during the Bronze Age with a reexamination the chronology of coastal structures, in order to advance our understanding of the nature of maritime interactions and coastal infrastructure in the second millennium B.C.E.

Linda Hulin, (University of Oxford) and Senta German (Montclair State University), "Down to the Sea: Mariner Networks in Ports across the Late Bronze Age Eastern Mediterranean"

The Late Bronze Age was an international age, and ample textual, iconographic, and material data attests to the large-scale movement of goods around the eastern Mediterranean. Numerous port sites have been investigated, with the focus upon entrepôts as points of movement of goods and people into the wider, terrestrial landscape. The Down to the Sea project, however, adopts a mariner's perspective, and views coastal sites as points of stability within a mobile maritime landscape.

Historical and sociological studies of early modern to present-day ports document the existence of sailors' quarters, often restricted to the fore and near shore. In these areas, establishments emerge where sailors can rest and socialize. We argue that sailors' quarters can be identified in the archaeological record by the relative diversity of ceramics in otherwise nonelite areas and in the presence of small portable items that constitute sailor's trade. The initial results of our investigations into material from port sites in Crete and Cyprus are presented here.

Giorgos Bourogiannis (Museum of Mediterranean and Near Eastern Antiquities), "From Almost Null to Plenty: Evidence for Seaborne Connections in the Southeast Aegean during the Early Iron Age"

Our knowledge of the Early Iron Age Aegean has been significantly improved during the past two decades. New fieldwork, new publications, and the organization of numerous international conferences and museum exhibitions have contributed to the better understanding of this critical period. What has become clear is that seaborne connections that linked the Aegean to the eastern Mediterranean have been a chief component of this process and that they contributed decisively to the Aegean recovery from the collapse of the Late Bronze Age socioeconomic structures. Although we have not yet achieved a complete understanding of this period, particularly of the earliest Early Iron Age stages, recent publications indicate that maritime contacts between the Aegean and the rest of the Mediterranean did not remain idle for long. This paper aims to investigate evidence of maritime connections between the Early Iron Age southeast Aegean and the eastern Mediterranean and to outline how these connections gradually developed from the first unsystematic exchanges of the 11th century B.C., to the dynamic cosmopolitanism of the seventh and sixth centuries. Discussion will include pottery finds, inscriptions, and cultic evidence.

Christopher Davey (Australian Institute of Archaeology), "Sailing to Windward in Roman Times: The Spritsail Legacy"

The iconography of Roman period merchant ships reveals them to have a different sail-plan from those of earlier times because they often have a small square sail rigged near the bow called a spritsail. The significance of the spritsail ceased to be appreciated in the early nineteenth century soon after it became obsolete. Previous analysis has often incorrectly assumed the spritsail to be a small foresail. This paper draws on iconography, ancient texts, and modern experience to discuss the role of the spritsail, especially as it assisted Roman period ships to sail to windward. It is argued that its purpose and origin are different from that of the foresail. Its legacy is that it made Roman period ships as maneuverable and as capable of sailing to windward as ships ever were, possibly to the end of the age of sail itself.

7C. Archaeology of Iran I

CHAIR: Holly Pittman (University of Pennsylvania), Presiding

Fereidoun Biglari (National Museum of Iran), "Middle Paleolithic Assemblage Variability in Zagros: New Evidence from Kermanshah and Isfahan"

Middle Paleolithic assemblages of the Zagros are often described as homogeneous. These assemblages, which are mainly from caves and rockshelter sites, were the basis for defining Zagros Mousterian, featuring an industry characterized by intense core reduction and tool retouch is reflected in the small size of exhausted cores and heavily retouched tools. New assemblages from recent excavations and surveys, however, are beginning to reveal typo-technological variation in Middle Paleolithic industries of the Zagros. Here I present a number of new Middle Paleolithic assemblages from two different regions of the Zagros, including a group of cave and rockshelter sites located on the inner slopes of the Zagros, near the Zayandeh-Rud River and a number of cave and open-air sites in the high intermontane valley of Kermanshah in the western Zagros. These new assemblages show higher degrees of variability that are reflected in both technological and typological aspects of the industries. These new finds and recent evidence from other regions of the Zagros show that the Zagros Middle Paleolithic industries are not as homogenous as previously thought.

Morteza Hesari (Esfahan University) and Sepideh Saeedi (Binghamton University), "New Perspectives on the Proto-Elamite Territory"

Scholars define the Proto-Elamite phenomenon by the appearance of Proto-Elamite writing, the first form of *local* writing in Iran, on tablets in many cases together with specific types of management tools , over a vast geographical territory across the Iranian plateau. Different explanations have been offered to account for this spread and the shift from a Mesopotamian-oriented culture during the earlier period (Late Uruk/Susa II) to a predominantly Iranian-oriented culture during the late fourth and early third millennium BCE. However, up to now most of these explanations have concentrated on the recovered material culture from Fars in the southern part of the plateau and Khuzestan on the southwest. New discoveries from sites on the northern fringes of the plateau depict a fresh and more complete picture of this enigmatic phenomenon. The new excavations and surveys conducted in the settlements that contain the material culture of this horizon have significantly added to our knowledge about its formation and spreading processes. In this paper we present some of the newly

discovered evidence from these sites, including but not limited to: Sofalin, Shoghali, Ozbaki, Gholidarvish and compare them with our older understanding of the presence of this cultural horizon in the center and northern parts of the Iranian plateau. This paper is divided into three parts: a brief introduction of the newly studied sites in the northern part of the central Iranian plateau, the relationships that existed among these settlements, and an overview of this period in this region

Kyle Olson (University of Pennsylvania),"Three Narratives, Three Approaches: Trade, Exchange, and Interaction in Third Millennium Iran"

The Royal Cemetery at Ur. The Astarabad Treasure. The Fullol Hoard. What do these three finds have in common? All lie along the route that is purported to have brought lapis lazuli from its source (Sar-i Sang) to Sumer and beyond during the third millennium. Accordingly, these finds, among many others, have been used to argue for the existence of an extensive long-distance trade network during this time. But answers to the questions of exactly when, how, and by whose agency these materials circulated so widely have largely remained elusive. Several models and metaphors have been proposed as solutions, or at least as heuristics, to resolve this problem, including: the prehistory of the Silk Road, World Systems Theory, and Interaction Spheres. While each of these has its own concerns and relative merits, all share in common a desire to "connect-the-dots-on-a-map." While these models have been used to illuminate certain aspects of third millennium trade, exchange, and interaction, other aspects have remained obscure. For example, given technological and climatic constraints on travel during the third millennium, which routes were likely to have been taken? To what degree do material parallels found over great geographic distances actually index significant interaction? Is there a way to empirically substantiate the analytical categories commonly found in the literature? This paper explores the possibilities of answering these questions by scaling down the geographic scope of analysis and through a combination of regional scale seriation and typology, elemental analysis of ceramics, and GIS-based techniques.

Benjamin Mutin (Harvard University), "Southern Iran in the Second Millennium B.C.E."

The third millennium B.C.E. in southern Iran and Pakistan is characterized by the rise and fall of major Bronze Age urban civilizations including the Indus Civilization in Pakistan and the so-called Halil Rud (or Jiroft) Civilization in southeastern Iran. Little is known as to the following millennium, particularly in southeastern Iran, where, in fact, archaeological deposits currently dating to the second millennium B.C.E. were excavated at a single site, Tepe Yahya, a site investigated by C. C. Lamberg-Karlovsky and his team in the 1970s. These deposits include successive architectural layers and an abundant ceramic assemblage, all assigned to Tepe Yahya Period IVA. This paper presents the main characteristics of the second millennium B.C.E. in southeastern Iran, with a focus on the evidence from Tepe Yahya. This presentation is based on the totality of available collection of objects and archives in the Peabody Museum of Archaeology and Ethnology at Harvard University and is complemented by a review of the evidence dating to this millennium in southern Iran. While this paper aims at providing new and updated insights as to this period in Iran, it certainly also contains many questions. The Archaeology of Iran session is an excellent opportunity to share and discuss these results and questions and to receive feedback on this review.

Tobin Hartnell (American University of Iraq), "The Identification of Ayadana (Ritual Places) in Achaemenid Persia (550–330 B.C.)"

Āyadana (cult places) appear to play an essential, if uncertain, role in the royal rituals of the Achaemenid state. Scholars such as Lecoq have argued that the paucity of evidence for the ritual places implies that āyadana are not places at all but rites. The Babylonian version of Darius's Behistun inscription does refer to *bītum* (temples), but Herodotus (1.131) denied the existence of temples in Persia (southern Iran). Other classical authors, like Dino of Colophon, imply alternatives like open-air sacrifice on hilltops rather than fixed places of worship. In sum, there is no clear identification of āyadanas as places of worship to date.

This paper will propose an alternative solution by identifying the āyadana as a ritual place of water designed specifically for the performance of sacrifice and libation. In particular, this paper will argue that the Achaemenid basins, either embedded in monumental dam constructions or enclosed within paradises, served as one form of āyadana. Some monumental dams in Fars (ancient Persia) appear to be constructed first and foremost as ritual places, rather than as economic infrastructure. These dams or basins purify or otherwise sanctify water before their use in paradises or other ritual settings. A close examine of these monumental structures can both resolve the apparent conflict between Herodotus model of open-air worship and Darius model of āyadana. Other Achaemenid rituals of water will be considered in order to propose that these basins as central to political patronage of ritual.

7D. The Iron Age I in the Levant: A View from the North

CHAIRS: Hanan Charaf (University of Paris I) and Lynn Welton (Oriental Institute), Presiding

Sara Pizzimenti (Sapienza University of Rome), "The Iron Age I at Karkemish: New Results from Areas C, G, and S"

During the 2011–2016 campaigns, one of the main aims of the Turco-Italian Archaeological Expedition at Karkemish, directed by Prof. Nicolò Marchetti (Alma Mater Studiorum–University of Bologna), was to extensively expose the Bronze and Iron Age town in order to understand the urbanism of the site and to better define the patterns of its material culture. New archaeological data for the Iron Age I occupation have been brought to light in three excavation areas: in the Lower Palace, in areas C and S, and in a deep sounding in area G at the southern foot of the acropolis. This paper presents a detailed analysis of the stratigraphic sequence and of the pottery seriation for the Iron Age I strata, with the aim to contribute to a better understanding of this key period at Karkemish and in the northern Levant.

Doga Karakaya (University of Tübingen) and Simone Riehl (University of Tübingen), "Agricultural Patterns at Tell Tayinat and Beyond: The Archaeobotanical and Stable Carbon Isotope Evidence"

Current archaeobotanical research plays an integral role in

comprehending the agricultural economy of ancient Near Eastern societies. Available archaeobotanical data from Late Bronze and Early Iron Age sites in the northern Levant is relatively scarce, despite the long history of archaeological research in this region. Nonetheless, ongoing archaeobotanical investigations at Tell Tayinat aim to reduce this information gap in the northern Levant.

This paper reviews available archaeobotanical data in order to identify any contrasting patterns which may help in determining changes in the nature of agricultural production and management methods during the Late Bronze–Iron Age transition. We also evaluate the stable carbon isotopic evidence from Tell Tayinat and other geographically neighboring sites to explore any recognizable trends of increasing aridity in the region. Through integrating new archaeobotanical and stable carbon isotope results from Tell Tayinat, we want to contribute to a more complete picture of the regional patterns in crop husbandry and palaeoenvironmental conditions of the northern Levant during the period under consideration.

Eric Jensen (University of Arkansas), "Destruction, Recovery, and Renewal: The Late Bronze to Iron Age Transition at Tell Qarqur"

While only a limited exposure of the terminal LB IIB phase has yet been accomplished at Tell Qarqur, Syria, the excavated remains have provided much information concerning local subsistence practices, as well as aspects of material culture shared by the inhabitants at Qarqur with settlements in the surrounding regions. When these data are viewed in contrast to the Iron I levels that follow, sharp differences are observable. Between the Late Bronze and Iron I, reliance on a balance of perennial orchard crops and annual wheat harvests shifts to an almost exclusive dependence on wheat species, with faunal evidence between the two periods demonstrating a decline in the presence of domesticate species matched by a simultaneous rise in the exploitation of local wild special sources. A marked change from the ceramic forms and decorative styles of the LB IIB to those of the Iron I occurs at Qarqur, despite no stratigraphic indication for a period of abandonment in the occupation of the settlement. Instead, a reduced area of activity within the settlement is accompanied by a steep decline in architectural complexity. The inhabitants' ability to adapt to and recover from these economic and subsistence perturbations attests to the local population's resilience, and eventually sets the political stage for Qarqur's economic renewal and settlement expansion in the subsequent Iron II period.

Elisabeth Wagner-Durand (Albert-Ludwigs-University, Freiburg), "Rural Peace After City Life? Kamid el-Loz During the Iron Age"

It is well known that the site of Kamid el-Loz, ancient Kumidi, had been a flourishing city, governed by a palace and built around a prominent temple area during the Middle and Late Bronze Ages. Shaken by several disasters during times of political "global" interaction, the small but strategically situated city fully recovered and reinvented itself every time but the last. During the Iron Age, Kumidi reshaped itself as a settlement of rapid building sequence, including stone- and mud brick-built buildings (houses and stone corrals), but lacking any Iron I graves. Since the temple and palace left their traditional locations occupied for hundreds of years, and since no such functional building could have been identified yet in other places of the site, the question arises whether during the transition from the Late Bronze Age to the Iron Age, ancient Kumidi became a village, albeit extensively and densely settled, struggling with its new position in the Beqaa valley and the region of Upper Galilee. The extensive excavations of both the universities of Saarbrücken and Freiburg give preliminary answers about the nature of the Iron Age in the southern Beqaa. By viewing the available data (architecture, pottery, small finds, etc.), this paper follows diachronically the site's specific settlement history of collapse (LBA II) and persistence (Iron I) as well as decline and abandonment (Iron I–II).

7E. Object, Text, and Image: Interdisciplinary Approaches to Seals, Sealing Practices, and Administration II

CHAIRS: Oya Topçuoğlu (Oriental Institute, University of Chicago) and Sarah J. Scott (Wagner College), Presiding

Vanessa Boschloos (Ghent University; Royal Museums of Art and History, Brussels), "What's in a Name? An Interdisciplinary Look at Identity Reflected by Egyptian and Egyptianizing Seals in Syro-Mesopotamia and the Levant"

As current scholarship on glyptic is increasingly addressing issues relating to identity, the question has only sporadically been dealt with in studies on Egyptian and Egyptianizing seals in ancient Near Eastern contexts. These are traditionally approached from an art historical, an archaeological or, when bearing inscriptions, from an Egyptological point of view. In the past two generations, this has resulted in the development of reliable typological sequences for certain periods, in the identification of iconographical and symbolic transfer processes between Egypt and neighboring regions, and in more methodological approaches when using these objects as chronological markers or as evidence of intercultural contacts. Research on identity as reflected by these seals is, however, confronted with the fact that textual data is often lacking: whereas some bear private names and titles, the great majority are decorative and anepigraphic and few have sealed objects that mention the name of their owner.

This paper focuses on this issue by considering Egyptian and Egyptianizing glyptic evidence from Bronze and Iron Age Syro-Mesopotamia and the Levant, more specifically the most ubiquitous category, scarabs. Case studies will demonstrate that the combination of archaeological (context), art historical (imagery), and technical (object) perspectives allows exploring concepts of personal and cultural identity as expressed by scarabs, whether or not textual data is available. Whereas inscriptions, the archaeological context, and the associated finds offer insights into the identity and status of the seal's final owner, stylistic and iconographic preferences in the seal's imagery may reflect the original client's individuality or cultural identity.

Katrien De Graef (Ghent University), "Seals on Heels: The Sealing Practice of Female Economic Actors in Old Babylonian Sippar"

Ongoing research on the role of women in the Old Babylonian economy showed that *nadītu* women were particularly present in this domain during the reigns of Sîn-muballiṭ and Hammurabi where their active participation in the economy nearly equals that of men (De Graef, in press). Initially predestined to be keepers and enlargers of the family estate, some of these women clearly became first rank economic players, developing their own estate alongside the family estate.

This paper investigates the sealing practice of female economic actors in sale, lease, and loan documents from Old Babylonian Sippar in order to shed light on their agency. Although their agency is not the result of their own free choice—their family decides to invest them with these roles—the unintended result is empowerment of these women as top-class economic players. A key question is therefore whether and to what extent they merely acted on behalf of their families or also acted in their personal capacity. One of the indicators is their sealing practice: Do they have and use their own seal or do they seal with the seal of a male family member such as their father or brother? If they have and use their own seals, do these seals reflect their identity, gender, professional affiliation and/or social status?

Gregg Jamison (University of Wisconsin-Madison), "Inscribed Unicorn Seals of the Indus Civilization: A Diachronic Comparative Study of Style, Technology, and Socio-Political Organization"

The Indus or Harappan Civilization (2600–1900 B.C.E.) represents one of the world's earliest urban societies, and its earliest manifestation in the south Asian subcontinent. Among forms of diagnostic Indus material culture, perhaps none are more emblematic than inscribed seals engraved with the unicorn motif. Traditionally described as highly standardized in form and execution, recent research demonstrates the unicorn icon is stylistically diverse. Some of this diversity is patterned and represents important cultural practices related to seal production techniques. This paper focuses on the organization of Indus unicorn seal production and its relationship to the social, political, and economic systems in which they were made and used. Using complementary analytical techniques including experimental and ethnoarchaeological studies focusing on replication, and formal analysis of archaeological materials, it has been possible to fingerprint stylistically distinct groups of seals that likely represent the products of different artisans and workshops. Though seals were used as symbols of wealth and power and served crucial administrative functions, the identification and distribution of distinct stylistic groups suggests that production was undertaken by multiple artisans and workshops, within and among different sites; and was more variable than previously thought. The data indicate that although seal production and use was regulated by elites, it was not centrally controlled in one center or by one centralized authority. This supports a decentralized or city-state model of social and political organization and control, unique compared to contemporary polities in ancient Mesopotamia and Egypt, and among the world's earliest urban societies more generally.

Véronique Pataï (Université Lumière Lyon 2, Laboratoire Archéorient), "Texts and Seal Impressions at Nuzi: the Case of the Scribe Taya Son of Apil-Sîn"

In the publications of the Nuzi tablets, the impressions of seals are almost never represented. Despite the studies conducted by E. Porada (1947) and D. Stein (1987: 225-320 and 1993a and b) this lack of information leads to some difficulties when we turn to the issue of identifying the individual using a seal.

The prosopographic study of the Nuzi scribes highlights the presence of many homonyms. In my Ph.D. research which focuses on a group of twelve scribes, I use several criteria to distinguish between the various homonyms such as comparing their contacts (employers, witnesses, judges), the cities where they are active, their writing styles or even the nature of written texts and, in some cases their handwriting. During my stay at the Oriental Institute of Chicago, the sigillographic criteria turned out to be a very precious tool in the identification of the homonymous scribes since I was able to integrate the image pictured as an additional bit of information and to identify unpublished seals.

This paper concerns the scribes Taya without patronym (69 texts) and Taya son of Apil-Sîn (79 texts). Thanks, among others, to the observations of the seal impressions, 29 tablets from the 69 written by Taya without patronym could be attributed to the son of Apil-Sîn, because they had a seal in common with him. This paper also highlights the practice of sharing seals among individuals and the use of a specific seal according to the cities in which the scribe worked during his career.

7F. Yerushalayim, Al Quds, Jerusalem: Recent Developments and Dilemmas in the Archaeological and Historical Studies from the Bronze Age to Medieval Periods II

CHAIR: Doron Ben-Ami (Israel Antiquities Authority), Presiding

Ortal Chalaf (Israel Antiquities Authority) and Peter Gendelman (Israel Antiquities Authority), "The Dynamic Nature of the Ayyubid Settlement in Jerusalem: A View from the Western Wall Plaza"

As noted in various historical sources, the establishment of Islamic institutions and settlement within the Jerusalem city walls began immediately after it was conquered by Salah al-Din in 1187 C.E. The desire to resettle the city is explicitly expressed in various documents that call for the establishment of homes within Jerusalem. As part of this wave of settlement, the Moor's neighborhood was founded in order to accommodate North African immigrants in Jerusalem.

Despite the historical evidence, little is known archaeologically of Ayyubid Jerusalem. To date there has been a lack of significant archaeological remains attributed to this period, partly due to the short period of Ayyubid rule, which lasted for only about 70 years. Over the past three years, the Israel Antiquities Authority has conducted excavations in the Western Wall Plaza, where a portion of an Ayyubid neighborhood was exposed. The finds include several domestic structures preserved to a height of up to 2.5 m, with four distinct phases, indicating the rapid and dynamic development of Jerusalem in this short period. The vast exposure of the various phases of the Ayyubid settlement enabled the development of a clear classification of Ayyubid material culture, which is distinct from the preceding Crusader and subsequent Mamluk periods. This paper will present the finds of the excavation and reflect on the relevant historical records in order to define the character of the Ayyubid settlement of Jerusalem.

Johanna Regev (Dangoor Research Accelerator Mass Spectrometer Radiocarbon Laboratory, Weizmann Institute of Science) and Elisabetta Boaretto (Dangoor Research Accelerator Mass Spectrometer Radiocarbon Laboratory, Weizmann Institute of Science), "Microarchaeologically Sampled Radiocarbon Dates from the City of David Excavations"

Over the past two years, several areas in the City of David (Jerusalem) have been excavated with the specific aim of building a radiocarbon-based chronological backbone for Jerusalem from the Early Bronze Age to the Roman period.

The strategy to define the context quality for 14C dating is based on the microarchaeology tools that were applied while excavating with the on-site laboratory. FTIR, microscopy analysis, phytoliths concentration, pyro-features, sediment composition integrated with the archaeological findings were used for context evaluation. The research has concentrated on three areas with different depositional natures, requiring tailored sampling methodology.

The first area, the Givati Parking Lot, allowed dense 14C sampling from identified in-situ contexts in superimposed layers. Such sampling enabled us to overcome wiggles in the calibration curve, reducing calibrated age ranges for the Hellenistic period.

In the second location, Area E, previously excavated by Y. Shiloh, the dating strategy was tailored to excavate the remaining baulks. Microarchaeology tools are essential to provide 14C samples and information on levels that can be securely linked to recently published macroscopic finds.

For the third location, the Gihon Spring Fortifications, radiocarbon sampling was undertaken beneath the tower. Several levels were characterized with microarchaeological tools from which 14C samples were recovered for the chronological sequence.

In this paper, we will present our field methodology and share our preliminary results. Integrating microarchaeology proxies into radiocarbon chronology research prove to be essential in order to obtain a solid, absolute dating for the City of David.

Joe Uziel (Israel Antiquities Authority) and Nahshon Szanton (Israel Antiquities Authority), "Absolute Dating of the Spring Tower and its Implications on the Fortification Systems of Jerusalem in the Bronze and Iron Ages"

Over 150 years of explorations in Jerusalem have exposed many important and monumental structures spanning a period of almost 4000 years of the city's human activity known through both archaeological and historical data. One of the earliest of these structures is the tower surrounding the Gihon Spring, which provided protection to Jerusalem's primary source of water. Initially dated to the MB II based on ceramic evidence, architectural style, and its relationship to other features of the period, the absolute dating of the feature was undertaken as part of the radiocarbon dating presented here by J. Regev and E. Boaretto in order to fine-tune the period in which it was built and used. The exposure of the northeastern corner of the tower, built on an earth fill, enabled the sampling of the sediments beneath the tower, providing precise data for the dating of this structure. The current paper will reflect on the implications of the radiocarbon dating of the tower and present new thoughts on Jerusalem's fortifications surrounding its perennial water source during the Bronze and Iron Ages.

Gary Knoppers (University of Notre Dame), "Jerusalem in the Persian Period: A Disjunction between the Archaeological Finds and the Biblical Literature?"

My presentation has two parts. The first section reviews recent archaeological and epigraphic finds relating to Jerusalem and the region of Yehud during the Persian period. Of particular interest is the impoverished and underpopulated condition of Jerusalem and Yehud throughout the Achaemenid era. Although there is evidence of continuous occupation at some sites within Benjamin and in the valleys to the southwest of Jerusalem, it took the region centuries to recover from the destructive Babylonian invasions of the early sixth century. Most recent population estimates for the peak population of Achaemenid Judah have been, therefore, quite modest. Jerusalem was limited to the confines of the City of David (approximately 4.4 ha, excluding the Temple Mount). The town seems to have consisted only of a village and a small sanctuary. Slow growth characterizes most of the Persian period and the Hellenistic era. If, as some argue, the early political and administrative capital of Neo-Babylonian jurisdiction in Yehud was Mizpah and the later political capital (at some point) in Persian times was Ramat Raḥel, this evidence compels us to revisit the biblical literature relating to the Persian period (e.g., Haggai, Zechariah, Ezra-Nehemiah, Chronicles), in which Jerusalem occupies a most privileged place. What should one make of the apparent disjunction between the material remains and the literary remains? Such questions will be addressed in the second part of my paper.

7G. Archaeology of Jordan III: Material Culture of Southern Jordan

CHAIR: Craig A. Harvey (University of Michigan), Presiding

Craig A. Harvey (University of Michigan), "The Military Camp Wall Paintings from Humayma (Ancient Hauarra), Jordan"

One would not expect to find elements of Roman opulence in a military establishment at edge of the Roman Empire. Nevertheless, excavation within the *praetorium* (commander's house) in the early second century fort at Humayma has uncovered evidence of luxurious living, including a hypocaust-heated dining room, mosaic floors, and decorative wall paintings, along with high-class glassware and evidence of fresh oysters. The wall paintings, extant only in fragments, depict figural motifs, architectural elements, and panels of simulated marble veneering bordered by red lines. A detailed study of the wall painting fragments has not only clarified the types of marble and decorative stone depicted in the paintings, but has also enabled the reconstruction of large sections of the wall program. In turn, this reconstruction has permitted the identification of numerous local and non-local parallels, revealing that the Humayma wall paintings are situated firmly within the common visual language of the region and the Roman Empire. The wall paintings, although certainly designed for the enjoyment of the commander, were also visible to those being entertained in the *praetorium* including members of the local elite. In addition to discussing the program of these wall paintings and their parallels, this paper will also consider what messages they presented to the local elite, who themselves had similarly decorated residences. Given the scarcity of wall paintings in this region, particularly those from military camps, this material represents a significant contribution to our understanding of the representation of Roman elite culture in a provincial military context.

M. Barbara Reeves (Queen's University), "Humans, Animals, and Gods in Humayma's Hills: The Petroglyph Corpus"

The archaeological site of Humayma, in southern Jordan's Hisma desert, retains traces of human occupation spanning thousands of years. Excavations and surveys over the past three decades have focused on many aspects of this site's occupation, revealing a great deal about its Upper Paleolithic, Epipaleolithic, Nabataean, Roman,

Byzantine, early Islamic, and later phases. One aspect of Humayma's archaeological remains that has, however, received only passing scholarly attention is the site's petroglyphs. After the chance discovery in 2012 of a petroglyph interpreted as depicting a Roman religious ceremony, the Humayma Excavation Project conducted an exploratory survey in 2014 on the sandstone ridge on which that petroglyph was found. Over four days more than 150 petroglyphs were found on that ridge and on two adjacent raised sandstone landmasses. The purpose of this paper is to provide an introduction to the humans, animals, and gods represented in this corpus of Humayma's petroglyphs and to discuss their form, location, phasing, and possible meaning. The corpus includes depictions of humans worshipping and hunting, riders on horses and camels, wild and domesticated animals, human footprints, and abstract symbols. These images, carved over thousands of years by the humans utilizing Humayma's raised ridges and hills, provide both glimpses into the minds of Humayma's past occupants and another tool for exploring Humayma's long occupational history.

Leigh-Ann Bedal (Penn State Behrend) and Pamela K. Koulianos (Hillsborough Community College), "In Small Things Assembled: A Late First-Century B.C.E. Assemblage beneath the Petra Garden and Pool Complex"

The Petra Garden and Pool Complex is laid out on the southern terrace at the heart of the Nabataean capital city. This urban *paradeisos* was one component of a major building program attributed to Aretas IV (9 B.C.E.–40 C.E.). The dating of the creation of the monumental garden and pool complex early in his reign is due in part to the date of an assemblage of pottery and small finds found as a single deposit along a water channel that underlies the leveling debris (Phase II) for the garden layer. The deposit, therefore, preexisted the construction of the garden. This paper provides a detailed analysis of the deposit's contents, including, pottery, oil lamps, figurines, items of personal adornment, coins, and a beautifully carved stone cup, as a unique assemblage of late first century B.C.E. material culture excavated in Petra. The assortment of restored Nabataean fine ware (painted and unpainted) and common ware vessels is the only published single cache of pottery from a clear stratigraphic context dating to this period in Petra.

Sarah Wenner (University of Cincinnati), "The Ceramic Corpora of Petra North Ridge's Nonelite Tombs"

In 2012, the Petra North Ridge Project began excavation of nonelite tombs and domestic structures. After three field seasons, it is now possible to examine the ceramic corpora from lower-status shaft-cut tombs, dating from ca. 100 B.C.–A.D. 100. Initial results suggest that specific, uncharred cooking and drinking vessels were included in tomb contexts. Additionally, the dating of some Nabataean Painted Fineware (NPFW) cups can be further refined. Finally, the tombs contained far greater quantities of NPFW than the adjacent domestic complexes dating to the first–fourth centuries. However, less than 50 sherds of Dekorphase 4 (ca. 150/200–400) were identified in both tombs and domestic contexts, in comparison with over 1,000 sherds of both Dekorphases 3b (ca. 70–100) and 3c (ca. 100–150/200), suggesting that the NPFW tradition declined dramatically by the start of the third century.

This conclusion seems untenable when considering that the az-Zurraba kilns in nearby Wadi Musa, which produced NPFW, were likely used at least into the fourth century. However, the publication of Nelson Glueck's Khirbet et-Tannur material suggests that NPFW might be found in greatest concentrations at religious or sacred sites, as Dekorphase 4 was especially well represented there. As the et-Tannur material mainly ranges from ca. 100 B.C.–A.D. 300, it provides an interesting comparison for the Petra North Ridge material, despite a lack of knowledge regarding Glueck's collection methodology. Additionally, the comparison further complicates our understanding of the use of certain ceramic forms in domestic and non-domestic contexts.

David Graf (University of Miami), "The Revision of a Nabataean Inscription from Ba'aja (I) near Baidha"

The new *Pétra: Atlas archéologique et épigraphique. Vol. I. De Bab as-Siq au Wādi al-Farasah* (Paris 2012) by Laila Nehmé represents the first installment of a new corpus of Nabataean inscriptions for Petra. But new Nabataean inscriptions continue to emerge in the Petra region, such as those I published recently from Wadi Museimir in the Wadi Arabah. Recently, a new inscription was found north of Petra in the area of Baidha. It is fragmentary, representing only a greeting and the first name of an individual, but the patronym is lost. It appears to be associated with hydrological works in the region and a sluice gate for a water channel. It offers not only a new name to the Nabataean Aramaic corpus, but a contribution to the engineering skill of the Nabataeans.

7H. Art Historical Approaches to the Ancient Near East II

CHAIR: Allison Thomason (Southern Illinois University Edwardsville), Presiding

Stefanie Elkins (Andrews University), "The Khirbet 'Ataruz Iron IIA Cult Stand"

Located in Jabal Hamidah, in Jordan, Khirbat 'Ataruz has become a site of great importance with the discovery of a temple complex dating to the late Iron Age I and early Iron Age II periods. Under the direction of Chang-Ho Ji from LaSierra University, this site has produced an array of cultic artifacts that is providing a clearer understanding of the religious practices of Iron Age Transjordan. During the 2001 excavations, pieces of two model shrines and one cult stand were found on and around an offering table in the main sanctuary room. Subsequent seasons revealed more pieces that were only later discovered to be part of the largest of the three objects—the cult stand.

The study and conservation of the 'Ataruz cult stand is important as it combines unique and rare elements, including two male figures holding what appear to be sacrificial animals, making it one of the most complete and significant examples of an early Iron Age II cult stand.

This presentation will offer an art historical analysis of the 'Ataruz cult stand as well as an account of its restoration. Due to its size and prolific decoration, this artifact will provide deeper insight into the ancient concept of aesthetics symbolism and how these design elements made their way into Transjordan during the Iron Age. The iconographic elements also have implications for our understanding of

the religious practices at ʻAtaruz as well as in the greater Transjordan region.

Moise Isaac (University of California, Los Angeles), "Iconization in Neo-Assyrian Representations of Israelite and Judean Exiles"

The palace reliefs of Tiglath-Pileser III and Sennacherib, two prominent kings of the Neo-Assyrian Empire during the eighth century B.C.E., depict the displacement and exile of Israelites from their homeland of Ashtaroth and Judeans from Lachish respectively. This paper draws on the anthropological theory of iconization in examining the representations of north Israelite and Judean identity in Neo-Assyrian palace reliefs. Differentiating elements between the two groups will be highlighted and conclusions drawn about their meaning and construction in Neo-Assyrian elite space.

Tracy Spurrier (University of Toronto), "Battles in the Bedroom, Demons at the Door, and Horses in the Hall: An Access Analysis Study of Various Themes Depicted in the Reliefs of Sennacherib's 'Palace Without a Rival'"

In the early Iron Age, Assyrian kings established hegemonic control over much of the ancient Near East through intimidation, military superiority, and domination. To document their rise to power, the kings recorded their own events and activities in relief art carved on stone slabs that decorated their palaces. Each king's relief program was a unique account of the political environment and individual propagandistic agendas of their particular reign meant to impress and intimidate contemporaries, as well as to immortalize the king for future viewers.

The precise relief placement within the architectural layout of the palace was designed to act as a narrative, guiding visitors through an arrangement of rooms with content they were allowed to access dependent on their status. Though a broad range of scholarship exists discussing relief content and audience, many theories tend to be speculative and supported by subjective data. In my research, I examine room accessibility and palace permeability through the application of architectural space syntax models in order to assign each room a numeric classification. I apply the room data to the associated reliefs, thus turning art into quantifiable data that can be used to evaluate differential access.

This paper focuses on one dataset from my on-going dissertation research: the relief program in Sennacherib's Southwest Palace at Nineveh. I assess the viewership intensity and intended audience, and purpose for creation of particular themes and events depicted in Sennacherib's reliefs, offering insight into the mindset of the king and his particular program of propaganda.

Emily Drennan (Brown University), "The Life-Giving Sun Disk: Amenhotep IV and Beyond"

The image of the sun disk with a *uraeus* on either side and a series of *ankhs* hanging between them appears during a brief period in the reign of Amenhotep IV of the Eighteenth Dynasty. It can be seen on one of the king's blocks from Karnak. It is well known that the building projects and statues of Amenhotep IV as well as most elements of his religion were systemically destroyed and rejected, as well as purposefully forgotten. However, this particular sun disk, with a new addition of *was* scepters, can be seen once again in the art of following kings, such as the reliefs of Seti I of the Nineteenth Dynasty at the Temple of Amun at Karnak. This paper will address the significance of the sun disk image and its importance to the rest of the art of the Amarna period, specifically the representation of the Aten. It will investigate the uses of this image by examining the art of several reigns of the New Kingdom to find known attestations of this particular variation of the sun disk. Finally, this paper will attempt to hypothesize why this image, which occurs in the art of the "heretic" king, continued to be used after his erasure from written records.

8A. Career Options for ASOR Members: The Academy and Beyond II

CHAIR: Emily Bonney (California State University, Fullerton), Presiding

Geoff Emberling (University of Michigan), "Ways to Work in Archaeology: Shifting Perspectives"

Tenure track positions are rare in archaeology, and not likely to become more abundant. There are, however, many other paths in the field. This talk will center on my work as a curator and museum director, and will also highlight my activities as an entrepreneurial archaeologist.

Susan Braunstein (The Jewish Museum), "The Archaeologist as Curator"

At this session, I will share my experiences as an archaeologist in the museum field, where I have worked for my entire career. I began as a volunteer even before I went to graduate school. Even though at the time I hadn't necessarily expressed a preference for academia versus museum work, job opportunities offered first at The Brooklyn Museum and then at The Jewish Museum in New York proved engaging and fulfilling. Being a curator encompasses the study, maintenance, and development of collections, and the presentation of a broad range of subjects to a variety of audiences through exhibition, lectures, and publications. Curatorship combines a number of skills. One first has to be completely rigorous in the scholarship that goes into all aspects of the work. The art of exhibition presentation must also be mastered—how to engage the audience through design, text, and interpretive devices. Finally, one should know about object handling and conservation so as to understand the principles of collection preservation and safe display. While graduate training provided the scholarly groundwork and the ability to "read" objects, much of my museumship was learned on the job as I came up through the ranks. At The Jewish Museum, my focus has expanded beyond the ancient Near East to include decorative arts through the contemporary period and from all lands where Jews have lived. This has provided a long, fascinating view of the multiple evolutions of a single cultural group that is continually reinventing itself.

Jack Green (Corning Museum of Glass), "Building a Career in Museums: Opportunities and Challenges"

In this panel session, I summarize my career to date, including personal observations on museum careers within the UK and US. Museum careers can be as highly valued as tenure-track faculty positions, and provide opportunities to develop innovative research, publication, and outreach initiatives. An underlying challenge of

museum work is maintaining a scholarly profile (and fieldwork) that contributes to institutional goals, while focusing on collections and exhibits, visitors and staff, and fundraising needs. My museum career began as a volunteer and led to studies of unpublished material in the British Museum during my graduate studies at the Institute of Archaeology, University College London. Following my Ph.D. (2006), and while working on the White-Levy supported Tell es-Sa'idiyeh Cemetery Publication project, I took up the position of curator for the ancient Near East at the Ashmolean Museum, University of Oxford (2007). This introduced me to the intellectually stimulating, creative, collaborative, and gratifying process of curating a new gallery. I then took up the position of chief curator at the Oriental Institute Museum of the University of Chicago (2011). There were opportunities to carry out research and curate, although work was more staff- and project-driven. I also engaged in cultural heritage, contemporary art, and community outreach projects. In 2016, I took up the position of Deputy Director of Collections, Research, and Exhibitions, at the Corning Museum of Glass, New York. Alongside initiatives related to its permanent galleries and collections, I plan to develop traveling exhibitions, academic engagement, and heritage projects.

Sarah Kielt Costello (University of Houston-Clear Lake), "The Long and Winding Road

I am currently in a tenure-track art history position, but am simultaneously developing a museum-based project involving research, teaching, a conference, and a planned gallery reinstallation. While this project does compete with my research and teaching time, the work is valued at my academic institution, since it provides visibility to the university and also creates opportunities for our students. In my paper, I will discuss how a seemingly winding path, from archaeology to anthropology to art history; from stay-at-home mom to mom-away-in-the-field; and from long-term adjunct to tenure-track, has in fact brought me back to the very questions and topics that have interested me since graduate school. By embracing unexpected career turns, I also found unexpected opportunities.

Jeanne Marie Teutonico (Getty Conservation Institute), "Careers in the Conservation of Cultural Heritage"

The world's cultural heritage is extremely diverse in expression, scale, and materiality. Equally diverse are the knowledge and skills required to conserve this heritage in ways that are sustainable and meaningful for future generations. Of course, conservation does involve the repair and retention of physical fabric, but not divorced from a consideration of the cultural, social, and political forces that both created it and continue to affect the way it is valued, cared for, and used. If anything, the risks to heritage have only become more acute in recent decades through factors such as conflict and political instability, rapid urbanization, climate change and diminishing resources for heritage conservation generally.

By its nature then, conservation is an interdisciplinary undertaking that requires technical and scientific skill but also the ability to work across boundaries, to communicate with a variety of audiences, and to arrive at negotiated solutions. This presentation will discuss the various professional profiles involved in the conservation of both built heritage and museum collections, the background and academic training required to achieve recognized competence, and the types of career opportunities available in both the public and private sectors.

8B. Bioarchaeology of the Near East I

CHAIR: Lesley A. Gregoricka (University of South Alabama), Presiding

Sean P. Dougherty (Milwaukee Area Technical College) and Akira Tsuneki (University of Tsukuba, Japan), "The Pašittu-Demon among the People: Infant Mortality and Maternal Health in Neolithic Syria"

The injurious effects of the agricultural transition on health have been well documented. However, contributions from the Near East are relatively uncommon. Excavations at the Pottery Neolithic cemetery at Tell el-Kerkh in northwest Syria provide an opportunity to study the effects of the agricultural transition in this less examined region. The skeletal sample consists of 258 individuals, 237 of which were associated with the Pottery Neolithic. The mortality profile reveals high infant mortality, with 40% of the sample dying before the first postnatal year. As first year postnatal survivorship is often predicated upon maternal health during the gestational period, the sample was examined for any patterns of morbidity apparent among females. While common indicators of ill health, such as cribra orbitalia, porotic hyperostosis, and periostitis were observed within the sample, they were generally infrequent, and more often associated with males or nonadults. Thus, there is no direct skeletal evidence that would suggest that female or maternal health was particularly poor relative to males. Nevertheless, the high frequency of early infant death observed at Tell el-Kerkh, while perhaps expected for the period, does strongly suggest the presence of multiple stressors of maternal health, such as limited dietary resources and, perhaps more importantly, culturally embedded expectations of high fertility.

Brenda J. Baker (Arizona State University) and Katelyn L. Bolhofner (Arizona State University), "Archaeological and Historical Evidence of Leprosy in the Circum-Mediterranean Region"

Recent DNA research on *Mycobacterium leprae* has suggested a link between Middle Eastern and medieval European strains of the pathogen. This suspected connection requires a critical review of the archaeological and historical evidence of leprosy throughout the Near East and circum-Mediterranean region. Leprosy is suggested by some to have occurred in the Near East as early as 2700–2300 B.C., but this contention is problematic. In this paper, purported cases and recent bioarchaeological research on leprosy in the region are reviewed. Frequent explanations for the spread of leprosy throughout the Mediterranean region, including conquests of Alexander the Great (356–323 B.C.), movement of Roman Imperial soldiers (264 B.C.–A.D. 11), and travels of the Crusaders (A.D. 1095–1291), are evaluated. Finally, social attitudes toward those afflicted are examined. Miller and Nesbitt's (2014) review of historical documentation from the Byzantine Empire indicates that leprosy sufferers were not reviled but were thought to have been blessed. In Cyprus, historical records concerning leprosy also demonstrate that stigma and forced segregation are recent phenomena. This work contributes to understanding the evolution and dissemination of the pathogen, and the social attitudes toward afflicted individuals outside northern and western Europe.

Lesley A. Gregoricka (University of South Alabama), Jaime Ullinger (Quinnipiac University), and Susan Guise Sheridan (University of Notre Dame), "Status, Power, and Place of Burial at Early Bronze Age Bab adh-Dhraʿ: A Biogeochemical Comparison of Charnel House Human Remains"

Early Bronze Age Bab adh-Dhraʿ is well known for the appearance of rectilinear charnel houses during EB II–III (3100–2300 B.C.) in association with the site's walled settlement and presumably larger, more densely settled population. The relationship among the hundreds of individuals contained within these structures is an important but poorly understood component of Early Bronze mortuary ritual. It has been posited that different charnel houses may represent kin groups whose living members vied for status and power within this urban center, in part by using the burial structures themselves as symbols of ancestral authority. If these charnel houses reflected social status within Bab adh-Dhraʿ, it follows that their members may have engaged in disparate activities. Here, the hypothesis that differences in mobility and dietary intake characterized the inhabitants of these different structures because of social status was tested by examining the strontium ($^{87}Sr/^{86}Sr$) and carbon ($\delta^{13}C$) isotope values from human dental enamel from two charnel houses: A22 (n=14) and A55 (n=7).

Individuals interred in A22 displayed strontium (0.70826 ± 0.00013, 1σ) and carbon (-13.5 ± 0.3‰, 1σ) isotope values that differed significantly (Sr: U=74, z=-1.8, p=0.03; C: U=84.5, z=-2.6, p=0.005) from those housed in A55 ($^{87}Sr/^{86}Sr$ = 0.70834 ± 0.00002; $\delta^{13}C$ = -13.1 ± 0.3‰). These preliminary findings suggest that the people within A22 consumed a more variable diet and may have engaged in a more mobile lifestyle, supporting the hypothesis that these charnel houses may represent distinct social and/or kin groups.

Kirsi O. Lorentz (The Cyprus Institute), "Complex Ancient Knowledge of Human Anatomy: Revolutionizing Our Understanding of Chalcolithic Mortuary Practices in Cyprus"

This paper focuses on the revolutionary changes in our understandings of Chalcolithic mortuary practices in Cyprus produced by the first-ever detailed positional analyses of human skeletal remains conducted on the island. This research took place at the Chalcolithic cemetery site of Souskiou-Laona. The development and execution of detailed recording, recovery, and analytical methodologies resulted in the discovery of previously unknown and complex manipulations of human bodies and remains, as well as in the discovery of highly complex anatomical knowledge in the past. The rocky outcrop of Souskiou-Laona contains Middle Chalcolithic bottle-shaped rock-cut shaft tombs, with burial layers containing multiple individuals. The final deposits as recovered archaeologically point to the intentional placement and arrangement of human skeletal remains and body parts in various stages of decomposition to form highly organized and patterned bone stacks, accompanying one or more fully articulated, intact skeletons. The bone element and body section placement within bone stacks is highly patterned, with reoccurring features throughout the cemetery, and thus it is interpreted as governed by consistent rules. Further, these patterns in bone stacks, and the placement of extra limbs or extra bones on the corresponding limbs of the articulated individual skeletons, would have required, and thus indicate, a highly detailed knowledge of human skeletal anatomy.

Susan Guise Sheridan (University of Notre Dame), Jorge Rivera (University of Notre Dame), and Katherine Portman (University of Notre Dame), "Bioarchaeology of Prayer: Repetitive Motion Disorders Associated with Excessive Genuflection at the Byzantine St. Stephen's Monastery, Jerusalem"

Previous bioarchaeological analysis of the lower limbs of adult monks from Byzantine St. Stephen's in Jerusalem supports a biomechanical model for excessive kneeling. Squatting facets of the talus, tibia and femur; calcaneus, tibia, femur and innominate musculoskeletal markers (MSMs); and degenerative joint disease of the lower limb clearly point to highly repetitive deep flexion of the hips, knees, feet, and toes of these monks. Regional Byzantine liturgical texts provide a possible cause–genuflecting several hundred times a day. Prior detailed analyses of adult vertebral Schmorl's nodes (thoracic: n=386; lumbar: n=454), osteoarthritis (cervical: n=321; thoracic: n=302; lumbar: n=270), and lipping (cervical: n=160; thoracic: n=322; lumbar: n=587) showed no significant upper body involvement. This study analyzed features of the upper limb, including lipping of the costoclavicular ligament attachment and pectoralis major origin on the clavicles (n=143), humeral MSMs (n=98) associated with deltoid and pectoralis major muscle insertions, and proximal and distal ulnar (n= 66) and radial (n= 58) involvement. Costoclavicular ligament attachment pathologies were scored visually, as well as mapped using a Microscribe for Procrustes analysis of shape variation (n=96), to test whether they were using their arms to rise from a flexed position. The combined results showed greater involvement of the right arms, associated with protraction of the shoulder and abduction/medial rotation of the humerus ($p>0.05$), along with pronation of the forearm. These results indicate that the monks were using their right arms to rise from the near kneeling position repeatedly, thus adding to the reconstruction of genuflection.

8C. Archaeology of Iran II

CHAIR: Holly Pittman (University of Pennsylvania), Presiding

David Stronach (University of California, Berkeley), "Lost or Found? The Missing Face of Cyrus the Great"

For well over a hundred years, ever since the first serious archaeological activities began to be take place at Pasargadae, the capital and last resting place of Cyrus the Great (reigned 559–530 B.C.E.), there has been a lively interest in trying to discover the way in which the founder of the Achaemenid empire might have chosen to represent himself. Unfortunately, however, all attempts to find an answer to this question have proved—until very recently—to be unsuccessful. In the doorway reliefs of Palace P, for example, the most complete representation of Cyrus (who is identified in associated cuneiform inscriptions as "Cyrus, the Great King, an Achaemenid") is not preserved to more than waist height. Also, a popular belief that the four-winged guardian genius that stands in a doorway relief at Gate R could be a representation of Cyrus is far from convincing. No Achaemenid king is known to have been portrayed with a short beard, let alone with the wings of a supernatural being. But thanks to a fresh examination of evidence from (1) the Cyrus Cylinder, (2) various doorway reliefs at Pasargadae and (3) the rock-cut relief of Darius I at Bisutun, a convincing case can now be made to suggest that

Cyrus favored an already long-familiar, Assyrian-related type of "royal visage" that came to be echoed throughout the rest of the Achaemenid period.

Emily Wilson (University of Chicago) and Shannon O'Donovan (Independent Scholar), "Itinerant Iconography: Travel and the Individual in the Persepolis Fortification Archive"

This paper uses machine learning data mining and network analysis techniques to examine the interplay between text and seal image in the Persepolis Fortification Archive (PFA). The archive comprises thousands of tablets that record storage, taxation, and disbursements of food, livestock, grain, and other commodities to people around the region of Persepolis between the years 509–494 B.C.E. These tablets not only contain this extensive transactional information—written in both Elamite and Aramaic—but are also impressed with both the seals of the individual and the seals of the various offices working under the royal aegis. Data mining allows for the quick processing of this data, unveiling relationships not otherwise apparent via more traditional methods.

This paper specifically looks at glyptic iconography, type of seal, and sealing practices within this archive through the medium of travel to provide a holistic understanding of itinerant individuals and groups in the Achaemenid Persian Empire. Where possible, we triangulate this information with the transactional data of the texts, which gives specific insight into the individual sealers—their names, their destinations, and their purpose for travel—thus allowing for an intimate glimpse into seal usage.

By tracking and considering these seal impressions and texts together, we populate the area around Persepolis with people, the time of year they traveled, their destinations, and the people and offices with which they interacted as they acquired supplies on their journeys.

Mehrnoush Soroush (New York University), "Archaeological Research in the Urban Landscape of Askar Murkam, the Misr of Khuzistan"

Several major Early Islamic towns and cities fall under the category of Amsar (sing. Misr), i.e., military encampments which were developed into permanent settlements. As such, these sites would be the best places to investigate the history of early Islamic urbanism. Askar Mukram was founded as a Misr in the seventh century and grew to become a substantial city in northern Khuzistan in the Early Islamic period. Despite the fact that the city has been described in all Early Islamic geographical accounts of the region, and despite the fact that the ruins of the city are conveniently located near one of the main modern roads, it is surprising that no comprehensive study of the urban complex has ever been conducted. In addition, historic aerial photos and CORONA imagery preserve landscape features such as hollow ways and relict canal systems that might be related to the activities of the once glorious Early Islamic city. This paper present the preliminary results of a landscape study that seeks to use the data from survey, remote sensing, and textual sources to reconstruct the urban landscape of Askar Mukram.

Mohammad Esmaeil Esmaeili Jelodar (University of Tehran), "Identification of Mahrūbān Port on the Northern Coast of the Persian Gulf"

The Islamic records testify the efflorescence of maritime trade of Iranians in the Persian Gulf, which has been rooted in the Sasanian period. The presence of important ports such as Obolla, Mahrūbān, Gonāveh, Sīnīz, Najirom, and Siraf on one hand, and the hinterland centers of Arrajān, Bishapur (Bay-Šāpūr) and Firouz Abad on the other, testify to this claim. Mahrūbān port, which is discussed in this paper, was in commercial relations with other regional and interregional ports and centers, and was also connected closely with Sasanid-Islamic centers like Arrajān in hinterland. This port is situated 10 km from the port of Deylām. Before our excavations, what we knew about this port was restricted to some early Islamic resources and occasional hints in Schwarts's and Rawlinson's accounts. The sources pointed to the importance of Mahrūbān in maritime trade with centers in east Africa, the Oman Sea, and Indochina. Information presented in this paper comes from two trenches excavated at Mahrūbān in 2009. Trench A and Trench B were opened at the center of the port and on the coastal terrace. Ceramic comparisons show similarities between the recovered assemblage and those from Suhar in Oman, Ra' salkhaimeh in the Emirate, and Susa and Siraf. Ceramic analyses of characteristic specimens, such as Ware, Torpedo Jar, Turquoise-glazed Ware, and Celadon, suggest cultural contacts between Mahrūbān with inland centers and ports around the Indian Ocean, the Oman Sea and even China during the late Sassanid period to the fourth century A.H.

8D. Recent Discoveries from the Leon Levy Expedition to Ashkelon

CHAIR: Daniel Master (Wheaton College), Presiding

Adam Aja (Harvard Semitic Museum), "Ashkelon's Philistine Cemetery"

Excavations within the Philistine Pentapolis settlements have revealed a myriad details regarding the daily life of the Iron Age people that settled there, but have failed to identify any formal burial grounds for these new settlers—until recently. From the 2013 through 2016 seasons, the Leon Levy Expedition to Ashkelon successfully excavated the first known cemetery of the Philistines. Despite the relatively small excavation area, the high density of burials produced a large number of individuals. While many graves were damaged in antiquity, undisturbed remains revealed a variety of burial practices ranging from cremation through built stone chambers containing multiple interments. Only a few meager grave goods typically accompanied individuals, but some exceptional burials included weaponry and jewelry. This paper presents an overview of the cemetery's discovery, layout, and stratigraphic complexity, while illustrating representative examples of each burial type.

Janling Fu (Harvard University), "Identifying a Philistine Burial Assemblage in The Iron IIA–IIB at Ashkelon"

While significant work has been done on burial practice in the southern Levant (e.g., Bloch-Smith 1992), to date little had been known securely about Philistine burial practice (though cf. Culican 1973, Ben-Shlomo 2008, 2012). The discovery and subsequent excavation of a cemetery at Ashkelon offers the opportunity to investigate for the

first time a clearly identifiable Philistine cemetery with its associated burial practices. This paper discusses issues of a ceramic corpus or assemblage associated with the inhumations. While a wide range of burial practices was uncovered, some differentiation was variously observed in the patterning between the Iron IIA and IIB. Following an initial discussion of this patterning, the paper will then broaden the analysis by considering relevant comparanda, for instance that from the cemeteries at Ruqeish and Azor, in order to offer a preliminary typology for Philistine mortuary assemblage during these periods.

Sherry C. Fox (Eastern Michigan University), Kathryn Marklein (The Ohio State University), Rachel Kalisher (New York University), Marina Faerman (The Hebrew University of Jersusalem) and Patricia Smith (The Hebrew University of Jerusalem), "The Contextual Study of the Human Skeletal Remains from the Philistine Cemetery at Ashkelon"

During the past three field seasons (2014-2016) of the Leon Levy Expedition to Ashkelon, under the aegis of the Harvard Semitic Museum, human skeletal remains have been excavated from the area known as N5 that represent what is believed to be a Philistine Cemetery. To date, very little about what is known about the Philistines comes from the Philistines themselves in the form of their human skeletal remains. The research that has been undertaken during the past three years will provide a better understanding of who this much maligned group of people was and from where they originated. A contextual study, such as the one undertaken here, sheds light not only on the demographic data derived from the human remains with regard to the age, sex and stature of the individuals recovered from the cemetery, but information about their health and disease from paleopathological analysis, as well as non-metric analysis that may impart some genetic information about these people. The methodology employed in this study included criteria from established bioarchaeological protocols and standards. In addition to the biological profile, the careful excavations undertaken at N5, allowed for interpretations of the burial customs of the Philistines. A great deal of variation can be discerned from inhumation burial to cremation burial among those buried in area N5. Although this research is ongoing, despite some poor preservation of the material and occasional disturbance of the burials in antiquity, a great deal has been learned about the Philistines.

Bridget Alex (Harvard University) and Elisabetta Boaretto (D-REAMS Radiocarbon Laboratory, Weizmann Institute of Science), "Radiocarbon dating of human remains from Ashkelon Iron Age"

We present the results of direct radiocarbon dating of human and faunal remains from the Iron Age cemetery of Tel Ashkelon, Israel. Three preliminary samples (2 human, 1 goat) produced radiocarbon dates dispersed between 1300-800 calBC. It was unclear whether the difference in radiocarbon dates is due to the true ages of the samples or the influence of marine diet on radiocarbon content. To better constrain the age of human burials and estimate the input of marine resources, we measured radiocarbon and stable isotopes in additional samples. Eleven human and 4 faunal samples were chosen for analysis based on context and preservation state, which was evaluated by percent insoluble fraction and Fourier Transform Infrared Spectrometry of the collagen. The effect of marine resources on calibrated dates was modeled using Oxcal software. The results help to refine the chronology of the Philistine cemetery of Tel Ashkelon.

8E. Object, Text, and Image: Interdisciplinary Approaches to Seals, Sealing Practices, and Administration III

CHAIRS: Oya Topçuoğlu (Oriental Institute, University of Chicago) and Sarah J. Scott (Wagner College), Presiding

Katherine Burge (University of Pennsylvania), "Maintaining Imperial Ties: Networks of Interaction in Northern Mesopotamia Post-Shamshi-Adad"

This paper examines the degree to which networks of political and economic interaction developed during Shamshi-Adad's hegemon were maintained after his death. In the early second millennium, Shamshi-Adad gained political control over northern Mesopotamia, creating an important but short-lived territorial state, the capital of which was established at Tell Leilan (Shubat-Enlil/Shekhna). After his death, northern Mesopotamia reverted to a number of small independent states. The eastern Lower Town Palace excavated at Tell Leilan has yielded a diplomatic archive dating from around 1750 B.C., only a few decades after Shamshi-Adad's death, which documents the final three rulers of the city. By this time, Shekhna's kings controlled only a small part of the Khabur valley, although they conducted campaigns to the south and east and negotiated multiple treaties ensuring diplomatic and economic relations. Some 200 impressed clay sealings found alongside this archive serve as the principal dataset for this paper. The glyptic on these sealings, which includes foreign iconography, are used to model networks of cultural influence, which are then compared to models of interaction described in the texts as well as data derived from neutron activation analysis of tablet and sealing clay. This paper aims to show that the political and economic networks co-opted or negotiated under Shamshi-Adad were maintained to some degree by subsequent political authorities. This work demonstrates the benefit of using a network approach in investigations of imperial interaction, given the capacity of network models to evolve according to temporal parameters.

Emmanuelle Honoré (McDonald Institute for Archaeological Research/St. John's College), "A Chronological Perspective on the Evolution of the Manufacture of Cylinder-Seals and Sealing Practices at the Dawn of Writing at Uruk-Warka and Susa"

The excavations made in Uruk-Warka (Eanna) and Susa (Acropole 1) have provided two main corpuses for the study of early cylinder-seals and sealing practices in the southern Urukian sphere. The comparisons of the conditions for their emergence and early development on both sites bring a rather complicated picture, especially in terms of chronology. This paper will highlight the challenges that arise from the comparison of the glyptic assemblages from those two type sites. It could lead either to reconsider the chronology of the Eanna deposits and discuss the opportunity to place it one step back compared to Susa, or to revise slightly the scenario of the early developments of cylinder-seal glyptics and the role of both sites in this scenario.

Vera Müller (Austrian Academy of Sciences, OREA–Institute of Oriental and European Archaeology, Department Egypt & Levant), "The Diversity of Sealing Practices in the Tomb Equipment of the First Dynasty King Den at Abydos/Egypt"

Building the hallmark of the First Dynasty in Egypt at the beginning of the third millennium B.C.E. in many respects, the reign of king Den also delivered the largest range in sealing designs in this era. Preserved mainly in the form of impressions on a variety of stoppers and closures applied to different kinds of ceramic and stone vessels, bags and boxes, the preserved designs give important insights into the administration of commodities that have in large-scale been deposited in tombs of the elite. The majority of designs refer to administrative titles, offices, estates, and names of officials together with that of the reigning king, but there are also a few seals that in addition depict commodities. While specific seals can be attributed to specific commodities, not all commodities deposited have been sealed. This leads to the interesting question of in which way the unsealed possessions were administered by the royal offices.

Another category of seals consists of depictions of the king performing a range of rituals that were only to a small portion accompanied by hieroglyphic inscriptions. Especially these seals have been very finely cut and usually scrolled on tiny closures so that only sections of the seal have been depicted. This leads to the question of how important the complete representation of the image was in reality for the sealing practices.

Maria Victoria Almansa Villatoro (Brown University), "Six Recently Uncovered Egyptian Scarabs at Ayamonte (Spain): Eastern Fascination in the Westernmost Phoenician Necropolis"

This paper sets out to study the six Egyptian-like scarabs that have been found in Ayamonte (Huelva province, southwestern Spain). Nine Phoenician tombs have been uncovered since 2010 in the site of la Hoya de los Rastros, with six burials each containing one Egyptian scarab, dating to the eighth/seventh century B.C. Two of these scarabs present carved hieroglyphs on their reverse with no linguistic meaning, and therefore they were intended to invoke the protective qualities of powerful ideograms like Ra or Maat. The third scarab bears the name of the king Khafra. The fourth scarab has a carved human figure wearing an *atef* crown (a nonmummiform Osiris or a king wearing the *atef*?), a clear flail, and a possible crook. The fifth artifact is a Menkheperre Scarab with a standing human figure, which possibly represents Thutmose III next to his cartouche. The sixth scarab bears the private name of Ptahhotep. The study of these scarabs found in situ is important to an understanding of the functionality of Egyptian objects in the Phoenician colonies: they were probably viewed as luxury items belonging to the Phoenicians themselves rather than traded with native people. The presence of one Menkheperre scarab is indicative of the widespread fabrication and diffusion of these scarabs eight centuries after Tuthmose III's rule. Finally, the Ptahhotep scarab is especially interesting due to the extreme rarity of Late Period private name scarabs outside of Egypt, which makes it a unique object in the Western World.

Luc Watrin (GREPAL), "Decoding the Seal Impressions from Cemetery-U at Abydos (Egypt): Urukian Influences and Local Developments Between 3300 and 3150 B.C."

From 3600 to 3400 B.C., predynastic imagery burgeons on decorated pottery in the Egyptian Nile Valley. Around 3300 B.C., the Egyptians seem to develop their imagery on new objects. Mesopotamian motifs are evidenced on prestige goods in the graves of leaders in the Abydos region in Upper Egypt. Among the funerary furniture, jar labels seem to be locally inspired and hold the earliest hieroglyphic signs. Seal impressions were also found, made on Nilotic clay, with lively decorations or geometrical motifs. This glyptic was attached to a piece of fabric on storage jars that contained wine—an exotic liquid in Upper Egypt between 3300 and 3150 B.C. In this paper, cultural traits from Uruk in Abydos glyptics will be highlighted. The hypothesis is made that some seal impressions could mention the origin of the labelled goods with specific symbols or toponyms referring to the Nile Delta. It could suggest that the hundreds of wine jars from the U-Cemetery elite graves at Abydos have not been imported from different parts of Palestine with the sealing made at a border-post in Gaza, but maybe from the Delta region. As it is evidenced for other times, these sealings seem to have been put on the jars when they were closed down near the production place. Yet, the Delta is a place where traces of viticulture have been evidenced as early as the beginning of the fourth millennium B.C. (e.g., Buto I), a pivot region where many experimentations and cultural transfers happened.

8F. GIS and Remote Sensing in Archaeology

CHAIR: Kevin Fisher (University of British Columbia), Presiding

Alon Shavit (The Israeli Institute of Archaeology), Yuval Gadot (Tel Aviv University), and Hai Ashkenazy (The Israeli Institute of Archaeology), "GIS Reconstruction of Ancient Lod Settlement Patterns"

The city of Lod lies along the bank of the Ayalon River between the slopes of the central mountain range and the coastal plain. The city has constituted an important crossroads since the dawn of history. Despite its rich heritage, most of the archaeological knowledge regarding the city is based on salvage excavations. These excavations were carried out throughout the city in accordance with development projects rather than on the basis of a research program. In order to understand the size and nature of the city of Lod in different periods we produced a GIS map which, for the first time, presents all the excavation and survey results conducted in the city. The research is based on the results of 49 excavations conducted since 1951 and covers an area of nearly 10,000 square meters. Additional data were integrated from 22 survey sites as well as 30 historic structures.

Based on the analysis of the archaeological remains and the location of the excavations, their size, and the various periods they were inhabited, we were able, for the first time, to reconstruct the settlement patterns of the city in each period as well as its spatial settlement processes throughout history. According to our data, Lod is the only city in the ancient Near East that was inhabited during every archaeological or historical period from the Pottery Neolithic period to present time.

Georgia Marina Andreou (Cornell University), "Coastal Erosion Management in Archaeology (CEMA): Recording Rapidly Vanishing Antiquities in a GIS Environment"

Previous topographic, engineering, and to a lesser degree archaeological research on the coastal environment of the island of Cyprus has demonstrated that erosion affects coastal site preservation and threatens information regarding past trade and maritime activities. The constant deterioration of coastal sites creates a potentially substantial disturbance to exposed archaeological contexts. This situation places significant stresses on local governments and archaeologists to rapidly monitor deteriorating cultural heritage and rescue information vital to future research. Based on this evidence, we could argue that coastal erosion is a key factor when assessing the degree to which a coastal site was used as a harbor, anchorage, landing point and/or point of contact.

In this paper we present a new research methodology employed by CEMA, the coastal erosion management in archaeology project. CEMA is an interdisciplinary research initiative undertaken by archaeologists and geographical scientists from Cornell University. Through our collaborative effort we record the coastline of south central Cyprus with unmanned aerial photography every six months. We are also recording and geo-referencing eroding archaeological sections and subsequently compare imagery for calculations of annual land-loss in a geographic information systems environment (ArcGIS). Within the same environment we classify and compare satellite photography to examine the diachronic impact of erosion on coastal cultural heritage. Our data collection and comparison form the basis of an unprecedented record of coastal Cypriot antiquities, including photography, 3D models, and site risk assessment reports.

Anthony Lauricella (University of Chicago), Kathryn Franklin (University of Chicago), and Emily Hammer (University of Chicago), "Spatial and Temporal Analysis of Looting Patterns in Afghanistan using Satellite Imagery"

Analysis of spatial and temporal patterns in looting and destruction at archaeological sites has recently become a focus of multiple research groups monitoring cultural heritage preservation in conflict zones, especially in areas controlled by the Islamic State in Syria and Iraq. In this paper we systematically analyze spatial and temporal patterns of looting and destruction in regions of the Islamic Republic of Afghanistan. The study is part of a broader initiative by the Afghanistan Archaeological Heritage Mapping Project at the Oriental Institute of the University of Chicago and presently focuses on provinces of Afghanistan in which Taliban control has been strong over the last decade. We present the results of monitoring a set of previously known archaeological sites and additional sites discovered through the analysis of aerial and satellite imagery. Using the time depth provided by high-resolution, time-stamped DigitalGlobe images as well as CORONA and other historical satellite images, we investigate looting and other forms of destruction at these sites. We examine spatial and temporal patterns of looting and destruction in relationship to changes in the political and military situation in Afghanistan. Additionally, we discuss how these remote assessments of destruction fit within a larger project of collaborative data collection in support of long-term preservation of the archaeological heritage of Afghanistan.

Christopher Fletcher (University of Arkansas), "Trade and Transport in the Dead Cities"

Despite the relative notoriety and incredible level of preservation of the Dead Cities of Syria, fundamental questions of economic and subsistence viability remain unanswered. Based on the apparent wealth of ancient residents, some scholars have argued that these sites relied on intensive olive monoculture to mass export olive oil to urban centers, evidenced by innumerable large olive presses found in and around the Dead Cities. However, others have argued that the Dead Cities are simply the best preserved elements of the larger settlement system in the region, and were mostly likely home to largely self-sufficient small scale agriculturalists, supported by evidence for widespread cultivation of grains, fruit, and beans.

This paper tests the logistical viability of olive oil transportation from the Dead Cities to the distant urban centers of Antioch and Apamea. Utilization of Raster GIS and remote sensing data allows for the reconstruction of the physical and social landscapes of Late Roman Syria. Least Cost Analysis techniques produce a quantitative and testable model with which to simulate and evaluate the viability of long distance olive oil trade. This model not only elucidates our understanding of the nature of long distance trade relationships in Syria, but also provides a methodology for investigating ancient exchange systems elsewhere in the world. Furthermore, this project allows for the generation of new information regarding sites that are currently inaccessible to researchers.

Austin Hill (University of Connecticut) and Morag Kersel (DePaul University), "Drones and Looting: Site monitoring at Fifa, Jordan"

Over the course of four years we have utilized low cost drones to monitor ongoing looting at the Early Bronze Age mortuary site of Fifa, Jordan. Drones provide an ideal tool for recording the landscape at a high resolution enabling detailed change over time detection. They allow us to document the ongoing damage to this important cultural heritage site. Over the course of our four seasons, we have utilized 5 different drones and our workflow has evolved. This paper will highlight the challenges inherent in using these systems as well as the results that demonstrate their utility.

8G. Archaeology of the Kurdistan Region of Iraq II

CHAIR: Kyra Kaercher (University of Pennsylvania), Presiding

Jesse Casana (Dartmouth College) and Claudia Glatz (University of Glasgow), "Exploring Settlement and Land-Use History in the Borderlands of Mesopotamia: Archaeological Survey in the Upper Diyala/Sirwan River Valley, Kurdistan Region of Iraq"

Since 2013, the Sirwan Regional Project has worked to document the rich and largely unexplored archaeological landscape of the Upper Diyala/Sirwan River Valley and its tributaries, a study area encompassing diverse environmental and topographic zones. This paper compares and contrasts the settlement and land-use histories of the upland Zagros foothills and the lowland middle Diyala basins in three distinct phases: the Neolithic/Chalcolithic, the second millennium B.C., and the Parthian/Sasanian period. In early prehistoric periods, the southern basins produce a robust record of occupation

indicating close ties with Hassuna, Halaf, and Ubaid cultures, while upland plains were sparsely settled and show a largely local material culture assemblage with connections to the east. In the second millennium B.C., the region became the focus of contestation and conquest by surrounding imperial powers, but the spatial organization of settlement in rain-fed uplands and irrigated lowlands remained distinct, even as the artefactual assemblage from both areas shows influence from southern Mesopotamia. By the Parthian and Sasanian periods however, the agricultural landscape was transformed through the construction of large-scale irrigation works, corresponding to a historic peak in settlement density, preserved today as extensive ruins and relict field systems. The differing trajectories of change in settlement dynamics and land-use practices illustrate the complex ways in which environmental constraints, agricultural technologies, and prevailing political economies intersected in shaping the cultural landscape.

Florian Janoscha Kreppner (Ludwig-Maximilians-Universität München), Andrea Squiteri (Ludwig-Maximilians-Universität München), Tina Greenfield (University of Manitoba), and Karen Radner (Ludwig-Maximilians-Universität München), "Peshdar Plain Project 2015: Investigating the Assyrian Province of the Palace Herald on the Frontier to Iran"

This paper presents the results of the first excavation season at the Neo-Assyrian sites of Gird-i Bazar, a shallow mound of 1.5 ha, located near the more impressive site of Qalat-i Dinka, in the Peshdar Plain, Sulaymaniyah province, Iraqi Kurdistan. The investigation of these sites is part of the Peshdar Plain Project, directed by Karen Radner and Janoscha Kreppner, and conducted under the auspices of the Raparin Antiquities Directorate with the support of the Sulaymaniyah Antiquities Directorate. The project aims to uncover the ancient history of this area with a focus on the ninth–seventh centuries B.C. It was inaugurated in 2015 after a 725 B.C. tablet was found on the surface of Qalat-i Dinka, indicating this area was part of the Neo-Assyrian Empire and possibly is to be identified with the Province of the Palace Herald, on the border with the kingdom of Mannea (Radner 2015). C14 dates confirmed the Neo-Assyrian chronological horizon. As part of this project, an integrated and holistic protocol for sampling and analyzing bioarchaeological data was implemented in order to recreate human and animal interaction, with a specific focus on the Neo-Assyrian period within the larger Iraqi Kurdistan landscape. Furthermore, this project offers the chance to study the local pottery development, and provide a chronological anchor that can help synchronize the western Iranian pottery cultures with the Neo-Assyrian material. This is also a salvage project in an area undergoing rapid economic development, which often causes damages to its archaeological heritage.

Allison Cuneo (Boston University), "From Prosperity to Austerity: Cultural Heritage Management in the Kurdistan Region of Iraq"

Cultural heritage has been an important facet of Iraqi society and politics from before the establishment of the modern nation-state, and today Iraqis consider it a valued resource of national importance. Decades of armed conflict and civil unrest have inflicted severe damage to Iraq's tangible cultural heritage, while looting and the illicit antiquities trade remain a major concern for archaeologists working in Iraq. Unregulated development, primarily agricultural and industrial expansion and urban sprawl, poses an even greater danger in many regions. This paper will discuss the current challenges faced by heritage managers in the Kurdistan Region of Iraq, who have faced many of the same challenges in times of prosperity as well as austerity.

8H. Archaeology of Lebanon

CHAIR: Helen Dixon (University of Helsinki), Presiding

Hermann Genz (American University of Beirut) and Alison Damick (Columbia University), "Renewed Excavations at the Early and Middle Bronze Age Site of Tell Fadous-Kfarabida (Lebanon): Results from the 2014 to 2016 Seasons"

The excavations conducted at Tell Fadous-Kfarabida between 2004 and 2011 have provided fascinating insights into the development and function of an early urban settlement on the Lebanese Coast.

In 2014 excavations were resumed with the aim of providing information on hitherto little understood aspects of the site, particularly in terms of its earliest occupation and the settlement's broader layout and organization across the site area. Work was conducted in three areas. In Area II, which was the main focus of research between 2004 and 2011, the remaining parts of the public/administrative Building 4 were excavated, and below it earlier levels reaching back into the fourth millennium B.C.E. were explored.

In order to expand our knowledge of the layout of the early urban site, two new areas were opened. In Area III, located on the south slope of the site, a monumental Middle Bronze Age structure and a large chamber tomb were discovered. Area IV, located at the eastern edge of the tell, provided evidence for the Early Bronze Age fortification system with a monumental gate.

This presentation will summarize the main discoveries of the 2014–2016 seasons.

Tomasz Waliszewski (University of Warsaw), "Jiyeh (Porphyreon) and Chhim: Recent Research on Rural Settlements in the Sidon Hinterland"

Jiyeh (Porphyreon) and Chhim, two important and exceptionally well-preserved rural sites in southern Lebanon, have been researched in-depth thanks to excavations conducted in recent years by a joint Polish-Lebanese expedition. Ancient Porphyreon was a large village situated on the coast, north of the Phoenician city of Sidon. Stratigraphy of the site extends from at least the eighth century B.C.E. to the seventh century C.E. Chhim, located in the mountains a few kilometers east of Jiyeh (Porphyreon), revealed a sanctuary from the Roman period, a Christian basilica, a residential area, and numerous oil presses. Analysis of both sites leads to the conclusion that both sites contrasted significantly in building traditions, with Chhim more attached to traditional forms of construction and Jiyeh more open to contact with other coastal Mediterranean settlements. Research also allowed a better understanding of the local economic system, with villages such as Porphyreon on the one hand providing for the city of Sidon, and on the other hand mediating the exchange of goods with rural settlements, such as Chhim, scattered across the mountainous hinterland.

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Hélène Sader (American University of Beirut), "Wine Industry at Iron Age Tell el-Burak?"

Tell el-Burak is a site on the Lebanese coast, 9 km south of Sidon. The last excavation seasons (2011–2015) focused on the Iron Age settlement (eighth–fourth centuries B.C.E.) that is located on the southern slope of the site. Among the important finds were an enclosure wall, a cultic installation, and three main buildings. In one of the latter two large storage rooms, at least 67 amphorae broken in situ were found. Outside the enclosure wall and southeast of the buildings a large, plastered basin was exposed on the lower edge of the slope. This paper will present the latest archaeological features exposed in 2015. It will then attempt to draw some conclusions about the nature of the activity that took place on the site in the light of the recently exposed basin, the palaeobotanical data, and the analysis results of the amphorae contents. The presented evidence as well as a comparative survey of installations from other Iron Age sites leads to the suggestion that industrial activity linked to wine production may have existed on Tell el-Burak.

Jack Nurpetlian (American University of Beirut), "Coin Finds from Ancient Beirut: The Wadi Abu Jmil District"

This paper presents 2,410 coins collected during the rescue excavations conducted between 1994 and 2013 in downtown Beirut as a consequence of the post-civil war reconstruction effort in the Lebanese capital. The interpretation of the coin finds retrieved from stratified layers and corresponding features has shed new light on coin circulation in ancient Beirut and the region. The study has also provided a better understanding of the social, economic, and historical phases of the city throughout the ages, spanning from the Hellenistic period to the Byzantine era.

Previously, the coins collected from the Souks area, comprising the domestic and private sector of ancient Beirut, have been studied and published. The current study presents coins from the Wadi Abu Jmil district, represented by the hippodrome, baths, and theater, thus the public heart of the city. The combined data from both areas has contributed to a more comprehensive understanding of coin production and circulation in ancient Beirut and a better glimpse of daily life in the city.

9A. Methods of Historiography in the Study of Ancient Israel and the Levant—Joint Session with SBL

CHAIRS: Matthew J. Suriano (University of Maryland) and Lauren Monroe (Cornell University), Presiding

Ron Hendel (University of California, Berkeley), "Cultural Memory, the Exodus, and the Conquest of Canaan: Biblical Archaeology in a New Key"

The study of cultural memory attends to the intersections of history, folklore, literature, and the social imaginaire. It is a study of a culture's fashioning of its past, rather than a reconstruction of past events as such. Archaeology has a key role in this pursuit, since the materiality of the past is central to cultural memory. This includes the cultural meanings of domestic objects, architecture, cuisine, political organization, and landscape. As examples of the role of archaeology in the study of cultural memory, I will address the biblical Exodus and the conquest of Canaan.

James Osborne (University of Chicago), "In Big Things Remembered: Memory and Countermonumentality"

Studies of ancient memory, or the past in the past, have been proliferating dramatically in recent years, attesting to the excitement the topic has inspired among archaeologists. Because deliberately constructed (or preserved) monuments tend to last for disproportionately long periods of time relative to other categories of material culture, and thereby often find themselves in social contexts quite removed from their original construction, monuments and monumentality have featured prominently in these discussions. This paper explores the various ways that archaeologists have deployed monuments to substantiate larger theoretical claims pertaining to memory. I argue that, much like James Deetz's "small things forgotten," monuments, or "big things remembered," can sometimes serve as convenient entry points into understanding the nature of social structure and cultural values, and how these change over time. This is all the more so when monuments have departed from their original social contexts due to the passage of time and become stranded in a foreign time (and often, place). In particular, I focus on how monuments "out of place" become embroiled in what some scholars have called countermonumentality, or attempts to grapple with objectives typically outside the purview of traditional monumentality. The paper begins with a detailed analysis of the Jackson-Lee monument in Baltimore, a memorial to Confederate generals from the American Civil War, and then considers ways in which the lessons learned from that monument—and its subsequent countermonument—might be applied in the ancient Near East.

Deirdre Fulton (Baylor University), "Memorializing Sacrifice in Text and Artifact"

Ancient Near Eastern texts, including the Hebrew Bible, are full of significant moments of sacrifice. Yet when one examines the southern Levantine archaeological record, remnants of animal sacrifice reveal different patterns of behavior, specifically how these moments were memorialized. In this paper, I will examine the textual memory of sacrifice in relationship to the memory of sacrifice in the archaeological record. I will specifically consider the question, "What does sacrifice

look like?" Through the interplay between textual and archaeological memory, I will discuss the varied nature of sacrifice and its complexity in the archaeological landscape.

Anne Katrine de Hemmer Gudme (University of Copenhagen), "Material Memories: Ensuring Divine Remembrance in the Pentateuch and in Aramaic Dedicatory Inscriptions"

In the dedicatory inscriptions from Mount Gerizim, there is repeated mention of 'good remembrance,' which is requested in return for the gifts dedicated to the deity. In this respect the inscriptions from Mount Gerizim pick up a version of a dedicatory formula which is well-known in Nabataean sanctuaries and in sanctuaries in Palmyra, Hatra, Assur, and Sumatar Harabesi, where the phrase "for good remembrance" and the more common "may he/she be remembered for good" is widespread. This focus on divine remembrance in a ritual context is reminiscent of a number of Pentateuchal passages, where ritual objects and actions are described as "reminders" that are to be put in front of the deity in the adyton. In this paper, the relationship between materiality and divine remembrance in the Pentateuch and in the "remembrance inscriptions" is explored and it is argued that a combined analysis of inscriptions and text is a mutually fruitful enterprise where the two groups of material each are able to enlighten us about the other.

9B. Bioarchaeology of the Near East II

CHAIR: Lesley A. Gregoricka (University of South Alabama), Presiding

Kristina Reed (La Sierra University) and Karimah Kennedy-Richardson (University of California, Riverside), "Aging Ancient Human Remains from the EB IB Dolmen at Tall al-'Umayri, Jordan

During the 1994 excavations at the Madaba Plains Project site of Tall al-'Umayri a megalithic dolmen dating to the EB IB (ca. 3000 B.C.E.) was unearthed in Field K. One of a handful of known intact dolmens found in the Levant, this dolmen contained the remains of approximately 20+ individuals, faunal remains, and grave goods. A joint project involving La Sierra University, University of California (UC) Riverside, UC Irvine, UC San Diego, and UCLA is conducting multi-disciplinary research on the dolmen's human remains involving archaeology, bioarchaeology, aDNA, and C14 dating. In the process of determining the minimum number of individuals, sex, and pathologies, the problem of assessing age has presented itself. The Tall al-'Umayri collection has fused long bones that appear to be adult yet they are small and petite, and large long bones with visible fusion lines that are assuredly not subadult, making it difficult to confidently assess age using the usual indicators.

By comparing Tall al-'Umayri with other comparative sites, such as Bab adh-Dhra' which recorded a similar age- and sex-estimation difficulty, we can determine what skeletally defines an individual as subadult or adult and what identifies "childhood" in a skeleton and assign ages to individuals. We also want to take into consideration the effect nutritional deficiencies, diseases, and work-related stress have on a skeleton that may affect bone growth and maturation. The remains from the Tall al-'Umayri dolmen present an opportunity to explore social, cultural, and environmental conditions to help create a biological profile for ancient populations.

Nicholas Herrmann (Texas State University), Despo Pilides (Cyprus Museum), and Yiannis Violaris (Cyprus Museum), "Bioarchaeological Studies of Hellenistic to Roman Period Tombs from the Ayioi Omoloyites Neighborhood in Nicosia, Cyprus"

Commingled human skeletal remains are frequently encountered during the investigation of Hellenistic (310–30 B.C.) to Roman (30 B.C. to A.D. 330) period rock-cut tombs in Cyprus. In this study, we examine the human remains recovered from a series of tombs recorded in Nicosia's Ayioi Omoloyites neighborhood, located just south of the Paphos Gate along the Venetian walls. We present our methodological approach to these collections, which stems from recent analytical advances for dealing with commingled remains from both archaeological and forensic contexts. Using a modified version of Knüsel and Outram's (2004) fragmentation zonal coding system, we detail the results of our work highlighting the integration of spatial and quantitative methods. Preliminary results from three Ayioi Omoloyites tombs (Tombs 47, 48, and 49) are discussed. In total, 986 elements have been inventoried with 89, 148, and 731 elements from Tomb 47, 48, and 49, respectively. Minimum Number of Individuals estimates based on zonal scores and demographic parameters will be presented and discussed relative to the three tombs. In addition, oral health and dental morphology traits are compared to recent health studies and biodistance research on Hellenistic and Roman burial samples on Cyprus and beyond. Specifically, we compare dental morphological trait frequencies from 110 individual teeth to a series of Hellenistic-Roman and Venetian tombs recorded in the Malloura Valley south of Nicosia. Implications of these biodistance relationships will be discussed relative to historical data concerning Cypriot population movements and regional interactions from the Hellenistic to Venetian Period.

Daniella Tarquinio (Quinnipiac University), Jaime Ullinger (Quinnipiac University), Gerald Conlogue (Quinnipiac University), and Ramon Gonzalez (Quinnipiac University), "A Radiological and Macroscopic Reassessment of Pathology in Skeletons from Tell el-Hesi"

Excavations from 1977 to 1983 at Tell el-Hesi uncovered an Ottoman-period (ca. 1400–1800 C.E.) cemetery with over 400 burials. Most of the individuals were reburied after excavation, but the archaeological team curated approximately 50 partial skeletons for further investigation. A medical doctor working with the project, Dr. Kenneth Eakins, provided osteological analysis. In 2015, new techniques were utilized to assess previous pathological descriptions. Of the partial skeletons available, eight individuals were chosen for further examination based on macroscopic examination of possible pathology identified in the original publication. The presence of healed, healing, active and/or woven bone was observed macroscopically along with X-rays and CT scans in four of the eight skeletons. The other four samples had markings and damage more likely due to animal manipulation and/or other taphonomic factors. Of those with pathological lesions, differential diagnoses were also altered using these new approaches. For example, a cranial sample previously identified as having a case of tuberculosis was given a probable diagnosis of

eosinophilic granuloma. This research highlights the importance of repeated study of pathological indicators, especially as new technology becomes available.

Kathryn E. Marklein (Ohio State University) and Sherry C. Fox (Arizona State University), "Between the Red River and Pontic Way: Bioarchaeological Research in the Roman Period Black Sea Region, Turkey"

Until recently, bioarchaeological studies in Turkey have primarily focused on western and southwestern region expanses. In the Black Sea region, bioarchaeological research has been virtually absence from archaeological corpuses and research projects. As an economic highway throughout history, this region has experienced major sociopolitical, and accompanying sociocultural, transformations with the introduction and departure of various empires and ruling powers. Specifically, during the Roman period (first century B.C.E. through fourth century C.E.), annexation of the Black Sea region increased trade and cultural interactions with the western provinces. In addition to the transport of people and goods was the transport of pathogens. At the necropolis of Oymaağaç, the presence of several mass graves attests to the local community's probable exposure and susceptibility to one or more of these pathogenic agents. Comparing the human remains from these catastrophic mass burials with individuals from the more attritional, multigenerational graves allows us to identify possible biological and cultural factors, which contributed to increased risk of mortality. Overall, current bioarchaeological work on human skeletal remains from Roman period mass and multigenerational burials at Oymaağaç-Nerik provides the first comprehensive study of human behavior, as well as local effects and responses to Roman rule, within the ecological, sociopolitical, and cultural landscape of northern Turkey.

Margaret A. Judd (University of Pittsburgh) and Allison Gremba (University of Pittsburgh), "Hear No Evil: Middle Ear Disease among Byzantine Monastics at Mount Nebo, Jordan"

Middle ear disease (MED) is a common human affliction that may result in hearing impairment and disability, notably hearing loss, which may inhibit communication, learning, and lower productivity, depending on social circumstances. Temporal bones from adult males (MNI=43) communally interred in the Robebus Chapel crypt at Mount Nebo (Jordan) were analyzed by visual, endoscopic, and microscopic investigation for evidence of MED. Mastoid hypocellularity (47%), ear ossicle osteonecrosis (33%) and stapedial footplate fixation (SFF, 2.8%), indicated that MED was present. The two individuals with SFF most likely experienced severe hearing loss, while those with other indicators of MED would experience slight to moderate hearing loss. Under most circumstances, hearing loss could pose problems for the individual and their many social relationships. However, for those committed to Christian monastic life, this was not the case. Christian monasticism, known for its devotional serenity and strict observation of silence to avoid the excesses and potential harmfulness of unnecessary conversation, provided a unique social context where hearing played little if any role in daily practice; communication relied on non-audible cues, such as hand signals, nods and other gestures. Hearing loss, whether due to disease or aging, may have gone completely undetected by the affected individual and their peers, and effectively had little impact on the lived experience aside from the possible reassignment of daily chores.

9C. Israel's Exodus in Transdisciplinary Perspective

CHAIRS: Thomas Schneider (University of British Columbia), Larry Geraty (La Sierra University), Thomas E. Levy (University of California, San Diego), and Brad C. Sparks (Archaeological Research Group, Los Angeles/San Diego)

Thomas Schneider (University of British Columbia), "The Names of Moses: Assessing Their Meaning and the Exodus Narratives"

It has become common opinion that the name "Moses," explained by a popular etymology in the Hebrew text, is an Egyptian name from the root *msj*, "to give birth," either the shortened form of a sentence name like Ramose, "(a statue of) Ra has been created," or the word *msw*, "child." It will be shown that this interpretation cannot be upheld and that alternative options need to be considered. Beyond the proper name preserved in the biblical text, some of the exodus narratives preserved in Classical sources contain other names for Moses, such as "Tisithen" in Chaeremon. This paper will look at the etymology of these names within the context of the narratives that preserve them, and demonstrate their significance for the history and growth of the exodus theme.

Alison Acker Gruseke (Yale University), "Moses the Mesopotamian: The Birth of Moses, Social Space and the Formation of Israelite Identity"

Past attempts to locate Israel's Exodus within a secure historical framework have been—and remain—fraught with both fascination and difficulty. Proposals for the literary development of the canonical Book of Exodus, problematic already in Wellhausen's day, have proliferated, and traditional source critical methodologies have ceded heuristic space to newer proposals in which the number, character, and date of traditions and literary sources differ substantially from the scheme originally conceived in the documentary hypothesis.

Not under debate, however, is the importance of the exodus in the formation of Israelite identity: the ideological centrality of Israel's emergence from oppression and its birth as a people stand virtually unopposed—twinned certainties afloat on a sea of questions. Frequently adduced also is the story of Moses's birth as an adaptation of the cuneiform narrative about Sargon of Akkad, a third millennium monarch whose memory became paradigmatic for Mesopotamian kingship and, through the canonization of the Sargon *oeuvre* overall, for Mesopotamian identity as well. According to this transcultural transmission history, hybridity underlies Israelite unity.

As a way forward, the current proposal places the transmission of the Sargon Birth Legend amidst the post-722 refugee crisis. Employing recent geographical and space critical modes of inquiry, it takes seriously the physical displacements that characterize the Moses birth story and proposes the nexus of place and identity as a productive vantage point from which to explore the meaning and durability of this narrative. The disruptions of Israelite society under Assyrian hegemony are represented in spatial terms, with narrative movements through physical space representing shifts in social identity amidst looming threats of extinction.

David Falk (University of British Columbia), "Ritual Processional Furniture as Context for the Ark of the Covenant: An Egyptological Perspective"

Scott Noegel published a paper in *Israel's Exodus in Transdisciplinary Perspective* that suggested that the ark of the covenant developed out of a context of Egyptian sacred barques and the fertility rites of the Ptah-Sokar-Osiris cultus. Noegel's suggestion that the ark has an Egyptian origin is not new, having originated at least as early as Vigouroux in 1926, and Noegel interacts well with the biblical literature and competing theories, but has sparse engagement with the Egyptian material. My Ph.D. research laid the foundation for advanced iconographic study and proposed an improved theoretical framework for studying ritual processional furniture, i.e., furniture that has a religious purpose and is taken on procession or parade. That previous research found that ritual processional furniture could act as sacralizing converters that transcended liminal thresholds, taking profane objects and ritually transforming them into objects fit for ritual service. This paper builds upon that previous work and will compare the ark's iconographic features and ritual aspects with the three classes of Egyptian ritual processional furniture (chests, barques, and palanquins). The paper attempts to derive a deeper understanding of the ark of the covenant as a kind of ritual processional furniture and finds that its proposed *Sitz im Leben* is congruent with the archaeological record.

Manfred Bietak (Austrian Academy of Sciences), "Sojourn and Exodus from an Egyptological Perspective"

The repetitive settlement of immigrants of the ancient Near East in the border regions of the eastern Nile Delta brought about Semitic toponyms in Egyptian frontier territory such as the Qantara region and especially the area of the Wadi Tumilat. These Semitic toponyms were used even by the Egyptian administration and can be taken as evidence that such regions were settled by Semitic speaking people. Some of these toponyms seem to go back to the time when the Hyksos ruled, but most of them date to the Ramesside period. The question is now who were these people that created these toponyms? This paper will take into account archaeological and geographical evidence to approach this question.

Brad C. Sparks (Archaeological Research Group, Los Angeles-San Diego), "Exodus Historicity: Beginning a Reevaluation"

New developments affecting the question of the historicity of the Exodus were presented by a diverse group of international scholars and scientists at the UCSD Exodus Conference in 2013. Old and new evidence of Egyptian texts and iconography uncovered in the last few decades call for a major reevaluation of the historicity of the Exodus. New scientific techniques of cyberarchaeology and computer modeling enable the formulation and testing of physical models of the parting of the Red Sea and tsunami generation from the volcanic eruption of the island of Thera. Recent work on a possible Hyksos connection with the Exodus pushes the date back to the time range of the Thera eruption. A methodology of evaluation of historicity will be presented.

9D. Glass in the Ancient Near East

CHAIRS: Katherine Larson (Corning Museum of Glass) and Carolyn Swan (University College London–Qatar)

Andrew Shortland (Cranfield University), Katherine Eremin (Harvard Art Museums), Patrick Degryse (Katholieke Universiteit Leuven), Susanna Kirk (Cranfield University) and Marc Walton (Northwestern University), "The Origins of Glass: The Near East or Egypt?"

Glass first occurs on a regular basis in the archaeological record of both Egypt and the Near East from the sixteenth century B.C. onward, but the exact geographical source for the discovery of glassmaking remains a question of debate. The traditional view is that glass manufacture and working was discovered in the Near East, but this has been heavily influenced by evidence from the single site of Nuzi (near modern Kirkuk, Iraq). This paper discusses new analyses of glass from Nuzi and elsewhere in the Near East, and from contemporary Egyptian sites, including Malkata and Amarna. It uses the more modern dating of strata at Nuzi, combined with research into the glassworking technologies employed. This shows that the Nuzi glassmaking is not only later than described in most conventional histories of glass, but the technology is also distinct from Egyptian glassmaking. The Nuzi glassmakers were consciously copying Egyptian trailed and marvered vessels, but had a limited color palette and relatively poor command of glassworking, rather than leading the way in this style and technology. The evidence of where the earliest glass might have been produced will be reexamined showing that Egypt has at least as much a claim as the Near East.

Eduardo Escobar (University of California, Berkeley), "Glass-Making as Scribal Craft"

Cuneiform technical recipes—including Assyrian and Babylonian tablets that provide detailed instructions for producing glass that imitates precious stones—present an untapped resource for the study of early technical language, as well as conceptual discussions of technical knowledge. While previous studies have emphasized the practical content of cuneiform procedural recipes and have attempted to reproduce Assyrian glass from the instructions contained therein, I will argue that the central aim of the glassmaking texts is ultimately linguistic: glassmaking recipes are the products of a scribal matrix and only indirect windows into ancient craft.

This paper will analyze the ways in which cuneiform glassmaking recipes can be utilized to examine scribal attitudes toward technical knowledge. Rather than separating theory from practice—or in the Classical sense, *episteme* from *techne*—the corpus of technical texts includes technological knowledge among the scribal crafts. Furthermore, lexical evidence suggests that scribal knowledge and technical knowledge are epistemically equivalent. Methodologically, these early procedure texts may inform discussions of later intellectual traditions, including alchemical texts in particular, and, more generally, the intersection of text and practice that characterizes the creation of a technical manual.

Julian Henderson (Nottingham University), Simon Chenery (The British Geological Survey, Keyworth) and Jens Kroeger (Retired from the Museum for Islamic Art in Berlin), "New Evidence for Glass Production and Trade on the Middle Eastern Silk Road"

Our investigation is the first broad survey using major, minor, and trace element analysis of 8th–15th century C.E. plant ash glass from the Middle East across a 2000-mile stretch from Egypt to northern Iran. This area was part of the ancient Silk Road that extended from the Middle East, through central Asia to China. Up to now, some compositional distinctions have been identified for such glasses, mainly using major and minor element oxides and radiogenic isotopes. Our new trace element characterization is for glass found in selected cosmopolitan hubs, including one where there is archaeological evidence for primary glass making. It provides not only far clearer provenance definitions for regional centers of production in the Levant, northern Syria, Iraq, and Iran, but also for subregional zones of production. This fingerprinting is provided by trace elements associated with the primary glassmaking raw materials used: ashed halophytic plants and sands. Even more surprising is a correlation between some of the subregional production hubs and the types of glass vessels with diagnostic decoration apparently manufactured in or near the cosmopolitan hubs where the glass was found, such as colorless cut and engraved vessels (in Iraq and Iran) and trail-decorated vessels (in the Levant). This therefore provides evidence for centers of specialization. Our trace element characterization provides a new way of defining the Silk Road by characterizing the glass that was traded or exchanged along it. Taken together these data provide a new decentralized model for ancient glass production.

9E. Ancient Texts and Modern Photographic and Digital Technologies

CHAIRS: Christopher Rollston (George Washington University) and Annalisa Azzoni (Vanderbilt University), Presiding

Christian Casey (Brown University), "New Frontiers in Language Research"

RTI and other imaging techniques have provided a wealth of new information to scholars of the ancient Near East. While their benefits to archaeologists and art historians are often readily apparent, their value to linguists may be difficult to recognize. Many of the inscriptions being recorded using these new methods have long been available in published facsimile form, so it is not entirely obvious why a linguist would require a more detailed version of these inscriptions. Nor is it immediately obvious that such sophisticated technology offers a better method for recording new inscriptions for the purposes of language research than any low-tech approach.

However, along with these imaging techniques, advances in Machine Learning offer exciting new tools to students of ancient languages. RTI images, while lacking the sophistication of laser scans, can still be manipulated to produce three-dimensional renderings of inscription surfaces. These models can then be used to automate the task of producing the familiar sort of facsimile, or they can be used in even more advanced ways, some of which have never been formally proposed. For example, surface renderings of ancient Egyptian inscriptions might provide the source data for a new sort of Optical Character Recognition. In order to propose exciting new possibilities in language research, my paper will consider the technologies available and how these can utilize advanced imaging techniques, while presenting brief illustrations of their direct applications to problems in Egyptian language.

Nathaniel Greene (University of Wisconsin-Madison), "On the Persistence of Tradition: The Impact of Late Bronze Age and Early Iron Age Epigraphic Evidence on Understanding Early Levantine Cultural Development"

The composition and growth of the texts of the Hebrew Bible is an issue suffering from a limited data set. Scholars have undertaken a variety of approaches, attempting to triangulate dates of composition and redaction for classical Hebrew texts. Opinions and conclusions abound, each with their merits and flaws. Among them are those who wish to downdate biblical texts, particularly within the so-called Deuteronomistic History. Often, this is done on the basis of epigraphic finds hailing from an Iron Age cultural milieu in concert with relevant and concurrent material culture. Some suggest that certain written genres (like narrative) were not available to early Iron Age Levantine scribes because their training had not yet equipped them to compose such materials. Such an approach, however, does not adequately account for the full breadth of data at our disposal. Simply put, a lack of hard, textual data attesting to Iron Age Canaanite narrative traditions does not immediately suggest that such a tradition had not yet developed. This paper will assess Late Bronze Age and Early Iron Age epigraphic remains as products of the technology of writing and literacy during this time period. Further, it will consider the ways in which this technology could have spread throughout the Levant and, concomitantly, been used to carry various aspects of Levantine cultural traditions to scribes in later periods. Finally, it will assess possible means by which the Iron Age Phoenician script could have become "standardized" and how such standardization could impact the development/formation of local traditions behind such biblical characters as Saul.

Michael Langlois (University of Strasbourg), "Mobile Multispectral Imaging of Ancient Ink Inscriptions"

Reading ancient inscriptions is often challenging, especially when the ink has faded away. Several techniques can be used to maximize the readability of such inscriptions; my paper focuses on multispectral imaging, and more specifically mobile multispectral imaging. Based on experiments made on dozens of ostraca from various locations (notably Aramaic ostraca found during excavations in Maresha), I will compare my results with previous similar experiments and discuss methodological issues.

Annalisa Azzoni (Vanderbilt University), "New Readings from the Persepolis Fortification Archive"

The photographic recording of the Persepolis Fortification Archive tablets at the Oriental Institute in collaboration with the West Semitic Research Project serves the dual purpose of documenting the archive and helping the reading of the tablets. The enhanced photographic techniques have been invaluable, particularly for tablets that are difficult to read with the naked eye due to their varied state of preservation, the writing technique, and the condition/color of the

writing surface. This paper will present an overview of recent readings, mostly from the Aramaic monolingual tablets, known as PFAT, and illustrate how these techniques have been instrumental in the effort of reading and translating the data offered by this unique archive.

9F. Archaeology of Cyprus II

CHAIR: Nancy Serwint (Arizona State University), Presiding

Pamela Gaber (Lycoming College), "The 2015 Season of the Lycoming College Expedition to Idalion, Cyprus"

The Lycoming College Expedition was in the field from June 22 to August 7, 2015. Work concentrated in the city sanctuary below the west acropolis palatial complex. In 2012 and 2013, we found the earliest use levels of the temple, ca. 1200 B.C.E. This very early place of worship may have been in with Late Bronze Age industrial works. To complete the work in the center of the sanctuary area, the focus of worship, we removed the last unexcavated material in front of the oldest altar in the temple. While the material to the south of the altar dated to the 11th century B.C.E., the material to the north revealed extensive renovations in the Hellenistic period.

The 2015 season removed remaining baulks in the western end of the complex, continued two squares in that area, excavated Hellenistic and Roman levels to the east and north in the sanctuary, and uncovered a series of floors dating to the Classical period, thus "filling in the blank" in the chronological sequence of temple use, extending from 1200 B.C.E. to 700 C.E.

Perhaps the most startling find was the discovery of the Roman entrance to the sanctuary at the extreme western end of the excavated area, bringing the known extent of the city sanctuary at Idalion to 24 m x 42 m (We still do not have the eastern entrance to the temple).

R. Scott Moore (Indiana University of Pennsylvania), "Late Roman D or Cypriot Red Slip: An Examination of Form 11"

A question that has been recently resurrected is whether the widely traded Late Roman fine ware currently known as Cypriot Red Slip Ware is perhaps misnamed and should instead be referred to by its original name of Late Roman D, which would reflect more accurately the lack of certainty over the location of its manufacturing centers. While recent archaeological work in southern Turkey has discovered a number of production sites for the ware near Gebiz (32 km northeast of Antalya), chemical analyses of vessels discovered on Cyprus appear to indicate a production site of Cypriot origin on the west coast between the cities of Paphos and Polis. The location of the modern town of Polis tes Chrysochou, built upon the ancient site of Marion/Arsinoe, only 260 km southeast of Antalya and immediately adjacent to the hypothesized region of Cypriot manufacture, permits the site's ceramics to make useful contributions to this discussion. An analysis of the Cypriot Red Slip Ware/Late Roman D forms discovered during excavations in the town of Polis, and, in particular, an examination of some of the less common shapes such as forms 8 and 11 can help shed some light on the manufacture and movement of this Late Roman fine ware by differentiating between the CRS/LRD ceramics imported from southern Turkey and the ones produced locally. This, in turn, helps illuminate both the trade circulating locally within Cyprus and the commerce imported from Turkey to the northwestern coast of Cyprus.

Lucas Grimsley (Southwestern Baptist Theological Seminary), Laura Swantek (Arizona State University), William Weir (University of Cincinnati), Christopher Davey (University of Melbourne), and Thomas Davis (Southwestern Baptist Theological Seminary), "The Preliminary Results of the Fifth Season of the Kourion Urban Space Project"

This paper will present the preliminary results of the Kourion Urban Space Project's (KUSP) fifth season of excavation and geospatial survey on Cyprus. The goal of KUSP is to better understand the cultural and socio-economic changes that took place during the fourth–sixth centuries A.D. within cities on Cyprus, specifically through the excavation of Kourion, a city whose occupation was punctuated by a devastating series of earthquakes in the late fourth century, clearly marking the transition from the Late Roman to the Early Christian periods. The focus of this paper will be on the 2016 excavations of a large, possibly elite, collapsed structure displaying similar characteristics to other buildings destroyed by the fourth century earthquake and its temporal and contextual relationship to previously excavated structures within the city of Kourion. Attention will be placed on understanding the pottery and other materials found within this collapsed building for contextual analysis with assemblages from other structures within the city, specifically the Earthquake House. Further, the results of the use-wear analysis and reconstruction of pottery found dumped in a room abandoned sometime in the early second to third centuries will be presented. Additionally, the preliminary results of our geospatial survey in conjunction with the Cyprus University of Technology will be presented as we test noninvasive techniques to better understand the urban and natural landscape of Kourion.

Ann-Marie Knoblauch (Virginia Tech University), "Plaster Casts of Cypriot Sculpture in 19th Century Collections"

In 1887, Edward Robinson, then in charge of the Classical Collection at the Boston Museum of Fine Arts, selected and purchased plaster casts for display at the Slater Memorial Museum, part of the campus of the Norwich Free Academy in Norwich, Connecticut. Such cast collections were popular at the time, seen as appropriate teaching aids for Classics and fine arts students. Robinson assembled a collection of approximately 150 mostly ancient casts, many of which are still on display today. Along with the "greatest hits" of ancient sculpture from major European museums, Slater's collection includes nine works of Cypriot sculpture from the Metropolitan Museum of Art, part of the Cesnola collection. These are the only objects from an American museum in the Slater cast collection. This paper investigates how these Cesnola casts made their way to the Norwich collection, arguing that in the late 19th century, when Cypriot antiquities formed the vast majority of the Metropolitan's ancient collection, selling casts could legitimize the New York museum in its early years. The Metropolitan Cypriot collection had further need for legitimacy, as some of the casts for sale were from statues implicated in a contemporary libel case in which Cesnola's restoration techniques were called into question. The court case made nearly daily headlines in New York in the early 1880s. Circulating plaster casts of the Cesnola Cypriot collection to be displayed in regional and university museums beside casts of masterpieces of ancient art lent additional credibility to a collection publically damaged by scandal.

9G. Antioch: A Legacy Excavation and Its Afterlife

CHAIRS: Andrea U. De Giorgi (Florida State University) and Alan Stahl (Princeton University) Presiding

Alan Stahl (Princeton University), "Antioch: A Legacy Excavation and Its Afterlife"

The excavations at and around Antioch-on-the-Orontes led by Princeton University began in 1932 and constituted one of the most ambitious and potentially productive undertakings of classical and medieval archaeology of the twentieth century. During the large-scale excavations carried out from 1932 through 1939, a vast number of objects were found, thousands of photographs and drawings were made, and a large number of archival records were produced. In 1939 the transfer of Hatay Province in which Antakya (ancient Antioch) is located from the French Protectorate of Syria to the Republic of Turkey, and the outbreak of World War II the same year, brought a sudden end to the excavation. Most of the finds and records were sent to Princeton, but only three volumes of postwar publications were added to the three provisional volumes of reports published during the excavations.

In recent years, scholars have been reexamining the records of the excavation and the artefacts, maps, and photos associated with them. This paper will serve as an introduction to the ASOR sessions on Antioch, presenting the original goals of the excavators, the problems they encountered on the site and at their home institutions, and the results as published by the original participants. It will then outline the work currently under way and the prospects of deriving new information relevant to the interests of today's archaeologists and historians from this excavation of seven decades ago.

Gunnar Brands (Martin-Luther Universität Halle-Wittenberg), "Antioch Revisited: Early Excavations and New Surveys"

The French-American expedition to Antioch (1932–1939) has left us with more questions than answers. In particular, topographical questions still loom large. Starting in the 1980s, however, occasional steps were taken to fill with these gaps. Yet it was only through a multidimensional archaeological survey (2002–2008), the first systematic project in the city since the 1930s, that all the data from the site were garnered and reassessed in order to reexamine the city's historical topography between Hellenism and late Antiquity. This research makes it now possible to formulate a new theory on the genesis of the Hellenistic city, one that firmly situates the "Orontes island" in space and ultimately provides a new chronology for the city walls; archival work is equally key to clarifying these topographical issues. The 1930s excavations' diaries and logbooks are a trove of information; their critical analysis, now well under way, offers not only a valuable complement to the new topography, but also corroborates our understanding of both urban development (Forum of Valens, and extension under Theodosius II) and single monuments. Lastly, these documents shed new light on Antioch as a city of the arts through a variety of media, not least mosaics and sculpture.

Asa Eger (University of North Carolina, Greensboro), "Transformations of Urban Space in Antioch from the Hellenistic to Crusader Periods: The Pilot Project of Sector 17-O"

Since 2011, work has been underway on the further publication of the Princeton excavations at Antioch (1932–1939). An international team includes both scholars who are working on the material and archives and members from the Princeton community who have enabled access, funds, and space for the project to exist and continue. Sector 17-O, excavated in 1937, was designated as a pilot area of the larger project and chosen because it was not published, did not possess any mosaics, and is supposedly located at the crossroads of the city, at the edge of the Forum of Valens. It also has a long stratigraphic record of the city's occupation and therefore acts as a microcosm of larger urban transformations. 17-O began as a public space in the Late Hellenistic with a nymphaeum that was restored and continued into the Early Roman period into the second through third centuries. Around the fourth through sixth centuries, a series of shops on a small side street off the cardo appeared that grew into two courtyard houses with attached shops on side streets by the 11th century. In the Crusader period, these houses were reused and subdivided and became more industrial in nature with a kiln for ceramic production. The 17-O project harnesses new studies on ceramics, glass, and small finds and situates these back in stratigraphic context using the archived notebooks, maps, and photographs. The transformations of this area are representative of shifts in Antioch and follow the trajectory documented in other Greco-Roman cities, such as Alexandria.

Ani Eblighatian (University of Geneva), "A Tale of Antioch-Salamis: What The Lamps May Reveal about These Two Cities"

This paper illustrates a comparative study of the lamps found during the excavations of Antioch (1932–1939) and preserved at the Princeton Art Museum, with their parallels from the excavations of Salamis (1952–1974) in Cyprus. The comparison is based on the typology and the iconography of the selected lamps, in order to understand the influences between these two cities during the Roman and Byzantine periods. This study is a part of my doctoral dissertation in progress at the University of Geneva under the supervision of Professor Lorenz E. Baumer. A study season at Princeton University provided me access to 700 lamps of the Princeton collection as well as the documentation of the Antioch excavations. My dissertation is about the question of the Christianization of the daily life in Syria from the second to the sixth century A.D. by studying the iconography of the lamps within their archaeological context.

Brian Muhs (University of Chicago) and Tasha Vorderstrasse (University of Chicago), "A Funerary Association at Antioch: Contextualizing the Mnemosyne Mosaic"

This paper will place the Mnemosyne mosaic from a Late Roman tomb at Antioch in its historical context. It has been suggested that this mosaic, which comes from a tomb in the necropolis to the south of the city, depicts a funerary association. In addition to examining the archaeological context of the mosaic, looking at the tomb specifically as well as other tombs in this necropolis, this presentation will examine the evidence for funerary associations and their development through time. Further, it will look at how this mosaic can be compared to other depictions in different media that show funerary banqueting and how

the material at Antioch fits into wider trends. It is hoped through this comparative approach that we will begin to understand better how this mosaic fits into mortuary rituals at Antioch and throughout the Late Roman world.

9H. Prehistoric Archaeology

CHAIR: Yorke Rowan (University of Chicago), Presiding

Yorke Rowan (University of Chicago), Gary Rollefson (Whitman College), Alexander Wasse (University of East Anglia), Morag Kersel (DePaul University), and Austin Hill (Dartmouth College), "Excavation and Survey in the Wadi al-Qattafi, Jordan: Results of the 2016 Season"

In this paper, we summarize the results of investigations at Mesa no. 7, one of the numerous basalt-capped mesas along the Wadi al-Qattafi in the Black Desert of eastern Jordan. One other structure was excavated in 2011 by our team at Maitland's Mesa (No. 4), one km south, which revealed a Late Neolithic structure (SS-11) on the lower slopes. In 2015 we selected a similar structure covered by collapsed basalt slabs on the southern slope of M-7 for excavation. Here we discuss the completion of those excavations and associated structures, compare the recovered artifact inventory with the material from the 2011 season, and summarize the aerial mapping of this mesa and the surrounding buildings and features.

Kathleen Bennallack (University of California, San Diego), Ian Jones (University of California, San Diego), Mohammad Najjar (JoScapes, Amman, Jordan), and Thomas E. Levy (University of California, San Diego), "How Green Was My Valley: New Insights into the Late Neolithic of Jordan"

After the discovery that most Jordanian "megasites" were abandoned between the Late Pre-Pottery Neolithic and the Late (Pottery) Neolithic, where those people went, why, and how they survived afterward have been defining questions for researchers of the Late Neolithic. Recent research in Jordan has shown that in the seventh and sixth millennia (cal) B.C. numerous sites, some of them very densely settled, were founded in what are now arid and sparsely inhabited regions, raising the question of how the settlers survived and why they would choose such inhospitable locales. The environment seems to have changed drastically in the intervening millennia, however, and the quantity and density of recently-discovered Late Neolithic sites in the currently-arid regions of Jordan indicate that the ancient environment in what we now think of as the "periphery" was capable of supporting many more people practicing more diverse lifeways than it does now, and may not have been peripheral to anything. Combined with new Late Neolithic research projects in central Jordan, the Jordanian eastern deserts, and the Negev of Israel, this project shows that it seems time to overhaul our thinking on the Late Neolithic in the Southern Levant. This paper will present preliminary results from test excavations of a large Late Neolithic site in the Faynan region of southern Jordan, as well as an environmental and archaeological survey, as a test case for how these now-arid regions may have supported dense populations in antiquity.

Jarrad W. Paul (University of Melbourne), "The Leg Bone's Connected to this Whole Zone: What Worked Bone Can Tell Us About Early Farming Communities in Northwestern Anatolia and the Surrounding Region"

The Neolithic way of life spread across the Near East, Anatolia, and Europe through a complex series of trajectories involving people, animals, and material culture. An essential item in the Neolithic toolkit was animal bone worked into tools and objects. This paper addresses the worked bone, and antler, items during the Neolithic period (7000–5500 B.C.E) in northwest Anatolia and the surrounding region. A typological analysis of the recently excavated material at Uğurlu, on the island of Gökçeada, will serve as a focal point in a larger cross-cultural investigation of key sites north, south, east, and west of the site. Work in this region is growing but lacks a systematic review and detailed examination of worked bone between sites. This much-needed inquiry centers on variations between tool types reflected in local adaption of generally homogenized forms. Overcoming terminological inconsistencies will also be identified as a major hurdle in this type of research. Results have shown an overall consistency in groups of bone tools, highlighting extensive connectivity in the region. Variations on a site-by-site basis, however, reflect the social reality faced by prehistoric agents at individual sites. This project is based on my graduate dissertation on bone tool studies in Neolithic Anatolia, and the northern Aegean. Future research should concentrate on the role of these vital prehistoric tools within the larger material cultural record.

Qader Ebrahimi (Tabriz University) and Michael Danti (American Schools of Oriental Research–Cultural Heritage Initiatives), "Introduction to Hasanlu VII Period"

Starting the Hasanlu Project in the southern Urmia Lake basin at Iranian Azerbaijan (northwest Iran) is the beginning of archaeological studies in northwest Iran. In the Hasanlu archaeological sequence, the seventh period yielded material between the Pisdeli period (Late Chalcolithic) and Khabure Ware (Late Bronze Age). It should be noted that the Hasanlu VII matrial synchronizes with the Kura-Araxes communities' emigration into northwest Iran. Our knowledge for this period is inconsiderable compared to other periods in northwest Iran. In this paper we attempt an overview of this period and present a map of the Hasanlu VII people's cultural zone.

Joshua Walton (Leon Levy Expedition to Ashkelon), "The Late Chalcolithic–Early Bronze I Transition on the Southern Levantine Coast: New Data from Recent Excavations by the Leon Levy Expedition to Ashkelon"

The transition from the Chalcolithic to EB I along the southern Levantine coast is poorly understood both in terms of its date and its material culture correlates. Salvage excavations conducted in the Ashkelon region have revealed greater continuity than previously thought between the material culture of the Chalcolithic and EB I along the southern coastal plain. While excavations show settlements identified as EB I through radiocarbon dating, these settlements contain material remains traditionally associated with the Chalcolithic period and lack signs of prior occupation. These discrepancies have

called into question the ability to differentiate between these two periods based solely on material culture.

Further analysis of the material from the Ashkelon region is essential to solve this problem. Previously, the earliest occupation of Tel Ashkelon had been dated to the Chalcolithic period based on limited, unstratified, ceramic evidence. No architecture pre-dating the Middle Bronze Age fortifications had been excavated, although significant amounts of EB III pottery were found in fills. New excavations by the Leon Levy Expedition have uncovered more datable assemblages that further our understanding of this transition. The presence of extensive EB I remains on the tel itself in the form of numerous storage pits demonstrates the participation of the tel in broader regional dynamics. These pits resemble the transitional Chalcolithic–EB I remains at Afridar and Ashkelon-Barnea, both in terms of their material culture and the C14 dates. These findings allow, for the first time, an understanding of integrated regional settlement patterns linking the tel and its surroundings.

Alison Damick (Columbia University), "Preliminary Analysis of the Microbotanical Remains from Early Bronze Age Tell Fadous-Kfarabida, Lebanon"

This paper presents preliminary results of the analysis of phytoliths and starch grains from Early Bronze Age occupation levels at Tell Fadous-Kfarabida on the north-central coast of modern Lebanon. Sediment samples were collected across a wide range of activity areas and contexts, but this paper will focus primarily on the results of samples deriving from storage and hearth contexts. Tell Fadous-Kfarabida is a relatively small early urban settlement (only ca. 1.5 ha) but evidence from ten years of excavation suggests that it held a significant administrative role in the agrarian economy of the Lebanese coastal plain. The microbotanical data allow for a reconstruction of which plants were being used at this site, as well as a preliminary reconstruction of how plants were being stored and distributed for use across the site over time. This contributes significantly to our understanding of early urban use and administration of the environment in third millennium B.C.E. Lebanon.

10A. Archaeology of Arabia II

CHAIR: Peter Magee (Bryn Mawr College), Presiding

Kristina Pfeiffer (German Archaeological Institute, Berlin), "Where Are The Settlements? A Survey in the Emirate of Fujairah"

In the Emirate of Fujairah the archaeological remains of the late third and early second millennia B.C. are predominantly characterized by large and elaborate T- and U-shaped tombs. These were probably used during a long time span and contained a high number of individuals. The type, size, and construction techniques of the tombs indicate that they were the results of collaborative work and were used by communities with a common cultural background.

Interestingly, this good state of findings is the opposite of the scarce archaeological situation regarding to settlements dating between the late third through mid-second millennia that have virtually not been found yet. It is therefore mostly unclear how and where people lived, how the communities were organized socially, and how subsistence was ensured.

Seeking for possibilities to approach this desideratum, a field survey season was conducted which was aimed to study "naturally preferred zones." Preferred zones were defined by specific conditions that favor sedentary life and promote agriculture. Hence, a GIS-based predictive modeling was created, based on criteria that cover aspects such as sweet water supply, geomorphology, topographical conditions, and strategic advantage. Based on these data, the field survey was conducted and it combined modern prospection techniques such as geo-statistics, Aerial Imaging and 3-D landscape modeling.

These highly promising investigations will help to gain insights into third/second millennium sedentary life in the Fujairah Mountains and into the life of the people who were settlers and suppliers in the regional networks.

Eva Kaptijn (Royal Belgian Institute of Natural Sciences), Wim Van Neer (Royal Belgian Institute of Natural Sciences), and Achilles Gautier (Ghent University), "Between Fishers and Pastoralists: Animal Exploitation at ed-Dur (U.A.E.)"

The early first millennium C.E. is still a poorly understood period in southeast Arabian archaeology. Only a few sites dating to this period have been discovered. Much of our knowledge is based on the extensively excavated sites of ed-Dur and Mleiha (U.A.E.). While the site of ed-Dur was already excavated in the late 1980s and early 1990s, its faunal assemblage had only been succinctly and incompletely analyzed and presented. Within the scope of the project "Belgian Archaeological Expeditions to the Orient: Heritage in Federal collections," funded by the Belgian Science Policy Office, the faunal assemblage of ed-Dur has been studied in more detail. This new study provides interesting results on the faunal economy of the early first millennium C.E. and subsistence at the coastal site of ed-Dur.

This paper will discuss the animal exploitation and subsistence practiced at ed-Dur and attempt to place this in its wider regional context. The exact character of ed-Dur is still debated. Opinions range from it being a site with a mainly religious function that was only seasonally visited by pastoral people to a permanently inhabited port involved in trade and seafaring. What light the faunal assemblage can shed on this question will be reviewed. Finally, the relationship between ed-Dur and the contemporary site of Mleiha will be examined from a faunal perspective.

Jennifer Swerida (Johns Hopkins University), "House and Household in the Umm an-Nar Period"

Building on foundations established by the author in the ASOR 2015 Annual Meeting, this paper considers the Umm an-Nar evidence of the physical house and the social household it represents. Household archaeology is a multifaceted and ever-growing subdiscipline focusing on ancient domestic remains and their manifold socioeconomic implications. Among its many strengths, household archaeology provides scholars with a remarkably flexible array of field methodologies and interpretive theoretical lenses. Early Bronze Age settlements of the Oman Peninsula have so far only rarely received the detailed attention necessary for a household analysis. Using the results of recent survey and excavation at the UNESCO World Heritage Site of Bat, this paper discusses how the principles of household archaeology can best be adapted to fit the unique archaeological environment of the

Oman Peninsula and used to shed light on as-of-yet unseen aspects of Umm an-Nar society.

Abigail F. Buffington (The Ohio State University) and Michael Harrower (Johns Hopkins University), "A Phytolith Reference Assemblage for Agriculture in Al-Dhahirah, Oman: Results from the ArWHO 2015 Field Season"

This paper presents analysis of phytoliths extracted from 34 sediment samples collected during the 2015 Archaeological Water Histories of Oman (ArWHO) project field season. Samples were collected from the surface of archeological sites, dating from the Neolithic to Islamic periods, as well as a variety of current and former agricultural fields and a few nonagricultural control samples.

Agriculture across the Oman Peninsula relies on the date palm (*Phoenix dactylifera*) as an anchor species, but relatively little evidence of this plant, or other cultivars, has been recovered from archaeological contexts. Owing to often-poor preservation of charred seeds and plant parts in the region's sediments, ancient crops have often been identified solely on the basis of imprints in pottery or mud brick. Particularly from a botanical point of view, the transition between late Neolithic forager-herders and Bronze Age agricultural communities is thus poorly understood. Date and cereal phytolith remains have been recovered from a few studies in the region, but the understanding of phytolith assemblages and associated plant communities is still in its infancy. To assist in examining ancient crop agriculture in Southeast Arabia, this paper analyzes phytolith assemblages to help establish a baseline reference essential for studies in archaeological contexts.

Michael Harrower (Johns Hopkins University), Ioana Dumitru (Johns Hopkins University), Smiti Nathan (New York University), Abigail F. Buffington (The Ohio State University), Hélène David-Cuny (Independent Scholar), and Alexander Sivitskis (Johns Hopkins University), "The Archaeological Water Histories of Oman (ArWHO) Project: Results of Archaeological Survey and Satellite Imagery Analysis"

Water has played an undeniably important role throughout the human past across the Near East, yet the specific role of water in historical transformations, including the origins of agriculture and rise of complex polities, remains a point of wide uncertainty and debate. This paper reports key results of NASA-funded research on ancient water histories, including fieldwork across the Al-Dhahirah Governorate of northern Oman. These investigations have led to the discovery of numerous Paleolithic, Neolithic, Bronze Age, Iron Age, and Islamic Era sites that greatly clarify long-term histories and geographies of the area. We also report results of innovations in satellite imagery analysis, including evapotranspiration mapping, and semiautomated detection of copper resources and irrigation-impacted sediments.

10B. Archaeology of Mesopotamia

CHAIR: Lauren Ristvet (University of Pennsylvania), Presiding

Rebecca Nicole Reeves (University of Central Florida), "Daily Respites: We All Need Them"

Of what did entertainment in the ANE, especially as concerns in people's quotidian lives, consist? This study looks at the various social groups of which a household was composed. This includes children, adults, elderly members, and if there were extended family households and how entertainment within these social groups related to the larger village/tribal unit. Objects found help us correlate to which social group a toy, e.g., belongs. But, merely because we associate say a spinning top as being a child's toy does not mean that this was true in the past, just as it is not entirely true today. There was an overlap in usage. Culture is learned, including forms of amusement, and this begs the question: How did children in particular learn to play with a given object or objects? Was there cross-cultural transmission? Neither children nor grandparents, however, spend all their leisure time playing. This research looks into how else people made use of their spare time. We are the product of those that have come before us. It is important to know how (dis)similar we are from our ancestors and learn as much as we can about the past to better know who we are, where we are, and to where we are going. Religion was part of people's lives. Does this extend to games, too? We learn that everyone, everywhere needs a respite.

Darren Ashby (University of Pennsylvania),"Beer for Ningirsu: Archaeological Evidence for Brewing at Tell al-Hiba, Ancient Lagash"

This paper presents the material evidence for brewing in an Early Dynastic III (2600–2350 B.C.E.) building from Tell al-Hiba, ancient Lagash, and discusses the similarities and differences between the brewing practices known from textual sources and those identified in the structure. In 1975, the Al-Hiba Expedition, led by Dr. Donald P. Hansen, uncovered the remains of a multiroom building with a large oven, ceramic vats, and a baked brick basin, which the excavators identified as a brewery. This building is located in the area of the Bagara, a temple complex dedicated to the god Ningirsu, and is adjacent to another building that should be identified as a temple based on its form and contents.

The importance of beer in the political, economic, and social life of Early Dynastic southern Mesopotamia is well known from textual and visual sources. In contrast, archaeological evidence for the production and consumption of beer is very fragmentary. Textual and visual sources from the state of Lagash, which included Tell al-Hiba, document the involvement of temple households in the production and consumption of beer in a variety of contexts. The building from Tell al-Hiba serves as a complement to these other sources and it expands our knowledge of brewing practices in antiquity.

Reed Goodman (University of Pennsylvania), "Modelling the Cultural Landscape at Lagash in the Bronze Age"

Physical and social events have recreated the landscape of southern Iraq throughout its history. It follows that this emergent nature poses a problem for archaeological reconstruction: How do we recognize and explain dynamic processes from a static material record? Agent-based modeling is one solution. Using prior survey data, time-series satellite imagery, and bathymetric simulation, this paper offers a model of intrasite change at the ancient city of Lagash, modern al-Hiba, during the Bronze Age. Specifically, the model explores not the growth of a city, but the ebb and flow of proximate marsh villages, negotiating recurrent floods and dry spells over the course

of millennia. The results, first, provide an alternative characterization of early Mesopotamian urbanism at Lagash, but they also suggest an intersection of circumstances and strategies, in which a changing physical, social, and political setting demanded adaptive responses from local communities. More broadly, the paper confronts a long-held notion of Sumer as a superimposed but materially recoverable "palimpsest," waiting to be unearthed and understood. Instead, the paper acknowledges and attempts to theorize the role of a volatile—and often archaeologically invisible—environmental niche, and therefore argues for the need of dynamic models to establish new baselines and conceptual frameworks for an archaeology of wetlands and marshes, not cities and states.

Paul Zimansky (Stony Brook University), "Ur's Akitu, Tell Sakhariya, and GA.EŠ"

In Ur III Period, the New Year's festival of the moon god Nanna was the most important event on the southern Mesopotamian cultic calendar. As part of it, the divine image was transported from Ur by boat to nearby GA.EŠ where various rituals were performed. Although this site indisputably lies somewhere near Ur, there is no agreement on its precise location. This contribution reviews the textual evidence for structures and other material evidence that one would expect to find in an excavation GA.EŠ, and argues that they are consistent with what a Stony Brook excavation recovered from the site of Tell Sakhariya in a five-week excavation in 2012. It was in many ways a very peculiar site with a surprising number of inscriptions of the Ur III and Isin-Larsa period, and very little evidence of permanent settlement. While the case for identification with GA.EŠ remains circumstantial, the archaeology of the site in these and subsequent periods is interesting for the light it sheds on Ur's hinterland.

Elizabeth Stone (Stony Brook University), "New Excavations at Ur"

The first season of a new program of excavations at Ur, Iraq was in the field between October and December 2015. The aim of this program is to further investigate domestic housing in the AH area, with the aim of collecting data which would permit a comparison of daily life dating to both Ur III and Isin-Larsa periods of occupation. Four trenches were explored, two beneath areas already excavated by Woolley (under 1 Baker's Square and Niche Lane) and two in new areas (one west and one north of the excavated area). The excavations within the remains of Woolley's work penetrated down to Ur III levels in both areas, and reached Akkadian material in one, but were restricted in area due to the higher architecture. New excavations explored late Isin-Larsa levels. Data recovered include ceramics, animal bones, plant remains, objects of various kinds, cuneiform tablets, and the first piece of ebony found in southern Iraq.

Michael Fisher (University of Chicago), "The Development of Social Complexity During the Late Chalcolithic (LC) 1 Period (ca. 4500-4200 BC) at Tell Zeidan, Syria"

Until recently, the LC 1 period had been relegated to being either the retrograded end of the Ubaid or a prologue to the LC 2. Results from recent excavations in Upper Mesopotamia now permit a fuller assessment, indicating a rise to prominence of ceramic mass production. However, alongside that change, many other facets of Mesopotamian society also underwent transformations.

From 2008 to 2010 the Oriental Institute excavated the site of Tell Zeidan, Syria, providing as-of-yet unseen evidence for a shift in patterns of material culture that occurred during the LC 1 phase in the Balikh valley. This paper presents a new synthetic analysis of the LC 1 as key to understanding the development of social complexity, using evidence from Tell Zeidan to test the hypothesis that a diffuse leadership structure, opportunist economies, and improved social reflexivity replaced Ubaid-period systems.

The paper concludes that the LC 1 was a period marked by localized responses to gradual decline in socio-economic support for Ubaid political structures. These responses established a new paradigm of inter-regional differentiation that helped foster the development of formal social stratification evidenced by later societies.

10C. Archaeology of Monasticism

CHAIRS: Asa Eger (University of North Carolina-Greensboro), Darlene Brooks Hedstrom (Wittenberg University), and Fotini Kondyli (University of Virginia) Presiding

Sarah Craft (Florida State University), "Monasteries, Pilgrimage, and Settlement Patterns in a Late Antique Landscape"

Late antique monasteries, like pilgrimage destinations, were important points of intersection for multiple different spheres and trajectories in the early Christian world. Not only were they demonstrably integrated into the economic landscape and a relatively permanent component of the inhabited landscape, they also saw a stream of visitors—some local, some long-distance—who occupied the physical space of the monastic complex, albeit briefly, but with profound notional as well as material impact. Like other forms of late antique settlements, monasteries were both conceptually and spatially discrete areas of the landscape while also an inextricable part of it, connected both physically and notionally to the wider world through productive activities, religious activities, and travel infrastructure. In this paper, I will examine posited monastic settlements in the late antique landscape of Cilicia and Isauria in southern Asia Minor as fundamental parts of the settlement pattern of the late antique landscape. Arguments against identifying these sites as monasteries point towards villa or palace designations, raising the question: How do we distinguish, archaeologically, between a monastery, a villa, and a settlement? How are those distinctions impacted by temporary populations, like pilgrims? Drawing upon comparative examples of monasteries in Asia Minor, Egypt, and the Levant, I will discuss Cilician and Isaurian examples of known and potential monastic sites as part and parcel of the impact of late antique monasticism on broader patterns of settlement and movement.

Jordan Pickett (University of Michigan), "The Hydraulic Context of Monasticism in Late Antique Palestine"

The built environment of late antique monasteries is too often viewed in scholarship through a lens darkly which emphasizes physical and spiritual separation both from urban settlements and broader trends in the history of society and technology. One recent alternative trajectory in scholarship has assessed the integration of late antique monasteries with rural productive and economic landscapes. This paper offers another alternative perspective, namely an assessment of

the hydraulic landscapes and architecture of monasticism in fourth and early fifth century Palestine. Utilizing hydraulic technologies traditionally associated with the Nabateans and *villa rustica*—large-scale rainwater catchments, diversions, dams, water-mills, cisterns, and reservoirs—monasteries like Khirbet ed-Deir made the Judean desert a city. But, to follow the inversion popularized by D. J. Chitty and borrowed from the Desert Fathers, the city also became the desert: monastic water technologies were exported back to cities like Bosra, Jarash, and Caesarea Maritima in the course of the fifth and sixth centuries, where they became a standard component of episcopal church complexes and thereby contributed to the changing image and function of the late antique city.

Giorgos Makris (Columbia University), "Making a Connection: Interaction between Monasteries and Environment in Byzantine Thrace"

The purpose of this paper is to examine the interrelationships between monastic communities and landscape (natural and manmade) in the region of Thrace, the western hinterland of Constantinople, from the 11th to the mid-14th centuries C.E. Material culture and literary sources inform us that between the Byzantine capital and the inner Balkan Peninsula a dense nexus of interconnected monastic settlements developed that conformed to their surrounding environment and permeated both rural and urban landscapes. However, the political and spatial demarcation of Thrace among three modern nation-states (Bulgaria, Greece, and Turkey) has acted as an obstacle that hampers the study of settlement patterns in the medieval period. By transcending these national boundaries, I will focus on the types of location selected for settlement and sites of daily activities, such as agricultural production, building practices, and interregional contacts. My methodology brings together the systematic analysis of textual and archaeological records with the results of my own surface survey, covering primarily eastern and western Thrace. This paper will showcase that the investigation of the monasteries' whereabouts pertains to the reasons for their longevity and prosperity. Ultimately, my intention is to contribute to a broader picture of monastic life cycle and topography in the southeast Balkans, one that is not dominated by the presence of cultural magnets like Mt Athos, but rather incorporates the less-known, modest and ever-common monastic settlements of the hinterland.

Alessandra Ricci (Koç University), "The Byzantine Monastery's '*Long Durée*': Natural Environment and Physical Spaces"

Canon 24 of the Council of Chalcedon (451 C.E.) stipulates that: "Monasteries once consecrated in accordance with the will of the bishop are to remain monasteries in perpetuity and the effects that belong to them are reserved to the monastery, and they must not be turned into secular hostelries." The impression the Canon conveys is that already by the middle of the fifth century, interests behind the foundation of monasteries might have been unrelated to the alleged sacredness of the site. Another important impression is that the role of bishops might have been an important one, trying to prevent independent monastic foundation attitudes. In terms of the built environment, Canon 24 did also imply that the monastic physical space was meant to be regarded as such "in perpetuity." Thus, the Canon may have paved the way for what might be called the monastery`s "*long durée*." This paper explores the archaeological evidence of Byzantine-period monastic complexes seen through the lens of long-term historical structures. Analysis of the long-term life of monastic complexes will reflect on the impact they bore on the natural environment. Moreover, when observed through the lens of long-term structures, the archaeology of single monasteries displays the qualities of a complex texture forming an eccentric built environment. The Middle Byzantine period constitutes the presentation's main chronological focus with the city of Constantinople representing the starting point. Archaeological analysis will also extend to the vicinities of the capital city, to the Marmara seashore, and to some of the Aegean islands.

10D. New Research in Pre-Islamic Central Asia

CHAIRS: Jeffrey Lerner (Wake Forest University) and Charlotte Maxwell-Jones (The Asia Foundation), Presiding

Jeffrey Lerner (Wake Forest University), "The Silk Road Fortresses of the Vakhan Valley"

The Vakhan Highway, or Great Buddhist Road, situated along the Pianj on the upper reaches of the Amudaria, was one the main roads that ran through the western Pamir until the Arab conquest. It stands out for the cultural and historical role it played as a crucial link in the transasiatic route allowing travelers to pass through western China in the north and Afghanistan and India in the south. A series of fortresses line the bank of the Pianj in modern Tajikistan. The region long populated by Saka tribes may have been part of the twelfth satrapy of the Achaemenid Empire.

Fortresses, like Yamchun, perhaps built during the Greek-Baktrian Period served as a bulwark against nomadic tribes migrating southward. While the region remained part of the Greek-Baktrian kingdom either by conquest or by alliance, most of these castles appear to have been constructed in the first century B.C.E. by the Kushans, but not against the possible encroachment of the nomadic Saka, but against a more powerful foe, the Han Chinese. Only after peace negotiations between the Kushans and the Han General Ban Chao broke down at the conclusion of the first century C.E. and with Chinese troops amassing on the borders of the Pamir in Eastern Turkestan were the Kushans compelled to move into the Tarim Basin. In doing so, not only did the Pamir remain in the control of the Kushan Empire, but this action also serves as the first historically attested use of the Vakhan Highway in antiquity.

Emily Hammer (The University of Chicago) and Anthony Lauricella (The University of Chicago), "Pre-Islamic Fortresses of the Balkhab River Valley (Northern Afghanistan)"

In this paper we describe and analyze the particularly varied and dense landscape of forts/fortresses and fortified citadels in the Balkhab river valley of northern Afghanistan. Settlement here generally follows the various shifting channels of the river as well as artificial canals that cut through the desert. Published data, especially Ball and Gardin's *Archaeological Gazetteer of Afghanistan* (1982), describes many of the large sites in the region, but dozens of smaller, undocumented fortresses and citadels dot the landscape. Our research uses modern and historical satellite imagery to locate and categorize these structures. Many of these sites may be provisionally dated on the

basis of architectural and taphonomic comparison to excavated sites and on the basis of their spatial association with geomorphologically dated water channels. Study of the distribution and spatial patterning of these forts not only fills the gaps in our knowledge of the region and its changing settlement patterns, but also allows us to track changes in various pre-Islamic polities' maintenance of territorial control along the inhabitable corridors of the shifting river valley.

Wu Xin (University of Pennsylvania), "Investigating the Transition from the Achaemenid to the Hellenistic Period in Central Asia: Kyzyltepa as a Case Study"

Alexander the Great's invasion of Central Asia in the fourth century B.C.E. marks a turning point in the region's history. In the *longue durée* approach, the arrival of the Greeks meant novel and stimulating developments for the local inhabitants, transforming the region, especial Bactria, into a zone of interaction between the Mediterranean world and the East. Yet, the immediate impact of Alexander's invasion is still subject to much debate, because what precisely occurred in Central Asia after the fall of the Achaemenid Empire remains largely unknown.

Recent excavations at Kyzyltepa, a site established during the Achaemenid Empire and abandoned in the early Hellenistic epoch, allows us a glimpse into this little-known "transitionary" period and helps to bridge the gap between these two eras. In order to place in context the changes wrought by the Greeks in Bactria, this paper will examine the rise of Hellenism throughout Central Asia, including its impact on the steppe.

Fahim Rahimi (National Museum of Afghanistan), "Museums of Afghanistan: Preservation, Presentation, and Future Plans"

For more than three decades, the continuous state of warfare in Afghanistan has completely destroyed every facet of the country, including the country's rich cultural heritage. Throughout this time, I have been a witness to the wholesale loss of Afghanistan's music tradition, festivals, theater, and of course the country's museum collections, which have been looted and deliberately destroyed. Monuments that had lasted millennia have been the target of rocket attacks, especially those that date to the pre-Islamic period, while archaeological sites have become a source of booty. Yet, amidst the destruction the National Museum of Afghanistan still survives and its caretakers and curators persist in conserving and exhibiting the precious few collections. Their shared optimism looks forward to better days.

The National Museum of Afghanistan is charged with administering all the museums throughout the country. The museum's own holdings have survived well enough to showcase how the country has affected and shaped many Euro-Asian civilizations throughout ancient history. Afghanistan has played a pivotal role in acting as the nexus linking the myriad societies of the Middle East, Central Asia, South Asia, and the Far East, all of which are represented in the National Museum's collections. Although the museum has been severely damaged, its holdings in recent years have grown exponentially. So too, have the methods of preservation, which have likewise improved immeasurably. This paper will emphasize the museum's current status, including its holdings, and plans for the museum's future and those around the country.

Charlotte Maxwell-Jones (The Asia Foundation), "Greek Material Culture at Ai Khanoum and Bactra"

Ai Khanoum, Afghanistan has yielded some of the more surprising and clearly Hellenistic material ever found in Central Asia, despite not being a capital city. Bactra, the Achaemenid and Hellenistic capital of Bactria, has also produced Hellenistic material, but the differences are striking. Specifically examining the ceramic remains of Bactra and Ai Khanoum, both published and in museum holdings, this paper presents a picture of two different manifestations of Hellenism in Central Asia.

Bactra, the more cosmopolitan city, larger and almost certainly more diverse in population, lacks many of the high quality Greek style wares found at Ai Khanoum. In fact, the Ai Khanoum ceramics fit very well into the broader koine of Hellenistic material culture and would be at home in Syria, the Levant, or Anatolia. Ai Khanoum has high-quality black-slipped graywares, mold-made bowls, affixed decorations, and numerous fishplates and kraters. Bactra, on the other hand, lacks these higher quality goods, and although there are rare examples of fishplates, there are no mold-made bowls or affixed decorations, and overall no evidence of the high-quality sympotic vessels found in such abundance at Ai Khanoum. These disparities, however, need not indicate that Bactra had a smaller Greek population, was less wealthy, or less connected with long distance trade. It likely points, rather, to a better-integrated Greek population and different manifestations of Greek identity.

10E. Archaeology of the Natural Environment: Archaeobotany and Zooarchaeology in the Near East

CHAIRS: Madelynn von Baeyer (University of Connecticut) and Melissa Rosenzweig (Miami University)

Madelynn von Baeyer (University of Connecticut), "It Takes a Village (to Harvest a Crop): Plant Use during the Late Chalcolithic at Çadır Höyük, Turkey"

This paper presents archaeobotanical data from the Late Chalcolithic archaeobotanical assemblage at Çadır Höyük, a mounded site on the north central Anatolian plateau with almost continuous occupation from the Middle Chalcolithic through the Byzantine period. Architectural and metallurgical evidence indicate that during the Late Chalcolithic, Çadır was developing as a regional rural center, which makes it an ideal site to study the role that households occupied during emerging systems of social hierarchy and complexity. This paper will focus on both descriptive and quantitative preliminary data from samples dating to around 3600 B.C.E. from a communal cooking area at Çadır. This analysis will examine how plant remains can inform studies on household subsistence economies, organization of labor, and differences in plant use between households.

Andrew T. Creekmore III (University of Northern Colorado), "The Specialized Animal Economy at Early Bronze Age Kazane Höyük, Turkey"

This paper examines the animal economy at Kazane Höyük, a 100 ha Early Bronze Age urban center located in the Harran Plain,

Turkey. This research is significant because it adds to comparative data on faunal assemblages from urban centers in upper Mesopotamia and furthers the picture of regional differences in animal exploitation that may be connected to environmental, economic, or socio-political factors. On the basis of faunal analysis from the citadel and outer town I conclude that Kazane had a highly specialized animal economy with a narrow focus on sheep and goat, supplemented by cattle. This distribution lacks the percentages of pigs often found at contemporary sites in the southern parts of the Jazira, and the percentage of wild animals often found at contemporary sites in the Northern Jazira and the Euphrates Valley in Turkey. This pattern may indicate a local pattern of animal exploitation in the Harran Plain, or an intrasite pattern of consumption in the presumably institutional or elite contexts sampled at Kazane. Considered by body parts, the faunal assemblage indicates butchering and consumption of animals in the area of the sample contexts. Storage facilities, settlement patterns, and site sustaining areas indicate that Kazane practiced intensive agriculture. The animal economy likely dovetailed with crop production by grazing herds on ample crop stubble and in the nearby highlands.

Sarah E. Adcock (University of Chicago), Josh Cannon (University of Chicago), and Benjamin S. Arbuckle (University of North Carolina at Chapel Hill), "(Ursa) Major Findings in the Bronze Age: The Roles of Bears in the Ancient Near East"

In this paper, we examine both zooarchaeological and textual evidence to explore the relationships between humans and bears during the Bronze Age in the ancient Near East. Humans and bears have had a long history of interaction, and bear remains are consistently present, though in small quantities, at Bronze Age sites. However, little work has been done to synthesize this evidence or to consider the various roles bears may have played (e.g., entertainment, status symbol, ritual element). Focusing particularly on Anatolia and Mesopotamia, we survey the zooarchaeological literature for evidence relating to general health, demographics, the representation of elements, and skeletal processing. We then place this evidence in relation to references from textual sources. For example, are the skeletal parts that appear in the zooarchaeological record limited to those that we might expect to see still attached to bear skins? Or were whole animals present at Bronze Age sites? How might this evidence relate to texts that suggest the presence of live bears in royal courts? By combining these lines of evidence, we illuminate a neglected aspect of human-animal interactions during the Bronze Age.

Jennifer Ramsay (SUNY College at Brockport) and Geoffrey Hedges-Knyrim (University of Connecticut), "Evidence of Destruction at the End of the EB III Period at Khirbat Iskander: An Archaeobotanical Perspective"

The Early Bronze Age site of Khirbat Iskander is located on the central plateau, approximately 24 km south of Madaba, Jordan. Excavations at the site over the years have focused primarily on the fortified EB III city remains and the transition to the EB IV agricultural settlement. The well-known and much debated collapse or abandonment of the early cities at the end of EB III has been documented at many sites in the Levant and is evident at Khirbat Iskander as well. Excavations of building collapse document the destruction at Khirbat Iskander and large quantities of carbonized food stores that were recovered from EB III levels support this event. The thousands of barley grains (*Hordeum vulgare*) and lentils (*Lens culinaris*), as well as significant quantities of emmer wheat (*Triticum dicoccum*), common pea (*Pisum sativum*) and chick peas (*Cicer arietinum*) attest to the agricultural nature of the region and the vital role of storage in urban environments in early complex societies. This paper compares the archaeobotanical assemblage from Khirbat Iskander with assemblages from other EB III sites in the region in order to gain a better understanding of the implications of the destruction of food resources and the role of the agricultural economy at the end of the EB III period.

Louise Bertini (American University in Cairo), "Changes in Environment and Caprine Husbandry Practices Using Linear Enamel Hypoplasia (LEH): The EB III–IV Transition at Khirbat Iskander"

Ancient civilizations in the Near East reached a zenith during the first centuries of the third millennium B.C. At the end of the millennium, a sudden collapse struck the Early Bronze Age civilization of the Levant. This widespread event of civilizational decline affected societies in Jordan where settlement size reduction and abandonment are evident in the archaeological record. As Khirbat Iskander is one of the few sites in Jordan that remained occupied throughout EB III and IV (ca. 2600–2000 B.C.) periods, the faunal material provides a unique opportunity to view the transition and/or cultural continuity at one site. This paper will thus explore caprine husbandry practices through analysis of the dental defect, Linear Enamel Hypoplasia (LEH). LEH is a defect in teeth caused by physiological stresses encountered during dental development. As there are no data that describe the prevalence of LEH in Jordanian animal material, this research aims to establish the frequency of LEH in the archaeological remains of caprines from the site of Khirbat Iskander. This established baseline would then be plotted against the chronology of caprine tooth formation, which will be used to interpret possible regional climatic changes at the end of the third millennium B.C.

Tiffany Rawlings (SUNY College at Brockport), "A Preliminary Look at the Zooarchaeology of the Roman Period Occupation at Humayma, Jordan"

The site of Humayma, or ancient Hawara, is located in the Hisma desert of southern Jordan. The site of Humayma is the largest Nabataean and Roman period site in the region, and as such it is an important source for reconstructing ancient culture and diet. The Roman period fort (E116) at Humayma dated from the early second century through the early fifth century C.E. has been excavated on and off for the last 25 years. This presentation provides a preliminary analysis of the zooarchaeological remains recovered from the fort and a contemporaneous period mud brick structure (E128) at the site. Comparisons are drawn between the faunal assemblages from each structure, which provide clear markers of "Roman diet" (pigeon, *Columba sp.* and pig, *Sus scrofa*), including evidence of imported and/or "luxury" animal species and animal products (leopard, *Panthera pardis*; ostrich, *Struthio camelus*; and various imported fish species, including parrot fish, *Scarus sp.*). The results of this study provide a greater understanding of the role and influence the Roman military had on the remote borders of the empire.

10F. Technology in Archaeology: Recent Work in the Archaeological Sciences

CHAIR: Andrew J. Koh (Brandeis University), Presiding

Jody Michael Gordon (Wentworth Institute of Technology), Erin Walcek Averett (Creighton University), and Derek B. Counts (University of Wisconsin-Milwaukee), "Mobilizing the Past: A Review of Current Developments in Mobile Computing and Digital Workflows in Near Eastern Archaeology and Beyond"

In February 2015, a workshop on the current state of mobile computing in archaeology and the future of digital archaeological workflows—entitled *Mobilizing the Past*—was convened at Wentworth Institute of Technology. The workshop's purpose was to bring together pioneers in archaeology and computing to discuss the development and use of mobile device technology to advance digital archaeology, i.e., fully digital recording systems aimed at creating born-digital data in the field in ways that advance projects' research agendas. Archaeologists working at sites around the globe, including those in Israel and Cyprus, shared their insights and critiques on digital field recording techniques, tools for on-site spatial and imaging analysis, workflows, student pedagogy, as well as systems of data management and long-term curation.

This paper's goal is to share the workshop's results in order to challenge Near Eastern archaeologists to think about how mobile computing workflows impact the practice and interpretive value of archaeology. Papers presented at the *Mobilizing the Past* workshop brought to light the pros and cons of converting to digital or "paperless" workflows, and also the issues and challenges that will likely dominate the discourse on future attempts to digitize archaeological data "at the trowel's edge" including: time management, cost, data quality and quantity, systems' design, usability, and interpretive power, and data democratization. Overall, this paper sheds light on the best practices in mobile computing in archaeology that emerged from the workshop and emphasizes their potential to improve current archaeological practices.

Tatjana Mirjam Gluhak (Johannes Gutenberg University), Danny Rosenberg (University of Haifa), and Jennie Ebeling (University of Evansville), "The Provenance of the Iron Age Basalt Vessels from the Workshop at Tel Hazor: Results from a Comparative Geochemical Study of Basalt Vessels and Geological Samples"

The discovery of a basalt vessel workshop at Iron Age Tel Hazor (Area M) offers a rare opportunity to characterize the production of basalt vessels during the first millennium B.C.E. To enable a reconstruction of the distribution of basalt vessels produced at the Hazor workshop, and determine the provenance of the basalt used there, geochemical analyses of vessel preforms or rejects and geological field samples are essential. We present the results of a geochemical study conducted in 2014 and 2015 of vessel preforms as well as field samples from basalt sources near Hazor. The evaluation of the geochemical data of the vessel preforms showed that the raw material for the great majority of them was procured from one specific, as yet unknown, extraction site.

The comparison of the geochemical composition of this unknown extraction site with geochemical data from previously collected geological samples from the region allowed us to constrain basalt deposits that potentially served as raw material. These rocks, located on the so-called "Korazim Basalt Block" south of Hazor, were sampled in detail and analyzed, and the geochemical compatibility of the vessels' primary extraction site with these basaltic rock field samples was tested. Our presentation shows that the artisans of the Hazor workshop preferred raw material from a specific, but distant, source. It is possible that Hazor controlled this specific basalt source because of its material properties for vessel production even though other suitable sources can be found closer to the site.

Brady Liss (University of California, San Diego), Thomas Levy (University of California, San Diego), "Get to the Copper! Using XRF to Explore Copper Smelting Practices at Khirbat al-Jariya, Faynan, Jordan"

Recent excavations by the Edom Lowlands Regional Archaeology Project (ELRAP) at Khirbat al-Jariya (KAJ), an Iron Age smelting center in the copper-bearing Faynan region of Southern Jordan, aimed to explore the diachronic narrative of metal production over the site's occupational history. KAJ, located approximately 3 km from the famed Khirbat en-Nahas, is a roughly 7 ha site characterized by collapsed architectural features and large slag mounds still visible on the surface, attesting to its significance as a copper production site. These renewed excavations investigated the site's abundant metallurgical remains by excavating a test probe into one of these slag mounds on the southern edge of the site. This small window, a 1 x 1 square meter sounding excavated to bedrock, provided a complete picture of copper smelting activity over the site's history. In order to supplement archaeological excavation in examining the metallurgical narrative, slag samples were collected from stratigraphically controlled contexts (from both within the probe and other contexts) to be subsequently analyzed with X-Ray Fluorescence (XRF) Spectroscopy. Analyzing the elemental contents of the slag samples over the chronological scaffold provided by excavation allows for a diachronic comparison of these elemental concentrations. In turn, the XRF results provide additional and invaluable insight beyond the macroscopic record in exploring the copper smelting activities. Together, the excavated material culture and analytical results provide the necessary foundations to reconstruct the metallurgical narrative of KAJ.

Bruno Soltic (Southwestern Baptist Theological Seminary), "A Look from Above: The Comparison of UAV Photography through Three Seasons at Tel Gezer (2014–2016)"

The past decade has seen a revolution in aerial photography. The presenter is a staff member at the Tandy Excavation at Tel Gezer and has assisted in the transition to the use of unmanned aerial vehicle (UAV). This paper will initiate a discussion on the use of UAVs in aerial photography by examining several UAVs that have been used on the field: Dji Phantom II with Gopro, Dji Phantom II Vision + (2014), Dji Spreadwing (2015) and Dji Phantom 3 Professional or newer (2016). The pros and cons of the use of UAVs will also be discussed by comparing the cost, transportation, and quality of the picture.

Bradley Erickson (UNC-Chapel Hill), "Stepping into the Past at Bet Alpha: Exploring Research Methodology and Pedagogy with 3D Modeling and Virtual Reality"

Recent interest in digital humanities has given rise to research methods that allow for immersive, pluralistic explorations into the past. This paper presents a 3D, navigable model of the ancient synagogue of Bet Alpha to demonstrate the benefit 3D modeling offers archaeologists in conceiving how ancient peoples experienced their art and architecture. The Bet Alpha model will be used to explore synagogue-seating capacity, the archaeoastronomy of synagogue art and architecture, and the visual-effect of dynamic lighting upon the building's mosaic floor.

In addition to the exploration of research questions, 3D modeling also proves useful pedagogically. With the use of a simple, affordable virtual-reality viewer, such as Google Cardboard, an instructor can take his or her students on a first-person journey through antiquity. This presentation will display the value of 3D modeling on the aforementioned areas of synagogue research as well as the pedagogical benefit of modeling and exploring ancient environments in virtual reality.

Concerning methodology, the Bet Alpha model was produced using a combination of drafting software (AutoCAD), 3D modeling software (3DS Max and Blender), structure-from-motion software (PhotoScan) and video-game editing software (Unity3D). The final model was then exported and loaded onto two platforms: first, a web server so that it could be accessed and explored via a first-person playable character by anyone with an active Internet connection; and, second, it was loaded onto the website SketchFab, which allows anyone with a virtual-reality viewer to explore the model in 360 degrees.

10G. Senses and Sensibility in the Near East II

CHAIR: Kiersten Neumann (Oriental Institute, University of Chicago), Presiding

Stephanie Langin-Hooper (Southern Methodist University), "Miniatures at the Multiple Intersections of Vision and Touch: Seals, Figurines, and Jewelry in Hellenistic Babylonia"

This paper explores the nuanced possibilities made available using a combination of visual and tactile perspectives to analyze the miniature objects of Hellenistic Babylonia. Although these miniatures all have strongly visual components, the quality of miniaturization (which makes tactile interactions both accessible and intriguing) suggests touch-based analysis as particularly advantageous for this corpus of material. The first of three case studies addresses the tactile effects and reactions of figurine materials (clay, stone, bone, and metal). All these materials pinpointed human touch as the "life-giving" nexus of user-figurine interaction, thus situating figurines as intimate participants within the human social world. The second case study analyzes Hellenistic Babylonian stamp seals and signet rings. The nature of these miniatures as surfaces will be shown to have prohibited meaningful tactile engagement, thus limiting user engagement to a "skin deep" level of pseudointimacy that was appropriate for an individual's public signatory device. The third case study explores jewelry miniatures, which were intimately touched but rarely seen by their users, who wore them on the neck and face. Often depicting grotesque and frightening imagery, such jewelry miniatures presented a skin-to-skin relationship between wearer and miniature that was more performed than experienced, creating a "second skin" of protective barriers that was visible primarily to (and designed to protect against) the prying gazes of an external audience.

Through these three case studies, this paper will establish touch-based and skin-centered analyses as a productive research methodology to understand the complex and variable affect of miniature objects.

Melissa Cradic (University of California, Berkeley), "Scents and Sensibility: The Sensorial Roles of Lamps in Funerary Rituals during the Second Millennium B.C.E"

Lamps played significant sensorial and symbolic roles in Canaanite funerary practices, especially those that took place in chamber tombs (rock-cut, cave, and masonry-constructed), where lamps were most frequently attested during the Middle and Late Bronze Age. These distribution patterns have important implications concerning the sensory experience of body disposal in reused burial chambers. In many cases, funerary participants would have encountered earlier deposits including human remains in various stages of decomposition.

What were the sensorial roles of lamps in funerary rituals? Unlike the bowls, jugs, and jars that comprised the remainder of the ceramic assemblages, lamps were not used for serving or storing food and liquid offerings. Instead, lamps served fundamentally different functions during the final stages of the funerary sequence that allowed mourners to invoke specific deities such as Shapsh, to purify and prepare the burial space, and to mark the closure of the tomb. Many lamps deposited inside and outside burial chambers had traces of soot, indicating the ephemeral use of light and possibly aromatics during and following interment. This paper analyzes the olfactory and visual roles of lamplight in funerary rituals, as well as other evidence for anointing and perfuming corpses, focusing on the experiential and symbolic implications of scent and illumination in the context of second millennium B.C.E. chamber tombs. This approach sheds new light on the meanings of these sensorial experiences in Canaanite death and burial practices.

Helen Dixon (University of Helsinki), "Perfuming the Dead: Evidence for the Use of Aromatic Oil and Resins in Phoenician Mortuary Practice"

The smells associated with the interment of the human dead in the Iron Age Levant are perhaps not an enticing research topic at first glance. But in the central coastal Levant (collectively referred to as "Phoenicia"), evidence from funerary inscriptions, ceramic vessels buried with the dead, and the physical remains of elites all point to the use of perfumed oils and oleo-resins during mortuary rituals including the preparation of the body. Perhaps the most obvious explanation for these measures is a practical one: to mask the scent of a decaying corpse for the benefit of those present at burial, since myrrh, bdellium, and other strong scents made up the funerary olfactory repertoire. But the scented oils seem to have developed other cultural meanings as well, perhaps accumulating several symbolic associations over the course of the Iron I–Hellenistic periods (ca. 1100–300 B.C.E.).

In particular, by the second half of the first millennium B.C.E., aromatic oils seem to have been used to attempt the embalming of certain royal persons (the remains of the Persian period King Tabnit

of Sidon are our best preserved example), and so may have become associated with preservation of both the physical and unseen aspects of deceased in other social strata. In this sense, I explore the possibility that smaller quantities of these perfumed unguents could have been used in acts of "symbolic mummification," and weigh this suggestion against the prevailing interpretation of small juglets in Phoenician graves as representing libations for the dead.

Lissette Jimenez (San Francisco State University), "The Sixth Sense: Multisensory Encounters with the Dead in Roman Egypt"

While image and representation have always played a central role in the commemoration of the dead in ancient Egypt, ritual funerary practices were often multisensory experiences comprised of an intricate combination of visual, auditory, tactile, gustatory, and olfactory senses. A proper funerary ensemble, coupled with the burial landscape, facilitated active tactile encounters between the living and the dead and were critical for the revivification of the deceased in the afterlife. The combination of textual, archaeological, and visual material evidence reveals that the ritual practice of celebrating the dead included offerings, feasting, dancing, and the recitation of magical spells. This paper investigates the multisensory experience of funerary practices in Roman Egypt and explores the experiential encounters between the material and temporal realms of the living and the dead. Painted portraits and shrouds attached to the mummified remains of the deceased, magical texts, ritual offerings, and the landscape of the tomb indicate that the practices of commemorating the deceased established participatory relationships where the living could experience and see the dead.

10H. Theoretical and Anthropological Approaches to Archaeology I

CHAIR: Leann Pace (Wake Forest University), Presiding

Tara Ingman (Koç University), "Changing Funerary Rituals and Metal Grave Goods in the Late Bronze Age at Tell Atchana, Ancient Alalakh"

Metals were used as markers of wealth and status in funerary practices across the ancient Near East as early as the beginning of the third millennium B.C., when the "Royal Tomb" at Arslantepe, with its rich metal assemblage, was constructed. Throughout the third millennium B.C. and into the first half of the second millennium B.C., metals were used across the Near East to indicate both status and identity, as seen from the Early Bronze Age "Royal Tombs" of Alacahöyük and the so-called "warrior burials" of the Early and Middle Bronze Ages. This practice of signaling identity and wealth with metals continued into the Late Bronze Age, although the form of the metal grave goods shifted from weapons and symbolic objects to smaller, more personal objects—in particular, jewelry. The metal grave goods at Tell Atchana are taken here as a case study, where a shift in funerary rituals is visible during the Late Bronze Age, and especially in Late Bronze II. The burial practices at the site at this time changed dramatically, and analysis of the metal grave goods demonstrates an increasing emphasis on individual, personal identity in funerary practices, marking a sharp departure from the traditional rituals focused on provisioning the dead that were materialized by the abundance of ceramics as grave goods.

Amanda Wissler (Arizona State University), "Exploring Personhood in Predynastic Egypt"

Anthropological studies of identity and social structures are often complicated by a Western emphasis on individuality. Personhood has been offered as a way to explore such ideas without imposing this bias and approaching from an emic perspective. While definitions vary, personhood is a socially constructed concept based on cultural requirements of what it means to be a "person." A society's assessment of its members is accessible through mortuary practices, providing a suitable method for addressing personhood in the past. Extant textual and art historical data from dynastic Egypt elucidate the ancient Egyptian concept of personhood but provide conflicting views on whether children were considered to possess it. This paper seeks to add to this dialogue by exploring whether subadults were granted personhood in Predynastic Egypt by examining differential mortuary practices between adults and subadults. Single vs. multiple interment, differences in grave goods, burial location and orientation are assessed in Predynastic Cemetery N7000 at Naga-ed-Dêr. Results demonstrate some differences in mortuary treatment between subadults and adults, notably in single vs. multiple interments, suggesting that their status as "people" was different from adults. These findings have implications for our understanding of identity in ancient cultures and how religious and social beliefs affect conceptions of the self.

Tasha Dobbin-Bennett (Oxford College of Emory), "'He Who Is Green of His Flesh': Reinterpreting the Green-Faced Osiris"

Working on the hypothesis that certain stages of decomposition were an essential part of the ancient Egyptian postmortem (re-) creation process, my research proposes that the progression of decomposition was carefully managed by members of the embalming sphere. Furthermore, the process of decomposition was identified in the ritually important texts that accompanied the body of the deceased. Therefore, I argue that managed decomposition, in conjunction with mummification, is a key element in the transformation of the deceased into an Osirian figure.

In ancient Egyptian funerary art, one of the defining characteristics of the mummiform Osiris, is his green/black face. Traditional approaches link the green color with the god's role in rejuvenation and rebirth, effectively associating him with the green growth that occurs after the inundation. However, I suggest that the attribution of green skin to Osiris may reflect a complex interplay of observation, religious significance, and theological rationalization. By examining ancient Egyptian medical and religious texts, alongside a forensic anthropological approach, I argue that as Osiris is the deceased corpse par excellence, his role as a corpse might offer an alternative interpretation for the green skin color.

Soon after death, the deceased's skin tone, in particular the face, lips, and genitalia, begins to display a distinctive greenish tinge, which is clearly observable to the naked eye. Therefore, the positive association between Osiris, the green color of his skin and/or flesh, and post-mortem decomposition may have set up an important prerequisite that helped fulfill the deceased's ultimate transformation into an Osirian being.

Susan Braunstein (The Jewish Museum), "Children and Bangles in the Late Second Millennium B.C.E. Southern Levant"

Study of the burial data from the southern Levant during the LB IIB/Early Iron Ages suggests that the majority of bangles found in funerary contexts in which age or sex of the deceased was identified were associated most frequently with children, and secondarily with females. They apparently donned bangles as early as infancy and wore them continuously until reaching some state in early adulthood, probably beginning around age thirteen. These observations led to the exploration of what socially constructed circumstances might have limited bangle-wearing primarily to children, and why some children were found with them and others were not. Recent anthropological and archaeological studies on defining childhood and children's varied roles, as well as information gleaned from ancient Near Eastern texts, suggest that children may have been perceived in a number of ways in the southern Levant, differentiated from each other through such characteristics as age group within childhood, gender, marriage status, class, and economic function, whether as laborers, servants, or slaves. Various hypotheses were tested with the archaeological evidence, including vertical and horizontal social distinctions, the need for amuletic protection, the mother's status within the household, and roles in ritual, as well as issues of control and ownership such as slavery, betrothal, and maintenance of virginity. Whatever their symbolism, the physically palpable and visually prominent bangles likely served to remind the wearers of their roles and status while affecting others' behavior toward them.

11A. Locating Mesopotamian Civilizations in Highland-Lowland Encounters

CHAIRS: Claudia Glatz (University of Glasgow) and Matthew Rutz (Brown University), Presiding

Steve Renette (University of Pennsylvania), "The Zagros Interaction Sphere at the Beginning of the Bronze Age"

During the Late Chalcolithic (ca. 4500–3100 B.C.E.), Mesopotamia and its neighbors became increasingly entangled both economically and culturally. Interaction during this time was organized through a network of colonial enclaves and diasporas reaching from the Mesopotamian lowlands into the surrounding resource-rich highlands. Following the collapse of this exchange network, the region underwent dramatic changes leading to increased regionalization and ruralization. Scholarly discourse posits that only after centuries of isolation and impoverishment there came a phase of renewed social complexity and interregional interaction visible in Mesopotamian urban centers during the Early Dynastic III period (ca. 2500–2300 B.C.E.). However, while distinct cultural zones during this early period display only very little contact in material culture (especially ceramic traditions), limited evidence of shared glyptic traditions and occurrence of metals and stone artifacts do suggest continued interregional exchange.

Based on new evidence from work at Kani Shaie in Iraqi Kurdistan and a reappraisal of evidence from Early Bronze Age sites in the Zagros region, this paper argues that the distinct cultural zones of the Ninevite V, Scarlet Ware, Godin III, and Hasan Ali traditions between the Tigris River and the highest reaches of the Zagros chains maintained periodic interaction. This Zagros Interaction Sphere facilitated the distribution and exchange of desired resources while maintaining social ties across dispersed communities inhabiting different ecological zones. These highland-lowland interactions characterize an alternative development of social complexity within this mountainous landscape resulting in the formation of indigenous polities and ethnic identities well known from Early Dynastic and Akkadian historical sources.

Holly Pittman (University of Pennsylvania), "Mesopotamia and the Iranian Plateau: Separate but Equal Partners in the Bronze Age of Exchange"

This paper examines the long-distance interaction between the city states of southern Mesopotamia and the highland communities of the Iranian plateau beginning in 2900 B.C.E. and increasing in intensity through the second half of the third millennium B.C.E. Finds from excavations at Konar Sandal South in the Halil River Valley in the Iranian province of Kerman establish that Mesopotamian merchants traveled to resource-rich zones of the plateau to participate in an already existing and robust highland system of exchange in precious materials and worked commodities. The actual presence of Mesopotamians on the plateau allows for a reconsideration of the process of the consolidation of Mesopotamian kingship and social hierarchy through the acquisition of status markers, giving powerful agency to the highland communities who have, up until now, been the passive suppliers to a superior culture. This allows a reconsideration of the logic behind the construct of the so-called "Intercultural Style" soft stone objects found in temple contexts of Mesopotamia. An alternative interpretation of these exotic objects is presented that is consistent with the reconsidered relationship between the highland Iranian plateau and lowland Mesopotamia in the Early Bronze Age.

Claudia Glatz (University of Glasgow) and Jesse Casana (Dartmouth College), "Degrees of Separation: Geographical and Cultural Connectivity in the Zagros-Mesopotamian Interface"

Conceptions of the self are founded on the distinction from an "other." A multitude of geographical terms, for instance, express the binary oppositions of settlement and varying types of hinterlands in Mesopotamian texts. The imagination of urban and early state communities in lowland Mesopotamia, however, was also predicated on a more distant, highland antithesis. Knowledge of this highland other—experiential, mythical, and deliberately distorted—provided Mesopotamian political regimes' imperial ventures with prestige and legitimacy.

Research to date has focused primarily on the rhetoric of highland alterity that has helped construct both ancient and modern notions of Mesopotamian civilization. In this paper, we take an archaeological approach to exploring diachronically questions of the degree, nature, and mechanisms of highland-lowland interaction and separation. Drawing on results of the Sirwan/Upper Diyala Regional Project in the Kurdistan Region of Iraq, this paper presents a landscape-based investigation of settlement dynamics, material culture, and the logistics of movement in the region. Examining evidence from the Upper Diyala in relation to the neighboring western Zagros Mountains, the Sharezor Plateau, and the lower Diyala Plains, which collectively formed part of a series of major north-south and east-west communication corridors that included branches of the later Silk

Routes, we offer a long-term perspective on cultural connectivity and remoteness in the Mesopotamian-Zagros interface.

Matthew Rutz (Brown University), "Imagined Mountains of Babylonia: Education and Commemoration"

Cuneiform texts from southern Mesopotamia's early historical periods provide a rich corpus of material for exploring the highland-lowland nexus in ancient southwest Asia. Although quite varied in genre and geographic distribution, the textual record typically conveys only a limited perspective on the unrecoverable totality of lowland-highland interactions, namely, the view of the socio-political elite inhabitants of city-states and territorial polities of the southern Mesopotamian alluvium. While decidedly one-sided, these sources provide a point of access for interrogating the culturally laden array of representations of mountains, mountainous regions, and their inhabitants. In this paper I investigate the various views found in the written record by attending to the archaeological and historical contexts in which the texts were produced. First, focusing in particular on the third and early second millennia B.C.E., I briefly survey the prominent literary topoi, historical episodes, and epigraphic/iconographic landscapes that shed light on long-term trends in how mountainous regions and their populations were imagined by the political actors and their scribes in early Babylonian states. I then look in specific at the ways in which early second-millennium educational practices at sites such as Nippur and Ur created geographic knowledge. By treating textual remains as material culture it is possible to ground the ancient production of literature in practices of cognitive socialization. I conclude by considering the ambivalence expressed in early Mesopotamian commemorative practices, such as the use of year-names and the production of monuments in urban and mountainous landscapes.

Andrea Squitieri (Ludwig-Maximilians-Universität München), "Neo-Assyrian Stones and Mountains: An Indestructible Link"

In the Neo-Assyrian period (ca. 900–600 B.C.E.), the Assyrian Empire's sourcing and use of stones as raw materials for royal buildings, architectural decoration, and portable prestige objects such as vessels allows for a privileged way to investigate the relation between the lowlands of the Empire's heartland and the highlands in its northern and eastern frontier zones as encounter and interaction rather than opposition. Stones were in most cases sourced from specific mountains during mining expeditions organized to supply the imperial artisans with suitable materials; these expeditions constitute direct encounters with the highland regions and with the people inhabiting them. Moreover, the Assyrian king's divine inspiration is credited in inscriptions with supplying the location of the particular mountains from where the stones originated. Unlike other raw materials such as metals or timber, the exact origin of stones is habitually mentioned in texts and therefore their link with the highlands surrounding the lowlands in the Empire's core region is prominently commemorated. Such textual references indicate that, even after being worked into a final product, stones kept their connection to the mountain regions they originated from and therefore represented a bridge between highland and the lowland realities. In this paper, I will offer several examples of worked stones used at the Assyrian imperial court, in particular vessels, whose origins can be inferred from texts and/or geological identifications. I will highlight the symbolic meanings that such stone objects held at the Assyrian court in the framework of the Assyrian imperial ideology.

11B. Materiality of Communication II

CHAIRS: Emily Cole (Institute for the Study of the Ancient World, NYU) and Alice Mandell (University of Wisconsin-Madison), Presiding

Eric Wells (University of California, Los Angeles), "Recontextualizing Religion: Depicting Local Practice on Votive Stelae in New Kingdom Egypt"

Despite appearing side-by-side, the religious text and imagery found on ancient Egyptian votive stelae have traditionally been studied separately from one another. Furthermore, few attempts have been made to contextualize devotional texts and their associated material culture in their *Sitz im Leben*. It is important to note that individuals did not need to display their identity when engaging in votive practices. Individuals offered food, incense, libations, or other objects to the gods. Even when an individual chose to create a stela, it did not need to contain any information regarding the donor to be ritually effective. Therefore, when a votive stela included text or images describing their donor, it can be understood as an overt attempt to create a lasting, material form of self-presentation (communicating identity, status, privilege, and religious access) that would be displayed to the larger community in a specific religious context. Individuals in ancient Egypt created objects that were intended not only to serve a ritual function, but were also meant to simultaneously communicate the prestige and social status of the owner. By recontextualizing votive stelae in their native setting and focusing on variation, it is possible to recreate, in a limited sense, local *habitus*. This methodology allows us to see how men of different social groups (as well as women and children) co-opted religion as the primary venue for social display, and demonstrates that identity was formed through different forms of materiality not just the written text.

Foy Scalf (Oriental Institute, University of Chicago), "The Pragmatics of Interment: How the Placement of Funerary Papyri Embodied the Divine in Roman Egypt"

This paper argues that the placement of Demotic funerary papyri in Roman period burials embodied the communication of two goddesses before the divine tribunal on behalf of the deceased owner. The limited space in group burials of Roman Egypt forced individuals to strategize new ways to incorporate the necessary ritual symbols into their mortuary repertoire. Papyri inscribed with anonymous Demotic funerary prayers were placed near the head and feet of the body, presumably included within the mummy wrappings. The anonymous prayers refer to the deceased in the third person and are addressed to Osiris. Although the prayers' reciter(s) is not explicitly revealed, the position of the papyri in the burial near the head and feet recreate the positions of Isis and Nephthys in the funeral par excellence of Osiris, allowing us to identify the speakers as the two mourning goddesses who are symbolically present at the owner's funeral in perpetuity through their words inscribed on the papyri. Confirmation of this identification can be made through two unpublished papyri in the Louvre. This practice, therefore, materialized a set of associated cultural symbols by

inscribing Egyptian religious prayers from the contemporary Demotic corpus onto papyri and interring them with the dead. The use of Demotic signaled that the prayers represented an actual oral discourse of funeral participants, who reenacted the mythological precedent of Osiris's burial and mourned as the goddesses on behalf of the papyrus's owner.

Emilia Mataix-Ferrándiz (University of Southampton, ERC Roman Mediterranean Ports), "Rethinking the Roman Epigraphy of Merchandise: A Metapragmatic Approach"

Inscriptions held on commercial objects (amphorae, barrels, etc.) refer to the products and to the parties involved in their production, commercialization, and distribution, and need to be studied in relation to the legal schemes applicable in commerce. This investigation allows them to be associated to broad categories, such as property, liability, or obligation. However, they appear shortened, or written in a careless way, thus being recognizable only by people working in the commercial context. This lexicon facilitated a remote dialogue between producers, intermediaries, and consumers, as well as established a communication code understandable inside the commercial world where these objects were employed. The relation among these inscriptions, which concern different data, such as weight, the name of the seller, controlling marks, and so forth, hides behind the phenomena of a political economy, monopolies, ownership, or liability coming from the agreements held among parties. One of the elements that speaks most strongly to a relatively high level of integration of the Roman Empire is the commerce performed along different shorelines. Long distances and cultural differences point to the fact that there might have been some common practices involved in developing such commercial networks. Some of these common practices are reflected on these commercial inscriptions on objects. Consequently, a metapragmatic revision of what these inscriptions mean in their particular context helps us understand many traits of trade, because they describe these actions of exchange in the writings.

M. Willis Monroe (University of British Columbia), "Looking Through the Cracks: Tracing Damage on Cuneiform Tablets"

Mesopotamian scribes copying from cuneiform tablets often noted where damaged sections of the source text prevented them from transmitting the text accurately. They marked these "damaged" sections with the gloss "ṭi-pi$_2$" or "break." Occasionally some of these glosses were suffixed with a temporal adjective "new" or "old" indicate a secondary level of damage tracing back at least one source earlier. By analyzing these glosses and their position within texts the physicality of the transmission of knowledge can be traced. This type of analysis is particular useful when texts have been excerpted and reformatted in late copies. Glosses marking previous damage can be used to reconstruct the format and layout of source texts for which the original formatting is lost. An example of this can be found on one tablet of the Late Babylonian microzodiac texts, where an added section preserves six columns of text. Some of the columns found in the middle of the current text preserve "break" glosses for the ends of the line for the majority of entries suggesting an original location on the edge of a tablet, an area with common damage. The "break" glosses on cuneiform tablets preserve an aspect of the materiality of knowledge transmission often not mentioned by the scribe. By studying occurrences of these glosses, layers of textual transmission can be revealed.

Marian Feldman (Johns Hopkins University), "Inscribing Cosmic Space on the Babylonian Map of the World"

The so-called Babylonian Map of the World—a unique tablet excavated at the Babylonian site of Sippar and generally thought to be a sixth century B.C.E. copy of an earlier (eighth/seventh century B.C.E.) tablet—bears a rendering of ostensibly real and cosmic space in diagrammatical map form along with inscribed literary texts. On the obverse, the inscription has a mythological aspect, mentioning ruined cities, a vast sea, the god Marduk and legendary figures such as Utnapishtum and Sargon. The reverse text mentions eight "regions" and their measurements along with four quadrants that appear to refer to the diagram on the other side. This paper presents a preliminary exploration of the Babylonian Map of the World, considering in particular the notions of space and spatiality as it is defined and created through inscribed word and incised diagram, such as how geometry functions in Babylonian conceptions of cartography and cosmogony. How does "real" space exist alongside "unreal" space? How do space and time function in both map and texts, and what is the relationship, if any, between the texts and the imagery?

11C. New Light on Persian Period Judah: The Archaeological Perspective

CHAIR: Oded Lipschits (Tel Aviv University), Presiding

Oded Lipschits (Tel Aviv University) "New Light on Persian Period Judah–The Archaeological Perspective: Judah in Transition from the Persian to the Hellenistic Period (General Introduction)"

The 205 years between 539/538 and 333 B.C.E., the so-called "Persian period," are a well-defined period from the historical point of view. This period has a clear starting point, when Cyrus the Great conquered Babylon, and it ends with the time when the Persian Empire fell into the hands of Alexander the Great's army. For Judah, these dates mark the period of the "Return to Zion," and the beginning of the Persian/Achaemenid period is also the time when, according to the biblical descriptions, (some of) the Judeans deported to Babylon fifty years before, were allowed to return and to build the Second Temple in Jerusalem. This is the beginning of the Second Temple period in the history of Judah. Scholars dealing with this period emphasized the place of it as the single most important period for the development of Jewish thought and practice from antiquity to the present.

Bearing in mind the importance of this period, its uniqueness and the many different processes that took place during these 200 years, and the many Biblical texts that were written and edited in Judah, this session will explore some basic archaeological questions regarding the understanding of the material culture of this period, and this time—especially: Are there indications in the material culture for changes that took place in the transition from the Persian to the Early Hellenistic period?

Noa Shatil (Tel Aviv University), "The Persian and Early Hellenistic Pottery from Tel Azekah (Israel)"

In the renewed excavations at Tel Zakariya, which is identified with biblical Azekah, initiated in 2012 by the Lautenschläger-Azekah expedition, a comprehensive stratum from the Persian and early Hellenistic period, was revealed. The remains from this stratum include two dwelling complexes (areas W1 and S1), and a burial (area S2) which yield a large pottery assemblage.

In this paper I will present the pottery assemblage from the Persian and early Hellenistic periods which came from those areas, including a large number of complete vessels, mainly storage jars, which mark the abandonment of the dwelling complex in area W1. An assemblage with complete vessels is a rare phenomenon in inland sites of the Persian and early Hellenistic periods in Israel, which makes the assemblage from Azekah important to the understanding of the material culture of those periods.

By comparisons of the pottery from Azekah, and other sites in the lowland and the hill country that yielded well-dated pottery from the Persian and early Hellenistic periods, it is possible to date the different subphases of the Persian-early Hellenistic strata in Azekah. In addition, pottery comparisons to different sites will help to clarify the understanding of the everyday life and the cultural identity of the settlers of Azekah in those periods.

Débora Sandhaus (Tel Aviv University and Israel Antiquities Authority), "Pottery Horizons in Judah: Toward a New Understanding of the Transition between the Fourth and Third Centuries B.C.E."

The transition between two conquering forces, the Persian and the Hellenistic empires, is well documented in the historical record. An understanding of the impact of these events on the local communities and the common people, however, should focus on the archaeological record.

The difficulty with the identification of the transition between these periods lies in the attribution of critical loci to one or another of the phases. The absence of destruction layers makes the investigation even more challenging.

In light of recent large-scale excavations in the lowlands (Shephelah), new insights can be derived both from the stratigraphy and the pottery. First steps towards the definition of distinctive pottery forms on the basis of well-stratified contexts have recently been undertaken, and preliminary results will be presented in this lecture. On the basis of these results, a new perspective on the transition is offered.

Nitsan Shalom (Tel Aviv University), "Changes in Settlement Patterns in Judah between the Persian and Hellenistic Periods"

The subject of the transition between the Persian and Hellenistic periods in Judah has been poorly researched. However, recent excavations and the new publication of past excavations, with assemblages dated to the fourth and third centuries B.C.E. (e.g., Tel Azekah, Khirbet Qeiyafa, Ramat Rahel, the Ramat Bet Shemesh sites, and Lachish), have shed new light on the material culture of this period. Reexamination of past excavations and surveys in light of new archaeological knowledge enables us to create updated pictures of the settlement patterns in Judah in the Persian and Hellenistic periods, compare the two, and discuss the differences between them.

Judah in this era was influenced by large-scale historical events: the struggle of the Persian empire to maintain its control over the southern Levant; the conquests of Alexander the Great; and the wars between the Ptolemaic and Seleucid dynasties for sovereignty over the region. An examination of the changes in settlement patterns in Judah within this wider context enables us to discuss the extent to which large-scale historical events and changes of the central rule impacted the lives and spatial organization of the local residents of the province of Judah.

Jose Balcells (Badè Museum, Pacific School of Religion, Berkeley), "Household and Family Ritual and Religion in Persian Period Tell en-Nasbeh"

Tell en-Nasbeh constitutes an important and strategic site in Judah in its Babylonian-Persian period phase, Stratum 2. The Tell en-Nasbeh excavations, which took place from 1926 to 1935 by the late William Badè, offer a unique view into a well-preserved site that may have served as a regional capital during the Babylonian through the early Persian period. The broad exposure of Stratum 2 contributes significantly to researching and better understanding family and household ritual and religion, especially since the pillared house is the only building type at the site in this phase. The author will suggest categories and typologies for archaeology of ritual and religion for Stratum 2 based on his study of the original documentation from the Tell en-Nasbeh collection in comparison with evidence for ritual at other Judean sites. This stratum provides a representative archaeological phase that lasts through the end of the early Persian period, and gives the unique opportunity of investigating ritual objects in their contexts in domestic structures from the stratum. This paper will focus on the research of Persian period ritual artifacts from the Nasbeh collection at the Badè Museum of Biblical Archaeology in Berkeley, and will identify possible locations at Tell en-Nasbeh where the author suggests that family and household ritual and religious practices were likely to have taken place.

11D. New Insights into the History of Sepphoris from the Sepphoris Regional Project

CHAIRS: Eric Meyers (Duke University) and Carol Meyers (Duke University), Presiding

Benjamin Gordon (University of Pittsburgh), "A Fortress on the Western Summit? A New Look at the Development of Sepphoris under Royal Judean Auspices"

Thick wall foundations exposed in the 1990s in Area 85.3 on the western summit of Sepphoris were initially identified as the remains of a Seleucid or Hasmonean fortress. In this paper, I will argue that these foundations supported not a fortress but a domicile that was part of a sprawling quarter constructed under royal Judean auspices in the Herodian period. The project erased most of the earlier superstructure on the site. The new domicile in Area 85.3 contained three ritual baths quite unlike others on the summit, resembling instead the standard Jerusalem-type bath of the Herodian period. This is one of a few similarities between the Sepphoris remains and those of contemporaneous Jerusalem residences. Furthermore, in its orientation and general layout, the structure parallels a house immediately to its north, exposed by the Michigan excavations in the 1930s and marked

by its peristyle courtyard. To the west of these domiciles, over a dozen row houses, more modest in size and appointment, cascade down the slopes of the summit. Orthogonal streets and alleyways divide the houses; one shared property line extends over a length of 60 m. Diagnostic material excavated under floors and in foundation trenches reflects the earliest horizon in Roman Galilean ceramics. While it is possible that the quarter was developed during Herod's reign, it seems more likely that it was constructed during the period of rule of his son Antipas, as part of a new vision for the city and its economy.

Sean Burrus (Duke University), "Household Goods and Cultural Exchange at Roman Sepphoris"

Excavations on the western summit of Sepphoris in the 1980s and 1990s uncovered a wide range of household goods, personal effects, and other small finds that provide insight into the wealth of the quarter and its interaction with intraregional trade networks in the Galilee. Only a few such items—for example, the pair of small bronze figurines of Pan and Prometheus discovered in a cistern on the summit in 1985—are widely known. In this paper, I present an analysis of the household goods and small finds from the summit excavations, including an overview of the character and nature of significant household tools and implements, personal effects, and jewelry. Placing the evidence from Sepphoris in context with profiles from other sites in the region, I argue that the household goods and small finds of the summit demonstrate significant interaction with intraregional trade networks, reaching a climax in the Late Roman period. This conclusion confirms the picture painted by imported wares and oil lamps. I also consider evidence for the manufacture of household goods and goods for trade uncovered at the excavation, including a significant cache of metal tools as well as a possible glass workshop, concluding that a small glass production industry existed at the site, late in the Byzantine period.

Alan Todd (Coastal Carolina University), "The Social Functions of Feasts: Evidence from Unit II and the Dionysos Mansion"

Excavations by Duke University on the western summit of Sepphoris have uncovered a number of remains relevant to understanding practices that defined Jewish daily life during the late Second Temple and early rabbinic periods. These remains include the archaeological correlates of Jewish domestic feasts, arenas consisting of meaning-laden practices that can help us better understand the development of Jewish society in antiquity and the formation of Jewish identities. My paper will explore what this material evidence can tell us about how Jews who inhabited the western summit of Sepphoris used domestic feasts to establish and reify a shared class membership while constructing social hierarchies vis-à-vis fellow dining participants. I will also discuss the architectural remains from the House of Dionysos, providing a thick description of the feasts held there, as well as the social effects on the Jewish population of Sepphoris regardless if a Jew or gentile built and/or occupied the building. My conclusions about the material remains from Sepphoris will be informed by the insights of anthropologists and ethnographers studying feasts across cultures and time, archaeological evidence for Jewish feasting practices from other sites in Roman Palestine, scholarly investigations into the textual evidence attesting to Jewish domestic feasting practices, and recent discussions about the functions of Greco-Roman banquet practices that appear to have become prevalent throughout much of ancient Mediterranean by the first century C.E.

Chad Spigel (Trinity University), "Synagogue Seating and the Jewish Population of Sepphoris"

The recent and upcoming publications of the Duke University western summit excavations provide a great opportunity to take a fresh look at the history of Sepphoris. Specifically, in this paper I will explore how demographic questions and demographic data be used to sharpen our understanding of Jewish worship practices in late-antique Sepphoris. The presentation will begin generally, with a discussion of synagogue seating capacities and their status as demographic data. The focus will then shift to the Byzantine period synagogue building in Sepphoris and how the archaeological remains can be used in conjunction with various demographic considerations (e.g., sex ratios and age distributions) to provide a nuanced picture of both *who* may have worshiped within the synagogue building and *how* they may have worshiped. Finally, I will use the seating capacity data from this particular synagogue building to help answer several questions about the wider Jewish population of Sepphoris. For example, what does the seating capacity of the Byzantine synagogue building suggest about the role of synagogues as regular places of worship for Jews living in late-antique Sepphoris? And, how do the archaeological remains from the western summit, where there is no evidence of a synagogue building, affect our understanding of synagogue worship in the city?

11E. Archaeology of the Crusaders and Their Neighbors

CHAIRS: Tracy Hoffman (Independent Scholar) and Tasha Vorderstrasse (University of Chicago), Presiding

Tasha Vorderstrasse (University of Chicago) and Asa Eger (University of North Carolina, Greensboro), "Between Byzantium, the Crusaders, and the Islamic World: Medieval Settlement in the Qoueiq Valley"

This paper will examine the Middle Islamic period evidence from the 1970s Matthers survey of the Qoueiq river valley, located to the west of Aleppo. The Qoueiq area was a contested region, which, although it was primarily under the control of various Islamic dynasties, was also contested in this period by the Byzantines and the Crusaders. This paper will examine the evidence for settlement in the 12th/13th centuries and demonstrate that while Aleppo was the dominant settlement in the region, various towns and villages played an important role in the local economy, mainly through pottery production that was then traded throughout the region. This will then be contrasted with settlement from the nearby Antioch region and the massif Calcaire (limestone hills) in the same period to have a better understanding of settlement across North Syria.

Ian Jones (University of California, San Diego), Kyle Knabb (Ben-Gurion University), Mohammad Najjar (JoScapes), and Thomas Levy (University of California, San Diego), "Fatimid and Crusader Settlement in Southern Jordan: Neither Fatimid nor Crusader?"

Archaeologists tend to discuss settlement in southern Jordan during the late 10th–12th centuries A.D. in terms of political control by the Fatimid and, later, Crusader polities. Geographies and narrative

historical sources of the period, however, portray a more complex scenario, in which this external political control was limited and local tribal groups maintained significant autonomy. Archaeologists face difficulties in addressing this complexity, however, as the small number of excavations at late 10th–12th century sites in the region limits our ability to discuss identity, and the dating of ceramics of the period—particularly those of the 11th century—remains problematic.

In this paper, we present an argument-based analysis of material collected during a survey of Wadi al-Fayd, west of Shawbak, that "tribal" settlements of this period can be identified through consideration of archaeological, geographical, and historical data. Although the previously mentioned difficulties remain, we suggest ways in which this method can be extended to previous work in other parts of southern Jordan. While some sites certainly relate to the Fatimids and Crusaders, we suggest that others—including several that have been excavated—are likely to be "tribal" settlements, and discuss the implications of this both to our understanding of the 10th–12th century archaeological landscape of southern Jordan and the political landscape of the southern Levant more broadly. Finally, we present several suggestions for future research on this period.

Michael Fuller (St. Louis Community College), "Crusader Burials and Material Culture from Area C at Caesarea Maritima"

A number of significant Crusader burials were excavated by the Joint Expedition to Caesarea Maritima (1971–1987 and 1993–1996) in Area C. The project was directed by the late Robert J. Bull with field supervision by Edgar M. Krentz. One of the most interesting Crusader burials was a woman associated with scale armor and a shield. More than 350 skeletons were uncovered from Area C; examples of combat wounds to the arms, legs and cranium were noted in a summary of the fieldwork.

Caesarea came under Crusader control in 1101 after the city was captured by a Genoese named William Embriaco. King Baldwin of Jerusalem granted Caesarea as a fief to a Frank named Eustace Granier. The city was captured by Arab forces in 1187 after Saladin's victory at the Horns of Hattin. The walls were pulled down and the city remained largely abandoned until 1228 when work began during the Fourth Crusade to rebuild the city walls. Saint Louis (French King Louis IX) oversaw and participated in the completion of the new walls in 1251–1252. Mamluk Sultan Baybars captured the city in 1265 and it remained desolate after that time.

Robyn Le Blanc (University of North Carolina, Greensboro), "The Glass from Crusader Ashkelon"

Between 1985 and 2013, over 50,0000 sherds of vitreous material small finds (individual pieces, whole vessels, and cached collections) were discovered and collected by the Leon Levy Expedition to Ashkelon (Israel). The glass from the Islamic period levels at the site (roughly the 6th–13th centuries C.E.) was the largest and most varied from the collection. Unfortunately, most of the Islamic period material was found in mixed secondary contexts, including robber trenches and massive foundation fills. A notable exception is the collection from the Fatimid and Crusader-period courtyards in the area around the earlier Roman senate house (Grid 47). Vitreous material was recovered from several pits, silos, sumps, and a large wine basin, as well as from subfloor fill from the courtyards. The vitreous material from this area is the most coherent assemblage from the Islamic period at Ashkelon.

In this paper I consider the assemblage from the Fatimid and Crusader courtyards and installations in Grid 47, focusing on the major decorative styles and vessel types represented in the collection. I argue that the collection is useful for understanding and contextualizing changes in local preferences for a series of decorative styles. Finally, I place this assemblage within the context of other Crusader-period assemblages from Palestine, arguing that the Fatimid and Crusader assemblages at Ashkelon can help us understand changing economic and cultural connections within the region and with major centers of power outside Palestine.

John Marston (Boston University), Kathleen Forste (Boston University), and Deidre Fulton (Baylor University), "The Animal and Plant Economies at Islamic and Crusader Ashkelon"

In this paper we explore shifts in foodways and agricultural production at Ashkelon between the Early Islamic and Crusader periods, primarily through the analysis of botanical and faunal remains. We hypothesize that there are changes in the spatial organization and availability of labor and resources in these production economies as a result of dramatic political and demographic changes between these two periods. Faunal remains provide evidence of changes in animal husbandry and butchery practices, while botanical remains indicate shifting practices in both field crop cultivation and arboriculture. We use these economic datasets to explore the cultural geography of production landscapes in and around Ashkelon.

Changes to certain animal husbandry practices, specifically culling changes with regard to species and age of the selected animals, suggest a trend toward less productivity in the Crusader period when compared to the Early Islamic period. These changes are also reflected in the butchering, portion selection, and meat preparation, indicating a change in the demographics of Ashkelon from the Early Islamic to the Crusader period.

A notable reduction in arboriculture between the Early Islamic and Crusader periods at Ashkelon can be attributed to widespread Crusader destruction of agricultural lands in the periphery of Ashkelon between the First Crusade of 1099 and Ashkelon's conquest in 1153. Orchards were not replanted in similar numbers during Crusader control of the city. We suggest these changes reflect shifting risk tolerance between the Islamic and Crusader periods.

11F. Developing Isotopic Investigations in the Near East & Caucasus I: Environment, Diet, and Mobility

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

Hannah Lau (University of California, Los Angeles), Kelly J. Knudson (Arizona State University), "Herding Practices at Halaf Domuztepe: Implications for Mobility, Cooperation, and Emergent Political Complexity"

The Late Neolithic Halaf period is one of critical importance for understanding the emergence of political complexity in the ancient Near East. The nature of political complexity and its implications

for Neolithic peoples' mobility during this time is, however, poorly understood and strongly contested among scholars. This study combines zooarchaeological and biogeochemical analyses ($^{87}Sr/^{86}Sr$, $\delta^{18}O$ and $\delta^{13}C$) from teeth from domesticated animals to examine ancient herding practices at the Late Neolithic site of Domuztepe (ca. 6000–5450 cal. B.C.E.) in southeastern Turkey. Biogeochemical indicators of animal mobility provide proxies for the movement of their human caregivers and, when combined with paleodietary evidence and population data from zooarchaeological analyses, elucidate the scale at which villagers cooperated in their management practices. This study evaluates Neolithic peoples' animal management practices for daily subsistence and for large feasting events at the site. Faunal data from the site's three feasting assemblages, when compared to its quotidian subsistence system, provide a means of assessing resource and labor coordination among inhabitants by elucidating the animal management strategies employed by Neolithic agropastoralists in these different consumption settings. Such coordination has implications for reconstructing the political economy and emerging political complexity of the wider region during the Late Neolithic.

Benjamin Arbuckle (University of North Carolina at Chapel Hill), David Meiggs (Rochester Institute of Technology), Cheryl Makarewicz (Christian Albrechts University Kiel), and Aliye Öztan (Ankara University), "Isotopic and Zooarchaeological Approaches to Reconstructing Land Use and Mobility at Chalcolithic Köşk Höyük, Turkey"

In this paper we combine isotopic and traditional zooarchaeological datasets to reconstruct land use and mobility at Chalcolithic Köşk Höyük, Niğde, Turkey. In particular we focus on evidence for mobility associated with sheep and goat herding as well as wild equid hunting. By combining demographic and biometric data along with strontium, carbon, and nitrogen isotopes we are able to define the use of the local landscape in terms of hunting and herding practices and their seasonality, as well as monitor changes in these land use practices through time. We suggest that in the earliest occupation of the settlement (late seventh millennium B.C.) lowland and highland areas were used separately for herding and hunting but that this partitioned land use system changed significantly in the later levels (fifth millennium B.C.).

Benjamin Irvine (Freie Universität Berlin), "Multi-Isotopic Investigations of Diet in Anatolian Early Bronze Age Populations"

This talk is the result of research as part of a doctorate focusing on examining the dietary habits of several Early Bronze Age (3000–2000 B.C.) populations in Anatolia. The investigated sites are from different environmental regions and consist of Ikiztepe (north Anatolia, Samsun region, on the Black Sea coast), Titriş Höyük (southeast Anatolia, Urfa region), Bademağacı (south Anatolia, Antalya region), and Bakla Tepe (southwest Anatolia, in the Izmir region). This research is incredibly significant as it is the first time that quantitative scientific methods have been employed to address questions and hypotheses about dietary habits in the Early Bronze Age period of Anatolia, and is the first project of its kind both in terms of methodology and scale. Analysis of carbon and nitrogen stable isotopes ($\delta^{13}C$ and $\delta^{15}N$) was employed on bone collagen from ca. 200 human and faunal osteological samples taken from the anthropology lab of Hacettepe University, Ankara Turkey, and was conducted at the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany. The results show that during the Early Bronze Age in Anatolia there was an incredible degree of homogeneity in dietary habits both at an intra- and intersite and regional level, and across the millennium of the Early Bronze Age with diets being predominantly terrestrial C3 based. Furthermore, the results suggest that we can now begin to discuss an "Early Bronze Age package" with regard to food resources.

Selin E. Nugent (Ohio State University), "Isotopic Perspectives on Transhumance and Landscape Use in Middle Bronze Age Naxçıvan, Azerbaijan"

How do pastoralists navigate their environment and how do they engage in mobility? Tracing the mobility patterns of pastoralists is critical for illuminating life ways and the cultural landscapes occupied and shaped by the mobile Middle Bronze Age (2400–1500 B.C.) populations of the South Caucasus. This paper investigates patterns of transhumance and landscape use through $^{87}Sr/^{86}Sr$ and $\delta^{18}O$ isotopic analyses of human remains excavated in Middle Bronze Age contexts of Naxçıvan, Azerbaijan. In order to investigate recurrent mobility on a narrow temporal scale, this research employs a sampling strategy adapted from faunal intratooth sampling approaches used to identify individual recurrent mobility in zooarchaeological populations. A longitudinal series of human dental enamel samples was collected along the third molar of each adult individual. Resulting $^{87}Sr/^{86}Sr$ and $\delta^{18}O$ values reflect enamel mineralized every three–four months during three years of development. Results are compared to established environmental bioavailability of $^{87}Sr/^{86}Sr$ and $\delta^{18}O$ in Naxçıvan, allowing for seasonal estimation of elevation and geographic locality for each individual. This research is part of a broader ongoing study of pastoralism of the region in the Middle Bronze Age. The consideration of collaborative investigations of mortuary space, domestic contexts, and animal mobility, in relation to human transhumance, thus situates the role of mobility in shaping the cultural and political landscapes of the region.

David Meiggs (Rochester Institute of Technology), G. Bike Yazıcıoğlu Santamaria (Independent Researcher), and Pınar Ertepınar (Utrecht University), "Strontium Isoscapes in Central Anatolia: Archaeological Implications of Bioavailable $^{87}Sr/^{86}Sr$ Isotope Ratio Distributions"

Because of their ubiquity and geographic variation, strontium isotopes have found substantial utility as archaeological proxies for various aspects of prehistoric mobility and economy, particularly with human and faunal skeletal remains. A necessary aspect of such studies has been to characterize and distinguish local and regional variation in biosphere strontium. But a growing body of research suggests biologically available strontium isotopes arise from complex contributions of bedrock geology, geomorphology, vegetation type, and potentially exogenous (aeolian) input. Further, because strontium isotopes in skeletal remains reflect an individual's dietary calcium budget in a given ecological context, the "local" signature for a given archaeological sample inevitably shifts depending on the frame of reference of a particular study. While recent research clearly underlines the value of multiproxy approaches, we focus here on collaborative efforts to characterize strontium "isoscapes" in central Anatolia, and examine their implications to investigate prehistoric

societies. In particular, we will examine the use of such isoscapes and call for greater sensitivity to the scalar nature of cultural factors such as land-use patterns, seasonal mobility, and food procurement strategies when determining and interpreting "dietary catchment areas." After having considered the variables that contribute to complexity in strontium isotope signatures and define people's engagement with the environment at a local scale, we will discuss the utility of large-scale environmental characterization and predictive modeling for studies of production systems, migration, and immigration patterns in the archaeological record.

G. Bike Yazıcıoğlu Santamaria (Independent Researcher) and Maureen E. Marshall (University of Illinois at Urbana-Champaign), "Eurasian Archaeology Isotope Research Group: Goals, Perspectives, and Suggestions"

This final presentation of the Developing Isotopic Investigations in the Near East and Caucasus Session, introduces Eurasian Archaeology Isotope Research Group (EAIRG), a network of researchers who utilize isotope biogeochemistry in their archaeological research projects in Eurasia. As developing the EAIRG into a collaborative research platform is among the objectives of our sessions, this paper is a call for active participation of researchers to begin setting short-term and long-term goals that are of common interest, such as establishing data-collection standards, addressing methodological challenges particular to the region, and bringing existing datasets together in compatible ways on a single platform, etc. We will summarize the practical steps we have taken so far toward the first goal of the research group; that is, the creation of an accessible resource base that provides systematically managed and updated, reliable information on completed and ongoing research projects, publications, published datasets, and range of themes investigated through isotopic analyses in the Near East and Caucasia. Then, we will open the forum to a moderated discussion in order to identify collective research goals, research priorities, and the organizing principles of the research group.

11G. The Middle Bronze Age in the Southern Levant Revisited: Chronology and Connections I

CHAIRS: Felix Höflmayer (Austrian Academy of Sciences) and Susan Cohen (Montana State University), Presiding

Susan Cohen (Montana State University), "Reevaluation of Connections between Egypt and the Southern Levant in the Middle Bronze Age"

The Middle Bronze Age in the southern Levant has long been a period subject to chronological debate, discussion, and dissension. Despite the common use of conventional dates and correlations, there is in reality little consensus regarding the dates for either the beginning or the end of the period, with the result that its duration also remains in flux. Such chronological imprecision also results in an equal lack of clarity regarding the synchronisms and connections between the southern Levant and the regions and cultures around it, particularly in regard to ancient Egypt. The increasing availability of radiocarbon dates from secure stratigraphic locations, and the absolute chronology that results from them, however, now emphasizes the need to reevaluate the traditional and conventional synchronisms, contacts, and connections between these cultures, and highlights the importance of understanding the significance of these changes in chronology for examining development in the southern Levant. This paper will present an overview of the evidence for changing the conventional dating for the Middle Bronze Age and discuss the implications of these chronological changes for establishing synchronisms between Egypt and the southern Levant. Finally, the paper will analyze the significance that these changes in chronology and connections hold for the archaeology and history of the southern Levant in the Middle Bronze Age.

Steve Falconer (University of North Carolina - Charlotte) and Pat Fall (University of North Carolina - Charlotte), "New Radiocarbon Sequences at Tell Abu en-Niʿaj and Tell el-Hayyat, Jordan, and Their Implications for Bronze Age Chronology"

Excavations at the neighboring agrarian villages of Tell Abu en-Niʿaj and Tell el-Hayyat, Jordan have revealed stratified evidence of occupation through EB IV and the Middle Bronze Age, respectively. We present Bayesian analyses of more than 35 AMS dates from seven architectural phases at Tell Abu en-Niʿaj and four phases at Tell el-Hayyat that document the full spans of EB IV and the Middle Bronze Age in the northern Jordan Valley. Our results show that EB IV occupation at Abu en-Niʿaj began no later than 2500 cal B.C. and continued until just before 2000 cal B.C. Middle Bronze Age settlement at Hayyat began shortly after 2000 cal B.C. and continued until ~1500 cal B.C. These results bolster arguments that the beginning of EB IV should be revised two or more centuries earlier, affirm an Early Bronze/Middle Bronze transition ~2000 cal B.C., detail the developmental relationship between the Middle Bronze Age temple sequences at Hayyat and nearby Pella, and show the Middle Bronze Age ending no earlier than 1500 cal B.C. in the northern Jordan Valley.

Felix Höflmayer (Austrian Academy of Sciences), "A New Middle Bronze Age Chronology and its Implications for Egypt and the Levant"

Recent radiocarbon evidence challenges the Middle Bronze Age chronology of the southern Levant. Radiocarbon data from sites such as Tell el-Burak (Lebanon) or Tel Kabri (Israel) point to a significantly higher dating of Middle Bronze Age phases. Currently, Tell el-Dabʿa (Egypt) in the eastern Nile Delta is one of the key sites that has been used to propose a low Middle Bronze Age chronology. However, the radiocarbon sequence published for this site challenges the excavator's historical dates and is in agreement with the high radiocarbon dates for Tell el-Burak and Tel Kabri.

This paper summarizes current radiocarbon evidence for the Middle Bronze Age southern Levant, discusses proposed archaeological synchronisms with the Egyptian historical chronology, and provides a coherent chronological framework based on radiocarbon data for the Middle Bronze Age eastern Mediterranean.

Sturt Manning (Cornell University) and Brita Lorentzen (Cornell University), "Middle Bronze Age Anatolian Dendrochronology and Levantine Chronology"

Very recent work has established a revised and robust near-absolutely placed Middle Bronze Age tree-ring chronology from several sites in Anatolia. This chronology revises/replaces previous

statements. It was achieved through the integration of tree-ring, radiocarbon, and historical information and forms a new and independent basis to Middle Bronze Age chronology. Of especial interest, it provides a basis for dating (and resolving disputes over the dating of) associated historical records from, and related to, the Old Assyrian world due to links between specific Assyrian officials and rulers and tree-ring samples at Kültepe and Acemhöyük in Turkey. We review this new tree-ring chronology, its basis, and the changes from previous assumptions (and why these changes are necessary). We then consider the relevance of this new robust timeframe from Anatolia, and thence the Assyrian-Babylonian worlds, to chronology and to chronological debates in the Levant and the east Mediterranean in the first half of the second millennium B.C. In particular: we look at the dating of the Santorini/Thera volcanic eruption, the dating of the Middle Bronze Age strata at Tell el-Dab'a, and dating of the Middle Bronze Age/Late Bronze Age transition in the Levant.

11H. Theoretical and Anthropological Approaches to Archaeology II

CHAIR: Emily Miller Bonney (California State University Fullerton), Presiding

Rick Hauser (IIMAS - International Institute for Mesopotamian Area Studies; Visiting Research Fellow, Department of Asian Languages and Literatures, University of Minnesota), "The Archaeological Artifact as Actant"

This paper will underline the importance of performance in our understanding of the meaning of the archaeological object (see Jane Bennett's *Vibrant Matter*). How can we adumbrate "performance" in a past time, so that it might inform our understanding of material culture (in our case, the excavated artifact)?

"Music," as a category of experience, belongs in this liminal category—a kind of "neither/nor" state that resides somewhere in the shared consciousness of those who have witnessed the making or heard the product of the making—or who somehow memorialize or fashion a "container" for the "music." Think "theatre." Think also "ritual reenactment."

How might this category inform and change the meaning of the artifacts we excavate? Consider—an immaterial subject generated by someone who is absent, the exact nature of which we can only approximate, recreating it in "our mind's eye."

After all, we posit distinct moments of "making" along an imagined production sequence (Leroi-Gourhan's *chaîne opératoire*) from origin to the present moment. This calculated remaking is at the very heart of an important act of commemoration—our present memory of evanescent performance.

Is this "imagined making" part of the "readable" biography of objects from a distant time? Usually, such investigation is consigned to some trash-heap of "imaginings", things that are simply unknowable. I am wondering if this is not a convenient excuse, an embrace of the traditional, the tried-and-true, as opposed to an adventurous quest for new ways of reading the archaeological record?

Sharon Mattila (University of North Carolina at Pembroke), "A Hellenistic–Early-Roman Samaritan Archaeological Land Survey Reinterpreted in Dialectical Comparison with Documentary Land Surveys and Declarations from Egypt and the Dead Sea"

On account of the highly influential "peasant" model of ancient rural socioeconomic relations, it is often simply *assumed* that large estates belonged to the urban elite on the one hand, whereas most villagers owned or leased small subsistence-level holdings on the other. Thus, the presence of a large mansion and agricultural complex near Hellenistic–Early-Roman *Qarawat bene Hassan* in Samaria has led to the conclusion that Shimon Dar's archaeological survey data of over 600 plots of land near this village afford "smoking-gun" evidence that it was all Herod's royal land, or at least a large private estate, leased out in equal parcels to tenants.

When, however, one analyzes these Samaritan data by instead comparing them dialectically with what we learn from documentary land surveys and declarations of roughly the same period, not only from Egypt, but also from the Babatha archive, a very different interpretation results.

First, large agricultural complexes are often mentioned near Egyptian villages; but their owners did *not* generally possess all the land near them. Second, the Ptolemies did *not* monopolize the large majority of the land in Egypt, and thus much of it was *not* royal land. Third, holdings, often even modest ones, were fragmented into sometimes numerous small plots that were frequently not adjacent one to another, and individual holdings varied substantially in size. The Samaritan plots were far from equal in size and were juxtaposed in a very irregular pattern, all of which suggest that they, likewise, did *not* belong to one single large estate.

Michele Rau (Independent Scholar), "Neuroarchaeology and Levantine Architecture: Human Neurology as a Tool in the Interpretation of Architecture"

Recent trends in social science theory stress the "embodied" nature of the human experience: the inherent interconnectivity of environment, body, and mind. Yet what constitutes the "mind" is rarely explicitly examined. Human neurology is potentially a powerful tool for the interpretation of the social significance of architecture. However, proper use of this tool requires a thorough understanding of the "metaplasticity" of the human mind; meaning that brain function is not genetically hard-wired, but is subject to the interaction of factors including neurology, culture, time, imitation, and material engagement. The field of neuroarchaeology has used a rapidly expanding body of evidence produced by technologies such as functional magnetic resonance imaging (fMRI) and positron emission tomography (PET) to aid in understanding the mind's metaplasticity. In this paper, I will summarize pertinent techniques and evidence and demonstrate how they can contribute the neurological piece of the puzzle to the study of ancient architecture. Specifically, I will compare and contrast gate architecture in the northern versus southern Levant during Iron Age II (ca. the 11th–8th centuries B.C.E.), with a sidewise look at possible connections to contemporary temple architecture.

Philip Johnston (Independent Scholar), "Fragments of Identity: Ceramic Analysis, Production, and the Phoenician-Iberian Colonial Encounter"

My paper explores how production can help us understand the societies and economies of the western Phoenician colonial diaspora (ca. 825–550 B.C.E.). Previous research has used consumption activities as a window onto social aspects of Phoenician colonial interactions, and relied on exchange as the primary tool for studying the ancient economy. Production practices have been marginalized in this previous work, however, despite their importance in daily life and in local and regional exchange. This paper theorizes production using a comparative framework that combines postcolonial perspectives, economic anthropology, and social learning theory. The framework is applied to the activities of Phoenician and indigenous potters in the Bay of Cádiz (Spain), using a chemical and petrographic analysis of ceramics from the site of El Castillo de Doña Blanca. A close reading of the data, with an eye toward technological practices and colonial dynamics, sheds new light on the production of Phoenician, indigenous, and mixed/"hybrid" pottery in the Bay of Cádiz, and on the relationships between the region's different potter communities. In closing, I will consider how seemingly modest colonial transformations during Phoenician times would propel Cádiz/Gadir to a dominant position on the Mediterranean stage in the Classical era.

12A. Cyber-archaeology in the Middle East Today

CHAIRS: Thomas Levy (University of California, San Diego) and Neil Smith (King Abdullah University of Science and Technology), Presiding

Neil Smith (King Abdullah University of Science and Technology), Mohamed al-Farhan (King Abdulaziz City for Science and Technology), Ahmad al-Hasanat (King Abdullah University of Science and Technology), Mohamed Shalaby (King Abdullah University of Science and Technology) Luca Passone (King Abdullah University of Science and Technology), and Thomas Levy (University of California, San Diego), "New Approaches to UAV-Based Aerial Scanning of Cultural Heritage Sites in the Kingdom of Saudi Arabia"

The rapid and extensive digital documentation of cultural heritage is now being made possible through the use of unmanned aerial vehicles and photogrammetry. However, to fully realize the potential of this technology and achieve the accuracy required in archaeological documentation, all aspects of the scanning process have to be carefully controlled. In this paper, an integrated hardware and software approach is presented that enables rapid scanning of complex archaeological sites at subcentimeter precision and without occlusion or distortion. By using a combination of noninvasive aerial and terrestrial 3D scanning techniques, the approach is demonstrated from work over three years at the Saudi Arabian UNESCO cultural heritage sites of Al-Hijr (Ancient Dedan, Madain Saleh), ad-Dariyah and Al-Balad (historic Jeddah). A major obstacle faced for each of these sites was their sheer size and complexity. Each site provides unique challenges in how UAVs and time-of-flight laser scanning were integrated. The project has resulted in massive datasets and groundbreaking software just to manage and visualize it. This paper presents the results, methodology, learned best practices, and an integrated software and hardware approach that can directly benefit archaeologists seeking to adopt high precision aerial scanning in their projects.

Stephen Batiuk (University of Toronto) and Timothy Harrison (University of Toronto), "The Computational Research on the Ancient Near East (CRANE) Project: Large-Scale Data Integration, Analysis, Visualization, and Models for Data Sharing"

The Computational Research on the Ancient Near East (CRANE) Project is an interdisciplinary collaboration undertaking the integration and analysis of data from a number of archaeological projects working within and beyond the Orontes Watershed of the northern Levant within a single computational framework. The project aims to facilitate the analysis, modeling, and visualization of the interrelationships between social, economic, and environmental dynamics at various spatial and temporal scales in order to address questions about the rise and development of complex societies in this important region. For four years, the project has focused on the incorporation of data from a number of archaeological excavations and surveys in southeastern Turkey and northern Syria with the goal of developing new tools for integrating and analyzing the often-disparate data sets. We have now begun to more robustly develop tools for interpreting and visualizing the results of these new integrated datasets, improve ways to share data among the various researchers of the CRANE Research Environment, as well as to serve as a data aggregator for projects such as ASOR's Cultural Heritage Initiative. This presentation will summarize the results of our most recent efforts and outline future directions.

Sandra Schloen (University of Chicago) and Miller Prosser (University of Chicago), "More Than Just a Pretty Geodatabase: Spatial Data Integration Using the Online Cultural and Historical Research Environment (OCHRE)"

Most archaeologists have a GIS toolkit tucked into their back pocket for capturing the spatial components of an archaeological project. Raster images, DEMs, aerial photographs, and 3D models, often combined with stone-by-stone, feature-by-feature shape files of units of excavation, record excavation progress from both the bird's-eye view and the seat-of-the-pants view. A geodatabase can manage such data and can provide tools for productive analysis and visualization. But what if the collection and management of geodata were to be *fully integrated* with other more traditional forms of data capture and analysis? Using the Online Cultural and Historical Research Environment (OCHRE) as a case study, we will illustrate how the tight integration of geodata with both temporal and artifactual data (ceramics, bones, small finds, etc.) can aid the process of data collection and greatly enrich the outcomes.

Sandra Whitcher Kansa (Open Context/The Alexandria Archive Institute) and Eric Kansa (Open Context/The Alexandria Archive Institute), "Open Context Turns Ten: A Retrospective"

In 2003, with support from the William and Flora Hewlett Foundation's Open Educational Resources program, the Alexandria Archive Institute (AAI) began research and development to demonstrate an online archive of open access archaeological data. Two years later, the AAI launched the first iteration of Open Context, featuring data from several key sites in the Near East. This paper discusses the evolution of Open Context over the past ten years. Though

the original concept was to demonstrate the feasibility of hosting diverse archaeological datasets in a single online platform, over time, Open Context has become a "data publishing service" that puts more emphasis on documentation, peer review, and integration with other web-based resources. We discuss these developments, which were both in response to our understanding of evolving scholarly needs as well as changes in web technology applications and social media. We highlight key policy changes, in the government and in professional societies, which have impacted the discipline's attitudes toward data. Finally, we discuss Open Context's place in the burgeoning ecosystem of archaeological data. This retrospective allows us to step back and view the dynamic landscape of archaeological data, and to see that it is constantly changing. Data management can never be static, but requires continuous and long-term investments and intellectual commitment to adapt to changing needs and circumstances.

12B. The Tel Dan Excavations at Fifty

CHAIRS: David Ilan (Hebrew Union College, Jerusalem) and Jonathan Greer (Grand Rapids Theological Seminary), Presiding

David Ilan (Hebrew Union College, Jerusalem), "Tel Dan: New Insights from the Last 10 Years; the Early Bronze and Middle Bronze Ramparts, an Unfinished Iron Age Gate, and an Eighth Century B.C. Earthquake"

Excavations and research carried out between 2005 and 2016 have answered a number of questions left by Avraham Biran's excavations, which culminated in 1999. This paper will present these findings as follows: (1) The relationship between the Early Bronze and Middle Bronze fortifications is now better understood: there was an interim (MB I) phase between the two; (2) The outermost Iron Age (tenth century B.C.E.) gate discovered in 1993 can now be understood as never having been finished; (3) Evidence for an earthquake of the eighth century B.C.E. was uncovered in two new areas at the center of the site; (4) A dense stratigraphy of the tenth–eighth century has been documented, removing any doubt about the site's continuous occupation in the Iron Age II.

Yifat Thareani (Hebrew Union College, Jerusalem), "Physical Manifestations of an Imperial Enclave: A Neo-Assyrian Governor's Residence at Tel Dan"

Creation of imperial space in antiquity was achieved by territorial expansion, followed by processes of consolidation: an administrative provincial system was set up with power in the hands of imperial officials, conquered towns were reorganized, and strategically-located centers were built.

Following the conquest and annexation of the Hula Valley by the Assyrian Empire in the eighth century B.C.E., a new settlement system was put in place, with the Assyrians choosing Dan to fill the role of regional center. Under Assyrian rule, the city experienced a rapid recovery, becoming even more populous. New residential quarters were constructed and an imperial edifice was built.

Analysis of the architectural plan and material culture assemblage from Building T1-3/1 attests to the physical manifestations of Assyrian dominion in the provinces, especially a lifestyle reflecting "imperial enclaves." This involved an awareness of the local environment, the selective use of cultural elements borrowed from the imperial core and other provincial centers, integrated with local materials, construction techniques, and objects deriving from the indigenous society.

Jonathan Greer (Grand Rapids Theological Seminary), "Bones and the Bible: Recent Zooarchaeological Research from Tel Dan and Implications for Biblical Studies"

This paper reviews the results of recent analyses of faunal remains from the Biran excavations and the renewed excavations (2005–2016) and suggests ways in which these results contribute to discussions related to ancient Israelite history, society, and religion. Specific contributions are suggested for discussions of the origins of Israel, foodways and cooking processes, the socio-economic profile of the early monarchy, and the religion of the kingdom of Israel as it compares and contrasts with that of Judah.

Levana Zias (Hebrew Union College, Jerusalem), "From High Place to No Place: Tel Dan in the Hellenistic and Roman Periods"

In the years that followed the Iron Age, the thriving urban center at Dan was considerably reduced. Nevertheless, the sacred precinct appears to have persisted well into the Persian and the Hellenistic periods. Perhaps the sanctity of the site saved it from total collapse and abandonment.

Occupation of the Sacred Precinct at Dan is presented by two construction phases: one from the Persian\Early Hellenistic periods of the late fifth–early fourth centuries B.C.E. and a second phase of the Seleucid dynasty during the third–second centuries B.C.E. While in the earlier phase, the temple and the altar were still active and enclosed within a temenos wall, in the second phase, they were extended, although it appears that these additions were never completed. The site was abandoned sometime in the second half of the second century B.C.E.

Cultic activity at the site was renewed during the Roman period (mid-second century C.E.), though it seems that the city did not return to its former position in the settlement system. The abrupt disappearance of the site's cultic hegemony should be seen on the background of the establishment of the flourishing sanctuary of Pan at the nearby city of Paneas/Caesarea Philippi. The high place at Dan was now obliterated in its entirety. Several agricultural installations were found, which suggest that Dan had now become a small village.

In the lack of archaeological evidence for the destruction of Dan it would appear that the site was totally deserted by the fifth century C.E.

12C. New Light on Old Collections

CHAIR: Patrick Degryse (KU Leuven) and Andrew Shortland (Cranfield University), Presiding

Patrick Degryse (KU Leuven), "A Lost Metal/A Metal Lost: Antimony Through The Looking Glass"

Antimony (Sb) is considered a rare metal, sparsely found in the archaeological record. However, it was widely used for several millennia as the material to opacify or decolor glass, color glazes, and as a metal for copper alloying. In this way, from the Late Bronze Age to the Greco-Roman period, Sb spread through the entire known world. So far, Sb remains an understudied metal. Questions concerning

the raw materials used (native Sb, stibnite, etc.), their location of extraction (the western Mediterranean, Taurus, or Caucasus) and the exact processing technology remain largely unanswered. Nevertheless, tracking the occurrence and use of Sb through time and space offers unique perspectives on the invention of early copper alloys and vitreous materials. In this paper, newly developed Sb-Pb-Sr-Nd isotopic methods are presented as a way to study the origin of the earliest glass, glaze, and Sb-rich alloys. The (nondestructive) analysis of objects kept as curiosa in several museum collections allows us to map the spread and use of Sb. The use of Sb in metallurgy and for making vitreous materials can be compared. Changes in the ore sources used can be due to changes in a supply chain, or be due to or influence technological developments. In this way, using innovative techniques on old collections, we can not only understand how and why Sb moved between the first complex societies, but also how and why craft specialization occurred through the Bronze Age world and how it continued into the Iron Age and Greco-Roman times.

David Shlugman (Cranfield University) and Andrew Shortland (Cranfield University), "Using CT to Image and 3D Print Cuneiform Tablets without Removing Them from Their Envelopes"

Cuneiform tablets are occasionally found preserved in the clay envelopes in which they were sent. These envelopes served at least some of the same roles as envelopes today - they protected the contents and kept the text from unauthorized eyes. While most envelopes found complete have been broken to remove the tablet, some are preserved in museums with the tablet, unread, inside. This paper reports a study on using various types of X-ray Computed Tomography (CT) to image the tablet inside the envelope without breaking it. It details the best techniques for this work and some of the procedures required. It goes on to discuss the 3D printing of the images to allow the display of the tablet and the complete, unbroken envelope side-by-side.

Marc Walton (Northwestern University), Kathy Eremin (Harvard Art Museums), Andrew Shortland (Cranfield University), and Georgina Raynor (Harvard Art Museums), "Reconstructing the Social and Ethnic Identity of Ancient Roman Egyptians through the Analysis of Their Mummy Portraits"

Roman-Egyptian portraits created in Egypt from the first through the third centuries A.D. are often considered to be antecedents of Western portraiture. Painted on wooden panels, often using wax as a binding media, these visages of the dead were originally attached to mummies prior to burial. Here we present the results from a multi-institutional collaboration (Harvard, Northwestern, and Cranfield) in which a number of these portraits were scientifically studied with the aim of reconstructing their color palette and painting style. A nondestructive, noninvasive analysis strategy guided the removal of discrete microsamples for more detailed analysis. Analysis of the samples by the three institutions revealed a rich palette of both organic and inorganic pigments that included a variety of iron earths, red lead, indigo, and Egyptian blue. The specific information obtained about painting methods and the overall distribution of pigments produces groupings of portraits made of similar materials and has led to the identification of ancient workshops and the hand of specific artists.

Dennis Braekmans (Leiden University/Delft University of Technology), Joseph Greene (Harvard University, Semitic Museum), Brien Garnand (Howard University), Lawrence Stager (Harvard University, Semitic Museum), and Patrick Degryse (KU Leuven), "Ubiquitous Ceramics in Unique Museum Collections: The Integration of Past and Present Archaeometric Analyses"

Many museums host large collections of ceramic materials from past excavations. These collections often represent material from major reference sites and are therefore key assemblages for future research. This paper explores the *longue durée* potential of the ceramic collection in the Semitic Museum, Harvard University, from the ASOR Punic Project (1976–1979) at Carthage (Tunisia). By integrating carefully documented excavation data and past ceramic analyses with current, state-of-art analytical techniques, we can follow new avenues of research. We focus here on the ancient mercantile harbor of Carthage, constructed during the late fourth/third century B.C.E. south of the Punic city and adapted to both commercial and environmental needs. Since the eighth century B.C.E., Carthage served as an important center within the large commercial network of Phoenician colonies in the western Mediterranean. The Carthaginian ceramic assemblage provides a key to answering questions about changing economic and social systems, especially regarding the diachronic adaptation of new technologies and the impact of mass production and trade. Ultimately, this study will generate a better understanding of technological innovation and material connectivity between major port cities and regional/local production centers, as well as an understanding of Punic and Roman economic conditions.

Eric Kansa (Open Context, San Francisco), Brien Garnand (Howard University), and Joseph Greene (Harvard University, Semitic Museum), "Carthago Reciperanda Est: Online Data Publication of the ASOR Punic Project Excavations at Carthage"

Controversies surrounding the historicity of ritual infanticide have divided Phoenician studies, but this debate has raged in the absence of reliable data, since over a century of excavations at dozens of tophet precincts have produced few preliminary reports and no final publications. Phoenician ritual practices present interpretive challenges since archaeological evidence is inherently fragmentary and often ambiguous. Moreover, archaeological research methods, particularly excavation, are typically destructive. In order to encourage greater reproducibility of archaeological interpretations, especially on topics as contentious as possible Punic child sacrifice, archaeologists should aim to disseminate primary evidence and documentation as comprehensively as possible.

This paper describes how online data publication can help put debate about Punic child sacrifice on a stronger foundation of evidence. Using Open Context, an archaeological data publishing service, detailed data documenting osteological evidence, taphonomy, stratigraphic context, and material culture will be available for researchers to revisit interpretive claims. To facilitate comparison with other Punic tophet assemblages, we will also discuss some of the intellectual challenges inherent in promoting wider interoperability, especially with regard to data modeling and documentation. In making these data available, this paper highlights how data dissemination can and should play a greater role in scholarly communications in archaeology.

Véronique Van der Stede (Royal Museums of Art and History, Brussels) and Possum Pincé (Ghent University), "Hidden Heritage: Opening Up and Restudying Collections from Old Belgian Excavations in the Near East"

Many archaeological collections, both material and archival, from excavations carried out in the Near East remain in the storerooms of museums and research institutes. Although these collections are sometimes the only remnants of now disappeared or inaccessible heritage, they are often not studied to their full potential. Generally, these collections were (succinctly) studied at the time of excavation, now many decades ago, but archaeological knowledge and techniques have progressed and important new information can be gained from restudy. Furthermore, these collections are often under threat; writing is fading, portions get misplaced and lost, preservation state deteriorates and shortage of storage capacity sometimes results in drastic measures.

The BArEO project (Belgian Archaeological Expeditions to the Orient. Heritage in Federal Collections), funded by the Belgian Science Policy Office, focuses on these old archaeological collections. The first aim is to valorize these collections by opening them up to both scholars and wider public through digitization and online presentation. Secondly, it attempts to gain further knowledge by reexamination of the collections using new techniques. One of the new lines of inquiry is the investigation of a set of 1000 pre-Islamic sherds from 47 Iranian sites collected by L. Vanden Berghe in the 1950s using handheld X-ray Fluorescence (hXRF) spectroscopy and thin section petrography. This paper will present the manner in which the BArEO project tries to valorize these collections by making them accessible as well as present the results of the new investigations.

12D. Gender in the Ancient Near East

CHAIR: Stephanie M. Langin-Hooper (Southern Methodist University), Presiding

Laura Mazow (East Carolina University), "Combat or Weaving Swords, and the Complexities of Reconstructing Gender in the Bronze and Iron Age Levant"

The existence of weaving swords in the Bronze and Iron Age Levant is hinted at in both the textual and archaeological records. Furthermore, weaving swords as grave goods would fit the generally accepted pattern of weaving tools in association with female burials. Yet when swords have been found in graves with positively identified females, the deceased have been described as 'warrior women' or the burial reinterpreted so as to disassociate biological sex and gender. In recognizing the use of weaving swords in the Bronze and Iron Ages, we may find additional previously identified weapon swords whose form better fits a weaving function. In this paper I argue that our lack of understanding of weaving technologies combines with our hasty and often uncritical assignment of gender categories to see a martial quality in all depictions of 'swords.'

Krystal V.L. Pierce (Brigham Young University), "Gender as a Life Cycle Process: Predynastic Cemetery N7000 at Naga-ed-Der in Egypt"

Although research on the Egyptian Predynastic Period (ca. 4500-2950 B.C.E.) has formerly centered on examining increases in social complexity and the formation of the dynastic state, a few recent studies have examined the relationship between gender and social status, especially in comparison with later Egyptian history. Because archaeological material is mostly limited to mortuary contexts for this period, these analyses consisted of comparing the differences between the quantity and quality of grave assemblages of males and females. In this study, the role of gender in the Egyptian Predynastic Period is examined using a theoretical model of gender as a life cycle process. Gender, a culturally and personally defined identity, is malleable throughout a lifetime and is intimately tied to aspects of aging as an individual progresses through stages of physiological development and social age classes. Changes in gender roles throughout the life cycle may be represented by modifications in appearance, expectations about appropriate behavior, divisions of labor, and social ceremonies. For example, the advent of puberty might be celebrated in a "coming-of-age" ritual and marked by variations in the adornment of males and females, while infants might be viewed as genderless, with little or no differentiation between the sexes. This paper will examine the human remains and material culture from Cemetery N7000 at Naga-ed-Der in Egypt using a theoretical model of gender and the life cycle in order to determine how the relationship between gender and age intersected across the lifetime of an Egyptian in the Predynastic Period.

Saana Svärd (University of Helsinki), "Arabian Queens: Constructs of Gender and Ethnicity in the Neo-Assyrian Empire"

The study will explore the Neo-Assyrian (911-612 B.C.E.) textual and iconographical evidence for queens from "Arabia" (to use Assyrian terminology imposed upon certain mostly nomadic groups). The Neo-Assyrian texts give the title *šarratu* to these women. This title occurs otherwise only as an epithet of female deities, never, for example, as a designation of Assyrian or other non-Assyrian queens. I argue that it refers to a concept of foreign ruling femininity, "a female kingship" which was very different from other forms of femininity constructed in Neo-Assyrian texts.

King Assurbanipal's (668-630 B.C.E.) campaign against the Arabians is especially relevant to this argument. Its narrative is presented in royal texts and on reliefs in Assurbanipal's palace. It requires an explanation that Assyrians, who are noted for their enthusiastic depictions of cruelty against their enemies in reliefs, show violence against women only in this instance. The violence is gender specific, portraying Assyrian soldiers slitting open a woman and pulling out a fetus. This is also interesting from the point of view of Assyrian hegemonic masculinity, a part of which was killing male enemies, not women and children. This performance of masculinity no doubt relates to the way Assyrians perceived the femininity of Arabian women.

This case study gives ample opportunity (not realized in earlier research) for an intersectional study of Assyrian constructs of femininity, masculinity, ethnicity, and social rank. I suggest that they were anomalous to Assyrians, as they were perceived as females, but simultaneously associated with male attributes of kingship.

Brandelyn M. Andres (Arizona State University), "Expressions of Power: The Appropriation of Royal Masculine Iconography by Dynasty 18 Egyptian Queens"

There is a relative paucity of archaeological evidence and academic attention regarding the nuanced roles of queenship within the political system of ancient Egypt. This is not to say that Egyptian queens are without representation in current scholarship; however their presence is generally limited to descriptions of their affiliations with sons and husbands. Aside from the parallelism theory of Lana Troy, there has not been a concentrated attempt to link these women within a wider contextual framework that would explain how they were able to communicate visible and active agency, as a unique expression of political power, within a system that was strictly conceptualized as masculine.

As an initial exploration of this complicated topic, the focus of this paper is limited exclusively to the examination of imagery that links codified masculine iconography pertaining to kingship to its increasingly common appropriation by queens. This is most readily evident in Dynasty 18, a rare moment in Egyptian history where queens enjoyed an unparalleled level of administrative participation and influence. An interpretation of this strategy of appropriation indicates that in many instances during this time period, female political power may have rivaled, or even surpassed, that of the king's. Such appropriation of masculine kingship imagery was a continuation of a strategy that was institutionalized, in part, by the female king Hatshepsut.

12F. Reports on Current Excavations–ASOR Affiliated

CHAIR: Jack Green (Corning Museum of Glass), Presiding

Cynthia Finlayson (Brigham Young University), "The Coins of Ad-Deir: New Numismatic Evidence from the Ad-Deir Plateau at Petra, Jordan"

This paper presents new information concerning the numismatic evidences emerging from renewed scientific research on the Ad-Deir Plateau. During the 2013–2016 excavation and conservation efforts of the on-going Ad-Deir Monument and Plateau Project, just over 200 ancient coins were retrieved from the clearances of the western temenos entrance to the Ad-Deir Monument as well as Cistern B just to the north of the monument itself. This collection represents the largest comprehensive numismatic grouping ever retrieved from the Ad-Deir Plateau via scientific archaeological excavation, and thus puts forward new information concerning the occupation sequences and potential functions of the Ad-Deir Plateau itself. Significantly, the coinage of Aretas IV (reigned 9 B.C.E. to 40 C.E.) dominates this collection, but a possible coin of Aretas II (reigned ca. 103–96 B.C.E.) was also retrieved. Additional coins from the later Nabataean kings, Malichus II (reigned 40–70 C.E.) and particularly Rabbel II (70–106 C.E.) were also recovered. While Nabataean coins were almost exclusively found in the temenos slot entrance to the Ad-Deir Monument with no Byzantine examples yet identified, the eastern cliff Cistern B to the north of the monument contained predominantly later coins from the reigns of Constantine I and Constantius II. This paper discusses the probable reasons for this distribution of numismatic evidence and suggests further evidences for the presence of a Nabataean summer palace on the plateau dating from at least the reign of Aretas IV. This evidence thus begs the question of the current association of the Ad-Deir Monument with Obodas I.

S. Thomas Parker (North Carolina State University) and Megan A. Perry (North Carolina State University), "Uncovering Petra's Nonelite Population: The 2016 Season of the Petra North Ridge Project"

Although Petra has witnessed excavation for nearly a century, most prior research has focused on monumental structures associated with its urban elite. This project focuses on Petra's largely neglected nonelite population through excavation of a cemetery of simple rock-cut shaft tombs and "ordinary" domestic structures. Prior seasons in 2012 and 2014 examined five such tombs and portions of four domestic complexes. Plans for the 2016 field season include excavation of three more shaft tombs, which thus far have yielded rich artifactual as well as bioarchaeological remains, further excavation of a domestic complex opened in 2014, and a new excavation area of another apparent domestic complex just outside Petra's city wall (now securely dated by the project to the turn of the second century A.D.). The shaft tombs were in use between the first century B.C. and first century A.D., going out of use about the time of the Roman annexation of Nabataea in 106 A.D. Three of four domestic complexes were founded in the first century A.D. (i.e., when the cemetery was still in use). Two of these were in turn abandoned when built over by construction of the city wall. The third complex was founded soon after the annexation and remained in use until the late fourth century. The fourth complex is tentatively dated to the 1st century and also remained in use until the late fourth century. Both were apparent victims of the 363 earthquake. The domestic areas are yielding great insights into daily life among Petra's nonelite population.

Jesse Long (Lubbock Christian University), Suzanne Richard (Gannon University), Marta D'Andrea (Sapienza University of Rome), and Rikke Wulff-Krabbenhöft (Uppsala University), "Expedition 2016 to Khirbat Iskandar, Jordan"

The 2016 campaign to Khirbat Iskandar continued work in Area B on the northwest quadrant of the mound, the location of the EB IV public building and the EB III tower with accompanying fortifications. A primary goal this season was to expose more of the EB III settlement, including the early, possibly prefortification, Phase E that was uncovered in 2013. Along the western boundary, we exposed more of the new EB III perimeter wall which was also discovered in 2013, in order to clarify its relationship with earlier Phase D structures and with the later, "rubble-filled" fortification wall. To clarify the EB III/EB IV transition at Iskandar, we renewed excavation in Area C to the southeast. Excavation there allowed us to expose more of Phase I and earlier materials, to test the hypothesized transitional EB III/EV IV phase on the site. To further illuminate the relationship between EB IV Phases A and B, in Area B we continued excavation in squares opened in 2010 and 2013. This strategy clarified our overall view of the EB IV A and B settlements in preparation for a Final Report on the Early Bronze IV Area B Phases A and B. Preliminary results continue to underscore the significance of Khirbat Iskandar as a major Early Bronze Age site on the Central Transjordanian Plateau.

Jennifer Gates-Foster (University of North Carolina at Chapel Hill), Daniel Schowalter (Carthage College), Michael Nelson (Queens College, CUNY), Benjamin Rubin (Williams College), and Jason Schlude (College of St. Benedict/St. John's University), "Omrit Settlement Excavations: Report on the 2014–2016 Seasons"

The Omrit Settlement Excavations are in the midst of a five -year planned excavation of the evidence for occupation around the Roman Temple at Omrit in northern Israel.

Clear evidence for occupation in the Roman, Late Roman, Byzantine, and Mamluk periods had been identified by the temple excavation project, but the OSEP is providing much more specificity and context for those periods and also extending the range of occupation back to the Hellenistic period, and ahead to Ottoman times.

For example, excavation and analysis of critical deposits during the 2015 season have revealed that the construction of a large stoa building lining the approach to the temple should be dated no earlier than the third century C.E., and that the north end of that stoa was built over an earlier occupation layer, likely dating to the late first or early second century C.E.

Most evidence for the Late Roman and Early Byzantine period occupation suggests that the community was engaged in various types of agricultural production and perhaps even distribution. There are also both architectural indications and artifacts that attest to a Christian presence at the site.

12G. The Middle Bronze Age in the Southern Levant Revisited: Chronology and Connections II

CHAIRS: Felix Höflmayer (Austrian Academy of Sciences) and Susan Cohen (Montana State University), Presiding

Assaf Yasur-Landau (University of Haifa), Eric H. Cline (George Washington University), and Andrew Koh, (Brandeis University), "The Relative and Absolute Chronology of the Kabri Palace and the Chronology of Aegean-style Wall Paintings in the East"

The wall and floor paintings of the Middle Bronze Age palace of Tel Kabri belong to a small group of Aegean-inspired palatial art in the eastern Mediterranean. Other examples include Middle Bronze Age paintings from Alalakh, and the Late Bronze Age examples from Tel el Dabʿa and Qatna.

The Kabri wall paintings all belong to the penultimate phase of the palace, phase DW 4, while the floor in hall 611 was used also in the latest phase, phase DW 3. Ceramic typology, both local and imported, suggests that both DW 3 and DW 4 should be associated with the MB II period. In addition, a set of radiocarbon dates of phases DW 4 and the later DW 3 provides a framework for the absolute chronology of the last two phases of the palace.

This paper will present the insights gleaned from the combination of relative and absolute chronology on the appearance of Aegean-style art in the Levant, and its relation to contemporary Aegean and Near Eastern chronologies.

Shlomit Bechar (Hebrew University), "The Middle Bronze-Late Bronze Transition: Architectural Evidence from Tel Hazor"

The transition between the Middle and Late Bronze Age is the first transition in archaeological periods that 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 mid 16th century B.C.E.). Recently, the date of this transition has been challenged. It was suggested that this date should be later and be ascribed to the conquest of Canaan by Thutmosis III (approximately first half of the 15th century B.C.E.).

Tel Hazor, the largest Canaanite city in the southern Levant during the second millennium, may shed light on this debate. During this time both the acropolis and the lower city were occupied and the settlement covered an area of approximately 80 hectares, consisting of cultic and public structures, as well as domestic buildings. This paper will present the urban changes at Hazor starting in the Middle Bronze Age (Strata XVII–XVI on the acropolis and 4–3 in the lower city) and ending in the LB IIa (Stratum XIV on the acropolis and 1b in the lower city). It will be shown that the major architectural differences in the city occurred between the LB I and IIa, thus strengthening the suggested later date of the transition to the Late Bronze Age.

Katharina Streit (The Hebrew University of Jerusalem), "A Maximalist Interpretation of the Execration Texts – Archaeological and Historical Implications of a High Chronology"

Since their initial publications by Kurt Sethe (1926) and George Posener (1940) different historical interpretations of the Execration Texts (ET) have been suggested. While the historical dating remains subject to debate, for the Berlin group a date in the late 12th or early 13th Dynasty has been suggested, while the Brussels group was dated to the early 13th Dynasty. Thus, the ET were synchronized with the Middle Bronze I (IIA) of the southern Levant according to the traditional chronology. The maximalist interpretation (Albright, Rainey and Redford) suggested that the cities listed in both the Brussels and the Berlin group reflect a historical account of the urban landscape of the southern Levant, while the minimalists (Weinstein, Cohen, Ben-Tor) questioned the descriptive value of the ET. Several sites listed in the texts have not been fortified, or not even settled during the Middle Bronze I (IIA). Instead, it was argued that the ET might reflect the political reality of the southern Levant from an earlier period, i.e. the Early Bronze Age (Ben-Tor), or should be regarded as more abstract, reflecting a general political relation with the region, without any geopolitical value (Weinstein, Posener, Cohen).

The new radiocarbon based chronology might have significant implications for the interpretation of the ET. While earlier interpretations believed that the ET, if at all, reflected the landscape of the Middle Bronze Age I (IIA), the new chronology would place the ET well into the Middle Bronze II (IIB). This paper examines the sites listed in the ET in light of this new chronology and suggests that the ET could reflect the urban landscape of that period.

12H. Theoretical and Anthropological Approaches to Archaeology III

CHAIR: Leann Pace (Wake Forest University), Presiding

Neil Erskine (University of Glasgow), "Religiosity in the Iron Age Negev: A Deleuzo-Guattarian Approach to the Archaeology of Religion"

Theoretical archaeological methodologies designed to analyze religious activities, and their transmission through time, are thoroughly underdeveloped. The historical preeminence of textual evidence has left scholarship of ancient Near Eastern religions distinctly elite-focused and in particular need of a theoretical revolution. However, the field has traditionally treated theory-laden approaches with some suspicion. Much of this suspicion may be justifiably rooted in the lack of methodological clarity presented by archaeologists when moving between excavated data and theoretical frameworks: a problem largely the result of borrowing theories directly from anthropologists without reformulation with specifically archaeological research in mind.

Gilles Deleuze and Felix Guattari, who are virtually unknown in archaeological contexts, present two concepts that provide a potential solution to this problem: the fold, which describes the internalization of interactions between persons and with the world, and the rhizome, which represents the complex network of experiences that comprises human thought and understanding. Together these allow the consideration of specific persons with specific artifacts, structures, and environments and their continually developing relationships through time. In doing so folds and the rhizome create a clear bridge between archaeological data and culture, transmitting theories already familiar in archaeological literature such as Bourdieu's habitus and Giddens's structuration.

Using religiosity in the Iron Age Negev as a case study, this paper uses these Deleuzo-Guattarian concepts to illustrate the reflexive processes through which religious meaning is created and sustained in a landscape and demonstrates a new methodology that can move between data and theory with ease and clarity.

Andrea Creel (University of California, Berkeley), "Movement, Connectivity, and Senses of Liminality: Meshworking and Networking 'On the Road' in the Iron Age II Southern Levantine Drylands"

The seventh century B.C.E. site of Ḥorvat Qitmit in the Negev and the eighth century B.C.E. site of Kuntillet ʿAjrûd in the Sinai are traditionally discussed in terms of Yahweh-Asherah worship, ethnic identity, and the political developments of Judah and Edom. In this talk, I blend Tim Ingold's concept of the "meshwork" and Carl Knappett's treatment of networks and suggest that these sites are best interpreted through the lens of an arid and marginal landscape, inhabited largely by pastoral communities of various mobilities, with a particular and specific history distinct from other Near Eastern landscapes and communities. I specifically characterize this region and its communities as imbued with overlapping and intersecting senses of liminality—powers of transitioning and ambiguity—that are born out of movement and mobility, aridity, marginality, and betweenness.

As such, I also interpret these sites within their particular contexts as sites of roadside ritual at specific points in the landscape with differing temporalities and relationships to their surroundings. Drawing on the works of Edward Casey, I characterize roads as "intraplaces" and "interplaces," places within places and the places between places. Roads merge the liminalities of spatial betweenness and movement. Desert roads, layered with another sense of liminality through their marginal and arid setting, thus generate a tension between connectivity, movement, rurality, and place. I suggest that the ritual practices at Ḥorvat Qitmit and Kuntillet ʿAjrûd derived much of their potency from these senses of liminality, each in their own distinct way.

Vanessa Juloux (École Pratique des Hautes Études), "For Modeling Power Relationships between Animated Entities in Ancient Literature: Framework of Deontic Power"

Could deontic power (DP) be relevant for studying power relationships (PRs) between animated entities (AEs) in narrative corpora, and for highlighting their agency? For John Searle, DP allows to adjust relationships between people, according to the categories of deontic "function-status" right and obligation: an entity X has the right to act toward an entity Y, the latter has the obligation to accept. However, does it means that X is active and Y is passive, especially regarding the PRs, and the organizational structure of AEs in narrative story?

Some of Searle's deontic phenomena (e.g., duties, responsibilities, sanctions) are significant indications for identifying the agency of an AE (to be able to act, the desire to act, and the power to act); as such, agency would be a concept that can be applied to understand PRs between AEs.

By classifying verbs according to the semantic fields of DP, and to key elements (e.g., sphere, context), I highlight how AEs interact in order to analyze their active or passive status, their level of involvement and to show their agency.

As a sample, I will focus on the Cycle of Baʿlu from Ugarit, taking into account past and current socio-political environments that display common features with the studied text.

Can DP be a useful approach to model PRs between AEs of ancient societies corpus for ethno-anthropological purposes? And if so, what would be the appropriate common criteria between societies?

Fredric Brandfon (Expedition to the Coastal Plain of Israel), "Black Box Wars: The Use of Cognitive Archaeology and Mentalities to Understand Famine in Iron Age II Israel"

In 1946, R.G. Collingwood (an archaeologist, historian, and philosopher) raised an issue that remains a concern for students of the ancient world: How much of our understanding of ancient history depends on knowledge of the mental state of past individuals and groups? Processual archaeologists responded to this question by claiming that culture was extrasomatic, and could be studied without reference to constituent features of the human mind. Postprocessual archaeologists developed theories, such as structuralism, which claimed to allow access to the mind's workings. Cognitive archaeologists, by defining the mind as inclusive of primary archaeological data, i.e., objects, claimed thereby to study the mind directly. And students of mentalities attempted to sketch maps of a culture's underlying concepts and values. This paper concerns the last two theoretical approaches, history of mentalities and cognitive archaeology. It is a case study

concerning the development of urbanization in tenth–ninth century B.C.E. Israel. It will show how through the use of both idealistic (history of mentalities) and materialistic (cognitive archaeology) theories, claims about urbanization and the regional administration of Iron Age polities in Israel can be supported and understood. Reference will be made to prior understandings of the development of urbanization, including, but not limited to, the work of Frick, Finkelstein, Faust, and Herzog. The paper will propose a new and additional understanding based on urban storage and distribution of food in response to famine and the threat of famine.

Lennie Jones (University of Florida), "Applying Behavioral Contract Theory to Real Property Transactions in the Ancient Near East"

The distinction between the legal concepts of "purchase" and "acquire," often neutralized in modern western legal discourse, was significant in Babylonian/Assyrian contractual arrangements, where "purchased and acquired" (*za-rip la-qe*) is explicitly stipulated in hundreds of transactions for real property recorded in Akkadian. This paper proposes behavioral contract theory (BCT) (Bolton and Dewatripont 2004) as an analytical tool for investigating the relative proportions in which economic and psychological incentives factor into organizing and performing real property contractual arrangements in ancient Babylonian and Assyrian society. The present paper applies quantitative BCT constructs of individual decision making and loss aversion (Tversky and Kahneman 1991) in a comparative analysis of real property contracts sourced from two collections: 1) the University of Pennsylvania Museum collection of Old Babylonian (OB) contracts excavated from Nippur and 2) the Neo-Assyrian (NA) legal documents from the Kouyunjik Collection of the British Museum. A synchronic (or snapshot) BCT analysis of real property contractual arrangements from the OB period is compared to an identical analysis from the NA period in order to observe a range (as was limited by the availability of/and accessibility to the data) of contractual behavior attributable to variations in spatial, temporal, and cultural contexts. Results of the analysis shed new light on how the distinction between "purchase" and "acquisition" served as a primary incentive both for breaches of contract, and for decisions to lease as compared to decisions to sell property in ancient Babylonian and Assyrian societies.

Poster Abstracts

Georgia Andreou (Cornell University), Kevin Fisher (University of British Columbia), Catherine Kearns (University of Chicago), Sturt Manning (Cornell University), Thomas Urban (Cornell University), "The Kalavasos and Maroni Built Environments Project 2014–2016: Integrated Approaches to Late Cypriot Urbanization and Regional Landscape Change"

The Kalavasos and Maroni Built Environments (KAMBE) Project analyzes the development of urbanism, social change, and constructed landscapes during the Late Cypriot (LC) period (ca. 1700–1050 B.C.E.) in south-central Cyprus. In its first phase (2008–2013), KAMBE explored variant patterns of settlement growth through an interdisciplinary framework of geophysical and archaeological methods, and argued for locally contingent developments of social inequalities and urban environments during the transformative LC period. Since 2013, the project's methods have integrated a more expansive array of high-resolution geophysical, remote sensing, and excavation techniques in order to investigate the making of cityscapes at multiple scales, from monumental installations to regional networks. Over the last three years, fieldwork has attended to the spaces within and surrounding two urban centers, Kalavasos Ayios Dhimitrios and the Maroni Complex, in order to analyze both (re)configurations of the urban fabric as well as to consider wider shifts in regional land use. This poster presents these methods, such as electromagnetic induction (EM) and cesium magnetometry surveys, aerial photography, photogrammetry, excavation, and paleoenvironmental analyses. KAMBE's findings, which include the identification and excavation of previously unknown structures as well as the study of the material culture and spaces of monumental buildings, provide exciting new data for the analysis of Late Bronze Age social change and constructed landscapes. We argue that combining such varied methods allows for more critical, multiscalar interpretations of prehistoric urbanization and settlement dynamics.

Jeremy Beller (University of Victoria), Haskel Greenfield (University of Manitoba), "Butchering Technology during the Early Bronze Age I: An Examination of Microscopic Cut Marks on Animal Bones from Nahal Tillah, Israel"

It is commonly assumed that the introduction of bronze metallurgy, which signals the beginning of the Bronze Age (ca. 3500–1200 B.C.E.) of the southern Levant, is associated with a shift in the raw material technology used in daily life from stone to metal. However, there are two major changes in bronze metallurgy that occur: the introduction of bronze as a soft alloy (<5% tin) and the introduction of a hard alloy (10% tin). The former occurs during the beginning of the Bronze Age, while the latter occurs during the later EB III and is not widespread until the EB IV or MB. The question is when does the introduction of bronze technology affect quotidian activities, such as animal carcass butchering? Furthermore, does the introduction of bronze automatically trigger a shift in butchering technology, or is it slightly or even significantly delayed until higher quality and harder (hence sharper) alloys (e.g. bronze-tin) are available? It is unclear if the advent of bronze automatically signals the decline in use of stone. This study tests whether the adoption of metal technology for utilitarian tools, such as those used for butchering, may have occurred early in the EB (after the introduction of a soft bronze alloy) or only occurred later and is associated with a hard tin-bronze metallurgy that developed in the later EB. Microscopic butchering marks on faunal remains from the EBI site of Nahal Tillah in central Israel are evaluated to determine if the primary butchering tools were made of chipped stone or metal.

Gabrielle Borenstein (Cornell University), "New Directions: Results from the 2016 Season at Gegharot"

In 2002 the joint Armenian-American Project for the Archaeology and Geography of the Ancient Transcaucasian Societies (Project ArAGATS) began a systematic investigation of the Bronze Age occupation at the site of Gegharot located in the Tsaghkahovit Plain of central Armenia. The excavations that followed revealed impressive early and late Bronze Age strata on the west terrace, west citadel, and east citadel of the hilltop site. After fifteen years of continued operations in these areas, the project retains a comprehensive—albeit incomplete—understanding of the site's natural and built environments. In 2016, the team was tasked with the decision of how to proceed: where to dig and how to dig. This poster explores various methods of engaging in informed excavation. It evaluates key criteria for selecting the location and techniques of fieldwork particularly at previously excavated sites. Using the 2016 season at Gegharot as a case study, this poster considers the differential benefits of ground penetrating radar (GPR), test trenches, and strategizing from preexisting data. By showcasing the key findings from and preliminary interpretations of the T38 operation, it reveals the benefits of non- and minimally invasive sampling techniques.

Vanessa Boschloos (Royal Museums of Art and History), Athena Van der Perre (Royal Museums of Art and History), Hendrik Hameeuw (Royal Museums of Art and History), "New Light(s) on the Brussels Egyptian Execration Figurines"

The Egyptian Execration Statuettes project at the Royal Museums of Art and History in Brussels is involved in the development of a multispectral, multidirectional and easily transportable imaging system, the Multispectral Portable Light Dome (MS PLD), in collaboration with the Digital Lab and ESAT-VISICS (KU Leuven). The system creates multispectral 2D+ images of small, decorated (and often fragile) artifacts in order to reduce their future handling. The texture/color values on these 2D+ and 3D models are interactive data based on a recording process using infrared, red, green, blue, and ultraviolet light spectra. Recent tests show that the system can also be used for an initial identification of pigments/materials.

The poster presents preliminary results of the case study, the Brussels execration figurines (Middle Kingdom, ca. 1900 B.C.). The surface of these clay figurines is covered with hieratic inscriptions in red ochre or black ink, listing names of foreign countries, places, and enemies. These objects are crucial primary sources for our knowledge of the political geography of the Near East, and represent prime cultural heritage artifacts. Their study is mainly hampered by a poor state of conservation and by the only partial preservation of the ink traces.