

Playing against complexity: Board games as social strategy in Bronze Age Cyprus

Walter Crist*

Arizona State University, School of Human Evolution and Social Change, PO Box 872402, Tempe, AZ 85287, USA

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ABSTRACT

Social complexity requires people to create new ways of interacting with one another to counteract new social boundaries. Board games provide one avenue by which archaeologists may examine the ways in which people interacted. The act of play is liminoid, allowing for people to more easily overcome social boundaries to interaction, while also creating a shared experience for the process of grounding. Thus, games provide an opportunity for people to build relationships and also to negotiate their identity. This research counters previous assertions that only complex societies play strategy games. In Bronze Age Cyprus, middle-range society became increasingly complex with the development of urbanism and differential access to wealth, while also producing a particularly large corpus of ancient board games. Determining where games were played, and then analyzing the social context of games in those spaces using multiple correspondence analysis, it was found that people were more likely to be playing in public during periods of greater complexity. This is likely due to the performative aspects of play, allowing for the communication of status in different ways when games are played in public spaces. The pattern found shows the variation in the ways people incorporated games into their social strategies during periods of different types of complexity.

1. Introduction

Recent anthropological research on social complexity has been concerned with the way complexity is set in motion and consolidated through various kinds of social interactions, whether on the individual or group level (Barton, 2014; Garvey, 2018; Kintigh et al., 2014: 8–10). Quotidian interactions can fuel social processes such as changing complexity (Bourdieu, 1977; Giddens, 1984), though they are difficult to see in the archaeological record. Board games, when found in archaeological contexts, may help to illuminate these kinds of interactions because they require the participation of two or more people. This unique class of objects provides a method for people to build relationships with one another and negotiate identities vis-à-vis other individuals (Crist et al. 2016a). While earlier anthropological approaches to games and complexity offered a positivist relationship between complexity and games of strategy (Roberts et al., 1959; Chick, 1998), the present study offers a new approach that is more in line with current theory and method in archaeology, anthropology, and games studies. Conceptualizing the relationship between games and social processes in this way makes them more relevant for anthropological and archaeological research.

This paper examines board games from the Cypriot Bronze Age (c.

2400–1050 cal BC), a period during which people experienced a range of changes in social boundaries as a result of increasing social complexity. During that time, the middle-range society that existed in the beginning of the period transformed into one with urban centers, robust trade interactions spanning the Mediterranean, and settlement hierarchies that created inter-island dependencies (Knapp, 2013: 348–53; Keswani, 1996; Webb, 2005, 2014). The changes in the ways that people interacted leading to and resulting from new social milieus are shown to be reflected in the patterning of spaces in which games are played, as well as in the kinds of activities that accompanied play. These spaces show that, in some circumstances, people harnessed the relationship-building properties of gaming while, in others, they emphasized the performative aspects of play to negotiate their identities.

2. Critiquing neo-evolutionary models

Anthropological approaches to board games are uncommon in both ethnographic and archaeological literature. There is a particular scarcity of research focusing on the social aspects of this form of play, though others such as sports and festivals that take place on a larger scale have received more attention and inform research on board games (e.g., Appadurai, 1995; Azoy, 2003; Jonsson, 2001, 2003).

* Address: Maastricht University, Department of Data Science and Knowledge Engineering, Bouillonstraat 8-10, 6211 LH Maastricht, the Netherlands.
E-mail address: wcrist@asu.edu.

Nevertheless, some outdated assertions persist in discussions of games and their relationship to complexity that must be addressed. Roberts et al. (1959: 187–8) argued that games of strategy were to be found in societies with high levels of social complexity, while games of skill and chance predominate in societies with smaller-scale social organization. Chick (1998) tested this conclusion, and reaffirmed it with a larger dataset and more complex analysis. These assertions that the types of games people play employ “strategy” more than physical skill or chance as complexity increases have since been refuted on the basis of sample bias (Townshend, 1986: 2–3; de Voogt, 2017). In particular, de Voogt (2017: 308–9) identifies several problems with the nature of the data used for these studies:

1. The analyses assume that because a type of game has not been documented, it does not exist;
2. Published ethnographic research is not sufficient for documenting the presence of games, since board games have largely been overlooked by anthropologists;
3. Games are frequently transmitted between cultures, so games with common origins but which exist in different cultures bias the dataset toward these games.

He further points out that relevant data in literature related to games studies or games history contain much missing data that likely would alter the previous conclusions about the relationship between games and complexity. This includes the assertion that strategy games are absent from Africa, though they have been extensively documented outside of ethnographic sources used by Roberts et al. and Chick (de Voogt, 2017: 310 for many examples).

In addition to their problematic sampling, both Roberts et al. and Chick utilize outdated models of social complexity for their analysis. Both use Murdock’s rankings of power structures and levels of hierarchy as their primary determinants for levels of complexity (Roberts et al., 1959 use Murdock, 1957; Chick uses Murdock and Provost, 1973). The neo-evolutionary schemata utilized by both studies are difficult to reconcile with relevant concepts crucial to examining complexity in more recent research, including heterarchy (Crumley, 1995) and complex adaptive systems (Barton, 2014). The application of this model is further complicated in prehistoric research, where complexity and even hierarchies may be apparent, but differentiating between forms of complexity is a difficult and sometimes impossible task (Kristiansen, 2010; Yoffee, 2005).

Finally, the argument that “strategy games are related to complex social organization” (Chick, 1998: 195) is flawed. Chick bases this argument on children’s games being important for learning adult behavior (Roberts and Sutton-Smith, 1962), and cites a study that found an association between the number of strategy games played by them and the degree of hierarchy in their occupations (Roberts and Cosper, 1987). The play of children and that of adults have different motivations and often take different forms (de Voogt, 2017: 314–5), so comparing the two in this way is methodologically questionable. Furthermore, the Roberts and Cosper study is minute in its scope—41 people in Halifax, Nova Scotia. These conclusions are insufficient to extrapolate cross-cultural arguments about the relationship between strategy games and social organization using such limited data.

Because of overlooked evidence, sample bias, outdated approaches to social complexity, and a flawed conceptual framework, the positivist approaches of Roberts et al. and Chick should no longer be considered valid for present anthropological research on games. Moreover, it has never been particularly applicable to archaeology, which often cannot produce the level of detail required (e.g., game rules, comprehensive evidence for games of physical skill, and fine-level detail of social hierarchies) to test their conclusions. Nevertheless, it is still possible to examine games with respect to changing social complexity in ways that are not only methodologically and theoretically sound, but more widely applicable. By framing games as a social lubricant, the relationship

between social complexity and games can be seen in the ways people use them to interact, rather than in the structure of the games themselves.

3. A social approach to games and complexity

Instead of using neo-evolutionary approaches, it is more useful to frame games as a tool used by people to interact. In this way, the social changes that are brought about by social complexity can be more effectively discussed by conceptualizing games as social lubricants that allow people to navigate and sometimes subvert the social realities placed on them (Crist et al., 2016a). Since the act of play is inherently social, changes in societal rules regarding how, when, and with whom people are permitted to interact because of changing social complexity must also change the ways in which individuals play with one another. Regardless of the form social complexity takes, the underlying premise of increasing complexity is that social boundaries shift, forcing people into new relationships with the people around them and with people socially disconnected from them.

Huizinga (1950, 9, 13–14) described play as outside the realm of ordinary life exhibiting the “stepping out of common reality.” This statement is key to understanding the use of games in crossing social boundaries because it places games in the category of liminoid practices as described by Victor Turner. Liminoid practices take place in a state of liminality, whereby people can step outside of socially normative behavior and alter familiar cultural elements and social structure (Turner, 1982: 27). They are, nevertheless, distinct from liminal practices in that liminal actions are highly formalized and serve to reproduce the status quo (Turner, 1982: 32), while liminoid actions are less serious and often serve to challenge and alter behavioral norms (Turner, 1982: 33). Sutton-Smith (1997: 229–231) argues that play provides a suite of suitable alternatives to behavior, providing variability for further social change.

In the midst of the liminoid practice of playing, humans are engaging in forms of joint attention, the ability for two individuals to focus on a third object, which is unique to humans (Tomasello, 2006: 507–509), both people being conscious that the experience is shared (Enfield, 2013: 189), and joint intentionality, wherein humans have the ability to recognize that each participant engaging in joint attention has an “individual role and individual perception” (Tomasello, 2014: 35). These types of interactions are an essential component of the engagement between individuals during play (Heesen et al., 2017). When positive, such shared experiences have a neurological effect, as it results in the release of the hormones oxytocin and vasopressin in the brain that are powerful regulators of social behavior (Caldwell, 2017). This hormone has been linked to mammalian abilities to feel trust and love (Ulmer-Aniv et al., 2016), demonstrating a biochemical mechanism for the social consequences play has once a game has ended.

Games provide a type of joint attention that allows for joint intentionality and the building of trust through grounding. Essentially, grounding is a process through which people create, remember, and recall shared experiences that build relationships, whether positive or negative, with other humans (Enfield, 2006: 399–422, 2013: 188; Moore and Dunham, 1995; Tomasello, 1999). Evidence has been presented from the ethnographic record that suggests that the grounding process afforded by games contributes to the creation and maintenance of identity (Townshend, 1986: 373–9; Nsimbi, 1968: 3; Raybeck, 1996: 61).

The performative element of play is also crucial in this context, as Turner’s discussion of liminality, as well as anthropological theories of identity (Clammer, 2015 for references), are both rooted in performance. Indeed, the research of Malaby on *tavli* (backgammon) in Crete focuses on the performative nature of play and its relationship to contingency, or the unpredictability of outcomes (Malaby, 2007: 107–8). During the course of a game, players engage with the various contingencies brought about by the circumstances of the game (Table 1).

Table 1
Forms of Contingency after Malaby 2007: 107–8.

Type of Contingency	Definition	Example
Stochastic	Randomness introduced as part of the game	Playing with dice, astragali, casting sticks
Social	Uncertainty about opponent's intentions and plans	Planning future moves and strategies, calling bluffs
Performative	Uncertainty that actions will succeed or fail	Dexterity in moving pieces; moving pieces without counting
Semiotic	Unpredictability of meaning generated by interpretation of the game's results	Assessment of skill, judgment of whether one plays fairly

These different features of the unknowable in games allow for players to experience different outcomes. Semiotic contingency is the unknowable social outcome(s) of play that are most relevant for this study. People engage with this form of contingency through the performance of play, using dexterity, taunts, sounds, and other markers of skill. With these methods, a player can affect the outcome of semiotic contingency in the eyes of their opponents and spectators by these demonstrations of their mental and physical capabilities and integrity during play. These performances have important impacts on the materiality of games. *Tavli* players preferred wooden boards to leather covered ones, because the sounds made by pieces on the wooden boards are crucial to the performance of the players while playing the game (Malaby, 2003: 65–6). Other properties such as durability may be preferred elsewhere (de Voogt, 1997: 35). The sounds and tactile properties of materials are key to the gestures players make in communicating their skill at the game, whether actual or intentionally deceptive for those watching.

The social properties of games, as well as the social processes that they enable, are pertinent to the study of social complexity. One of the intrinsic consequences of increasing social complexity is proliferation of social boundaries and heightened social distance in many forms (Drennan et al., 2010: 70–3). Regardless of the approach taken to discussing the mechanisms for emergent and increasing social complexity (see Kintigh et al., 2014: 8–11), they all are describing processes by which new identities and classes of people are created, thus creating new kinds of social boundaries across which people must interact. Grounding serves as a mechanism by which people create and maintain identities through shared experience. The performance of play signals an individual's perceived or desired identity to others. The liminoid properties of games allow for people to ignore social boundaries and facilitate the effects of grounding and performance during play to allow people to engage with semiotic contingency and produce new social realities for themselves. This function of social lubrication has been seen in the dispersal of games beyond their cultural origins (Crist et al., 2016a), but it may also be visible in the quotidian places and spaces in which people played. The contexts in which people play indicate how people enacted these properties of games as was appropriate for their social realities.

This study uses space and associated artifacts as a proxy for the social contexts of games in Bronze Age Cyprus. Space is closely connected to changing social complexity, as people change the spaces in which they live as well as the built environments around them to account for and manage social distance and relationships (Pailes, 2014; Fisher, 2009; Kent, 1990; Steadman, 2000). The play of games is also closely connected to space, as there are often culturally-specific rules about where the play of games is appropriate (Crist, 2016a: 64–5 for multiple examples). Nevertheless, people often subvert these rules and play in those places anyway, for example in the Forum Romanum, where graffiti games are plentiful, though game playing there was seen as a vice by Romans (Purcell, 1995: 25; Trifilò, 2011). The choice of a public space for game playing in this study is seen as an indicator of the active choice to play in a place where others will observe the performance of play. Settings that accommodate fewer people or which are not readily visible to others are thought to encourage play of a more intimate nature, where people are more concerned with building personal relationships with their opponent.

Games are often played alongside drinking and the use of other consciousness-altering substances (Heath, 2000: 130; Mackenzie, 2004: 120; Pankhurst, 1971: 201), and so it is expected to see this reflected in the artifacts that were found in the same contexts as games. Games and drinking are alike in that they both facilitate the process of grounding, and function as types of social lubricants. Finding evidence for drinking alongside evidence for game playing would reinforce the connection between playing board games and grounding. In addition, other artifacts that surround games can provide a better picture of the kinds of activities that accompanied play in Cyprus. In addition to the culturally-specific rules pertaining to where games can be played, there are also similar rules that preclude or encourage games in certain social settings. Examining changes in these rules alongside increasing social complexity can further indicate the ways in which people adapted their play strategies in response to new social boundaries.

4. Case study: Bronze Age Cyprus

Considering the ways that people use games as tools of social interaction, it then follows that as the societal rules for interaction change, the circumstances under which people will use games to comply with, circumvent, or resist those rules must also change. These circumstances may include the types of spaces in which games were played as well as the other kinds of activities that took place in the same context as games. Examining the settings in which play took place as social complexity emerged and increased provides evidence that people used the social aspects of play in different ways to navigate changing social realities.

The Cypriot Bronze Age provides an ideal laboratory for examination of this evidence. Over the course of this period, Cypriot society developed from one probably best described as middle-range (Swantek, 2017: 166–8) during the Prehistoric Bronze Age (PreBA, 2400–1650 cal BC) to one with urban centers and long distance trade connections during the Protohistoric Bronze Age (ProBA, 1650–1050 cal BC). Disparities in wealth, house size, tomb elaboration, as well as urbanization, the appearance of monumental architecture, and the large-scale production of metal and agricultural products show that ProBA Cypriots experienced a greater degree of social complexity than people living in the earlier PreBA period of the island, when settlements were small, production was mostly at the household level, and disparities in tomb size, wealth, and house size were not as great (Knapp, 2013: 348–53; Keswani, 1996; Webb, 2005, 2014). Knapp proposes a four-tier settlement hierarchy for the ProBA, with implications for access to resources and social connections that are relevant for this study (Knapp, 2013: 354–6). Interpretations of what form complexity took vary in the literature—hierarchical models including a unified polity centered on Enkomi (Knapp, 2008: 144–59, 2013: 437; Webb, 2005) or those envisioning a series of heterarchical polities (Keswani, 1996, 2004; South, 2002), or focusing on economic structures (Manning and DeMita, 1997: 108–9; Merrillees, 1992). This study does not seek to choose between these models or identify a form of complexity in Cyprus, nor does it speculate on the process by which it arose. The fact that complexity existed in the ProBA is sufficient to make an argument about changing circumstances of play, since all forms of complexity involve increased social distance and elaborated social boundaries that are hypothesized to change the way players interact.



Fig. 1. Typical examples of Bronze Age Cypriot game boards. Left: *Mehen* game S13 from Marki Alonia. Right: *Senet* game S21 from Anoyira Livadhia.

Bronze Age Cyprus also provides a unique dataset by which to study long-term change in gaming practices because it has a particularly large assemblage of archaeological board games. Known as “gaming stones” in the Cypriot archaeological literature (after Swiny, 1980), these game boards consist of large flat limestone blocks with a pattern of depressions on one or both sides (Fig. 1). They were first hypothesized as games by Karageorghis (1976: 875), and fully investigated as such by Stuart Swiny, who began finding them in large numbers at the site of Episkopi Phaneromeni (Swiny, 1986: 32–64). The games represented on these stones are thought to be local versions of the Egyptian games *senet*—a game with three rows of ten spaces (Piccione, 1990; Crist et al., 2016b: 41–77)—and *mehen*, with a varying number of spaces laid out in a spiral pattern (Kendall, 2007; Crist et al., 2016b: 15–38). Both games likely came to the island via the Levantine mainland as a result of long-distance trade relations (Bieleński and Taracha, 1992; Crist et al., 2016a: 181–2). *Senet* and *mehen* appear to have been adopted into the social contexts of the island, in contrast to the Levant, where evidence suggests they were mainly used to interact with Egyptians (Crist et al., 2016b: 70–1). At press, the number of Cypriot games exceeds 400 examples (Crist, 2016b). This dataset is unusually rich since so many were found in settlement contexts that allow for interpretations on their use in daily life, whereas many other games are known from tombs or graffiti which are difficult to date, or were discovered before scientific collection of contextual data was common.¹

5. Methodology

Before analysis could begin, it was necessary to accomplish three goals: collect data on games in a systematic and consistent manner, identify spaces in which games were likely played, and document all of the artifacts found in the same spaces as games. After meeting these goals, I performed Multiple Correspondence Analysis (MCA) to identify patterns in the data for PreBA and ProBA contexts separately. Differences in those patterns provide evidence for changes in gaming practice through time.

5.1. Standardization of data

Much information on Cypriot games is available from already published data. Nevertheless, analysis is often relegated to ground stone

specialists because of material rather than function. Proper examination of games that facilitates discussion of their social use requires different standards of analysis than other stone artifacts. To identify which data were missing, I consulted existing publications and, for unpublished material, excavation records to determine what data remained outstanding. Once this was done, I collected missing data by reanalyzing the artifacts in the various museums and excavation storehouses in which they are currently kept in Cyprus, while also measuring weight since it is an important metric for determining where games were played (Crist, 2016c). When necessary, I calculated original weights on broken objects. This was possible because the proportion of the thirty original depressions for *senet* games or the surviving percentage of the spiral for *mehen* provides a basis for calculating the original size and, importantly, weight of the game board.

Seven sites (PreBA: Sotira Kaminoudhia, Marki Alonia, Alambra Mouttes; ProBA: Episkopi Phaneromeni, Maroni Tsaroukkas, Maa Palaeokastro, see Fig. 2) have games that came from excavated contexts from which I could gather artifact counts. I also measured and described games from secondary contexts so as to provide robust morphological data on Cypriot game boards. In all, 213 games from 26 sites were located, measured, and described (Table 2).

5.2. Identifying gaming spaces

Criteria drawn from the work of Mulvin and Sidebotham (2002: 213–4) at Abu Sha’ar in Egypt was used to determine which spaces with games were likely candidates for places where people actually played them. Spaces where games were permanently located on fixed architectural features and where multiple games were found in the same location were considered to be places that were likely used for play.

The wide range of sizes of stones that were chosen for the manufacture of games on Cyprus indicates that some may have been intended to be immobile. Since they were all made from locally available material, the choice of putting a game on a stone that could fit in the palm of one’s hand or on one that would require a great deal of exertion to move was intentional. To determine which games could be considered sufficiently heavy to have been purposefully immobile, the distribution of original weights of games is such that nineteen games were outliers on the upper end of the distribution (Fig. 3).² These games ranged from 12.4 to 41.6 kg.

Another part of identifying the likelihood that games were played in a location was to note the nature of the space in which they were found. Because this research examines, in part, the potential use of

¹ Additional reasons for the rarity of game boards in the archaeological record include being commonly made from perishable materials, difficulty in observing patterns of shallow depressions on stones during archaeological fieldwork, and misidentification of game boards as other artifact classes. See Crist et al. (2016b: 3–4, 12, 172–3) for discussion of these issues.

² This includes eighteen identified in the boxplot as well as one game which exceeded the limit of the scale (40 kg).

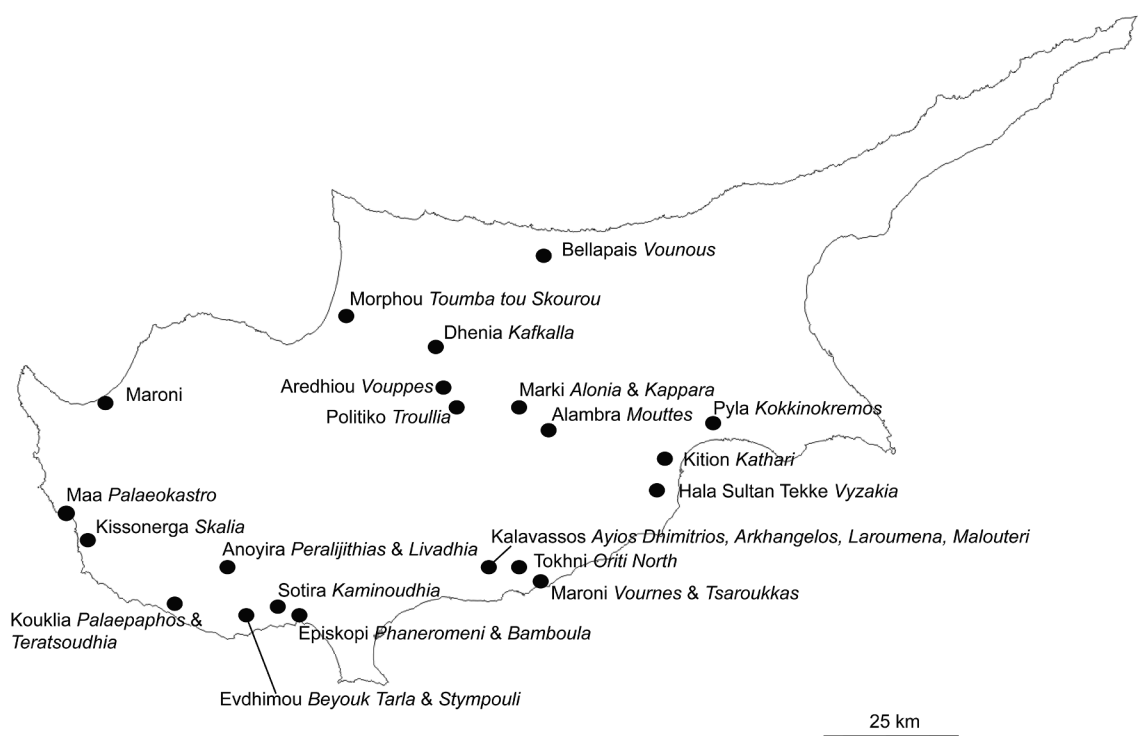


Fig. 2. Map of Cypriot sites mentioned in text.

Table 2
Sites with games included in this study.

Site	Number
Sotira Kaminoudhia	61
Marki Alonia	44
Episkopi Phaneromeni	41
Alambra Mouttes	9
Maroni Vournes	8
Anoyira Peralijithias	7
Episkopi Bamboula	7
Evdhimou Beyouk Tarla	7
Kissonerga Skalia	4
Anoyira Livadhia	3
Maa Palaeokastro	3
Maroni Tsaroukkas	3
Kalavassos Malouteri	2
Kition Kathari	2
Bellapais Vounous	1
Evdhimou Stympouli	1
Hala Sultan Tekke Vyzakia	1
Kalavassos Arkhangelos	1
Kalavassos Ayios Dhimitrios	1
Kalavassos Laroumena	1
Marion	1
Marki Kappara	1
Maroni survey	1
Pyla Kokkinokremos	1
Sterakovou	1
Tokhni Oriti North	1
Total	213

performance during play as a mechanism for social change, it is important to take into account whether spaces could sufficiently accommodate spectators for people who wish to engage in play in this way. Furthermore, it has been observed cross-culturally that outdoor or transitional spaces are common choices for people to play board games (de Voogt, 2003: 97, 2005: 218; Hillbom, 2011: 90–1; Finkel, 2006: 122). Because of traditional Cypriot roofing technology, the size of

architectural units can be used as a proxy for whether a space was roofed or remained open to the sky (Swiny et al., 2003: 58).³

5.3. Tabulation of artifacts

To identify other activities that co-occurred with play, it was necessary to collect counts of the artifacts found in spaces along with games (Crist, 2014). Compiling counts of artifacts in a two-way contingency table allows for the use of MCA on the data, which calculates statistical distance between points. It has been used successfully with archaeological data using discrete spaces as units of analysis (Clouse, 1999; Alberti, 2013; Shennan, 1997: 327–341; Nielsen, 1988). Because of the proliferation of artifact types, most notably imported objects, during the ProBA, I tabulated counts separately for PreBA and ProBA contexts, and performed MCA separately on these datasets. This ensures that the MCA identifies spaces based on their contextual similarity rather than their date and, once performed on the datasets for both periods, the patterns that appear in the results can be discussed in comparison to one another.

Much of the contextual information was available from published excavation reports but, where necessary, I consulted field notes, email communication (David Sewell, email dated 2/5/2013) and early publication drafts (Swiny, n.d.) from relevant sites to obtain artifact counts. I collected data for all spaces from which games were found where contextual data was accessible. This method tests the inferences made above about the expected patterning of games in archaeological contexts as indicators of actual ancient game play. It allows identification of places where people played games and places where games were located but not in use.

Because of recording inconsistencies across excavation reports, certain data types were not included in the analysis (lithics and faunal

³ The judgment of the excavators of the various sites was trusted on the assessment of whether spaces were roofed or not, because other factors such as activity spaces are taken into account alongside architectural layout when making such determinations.

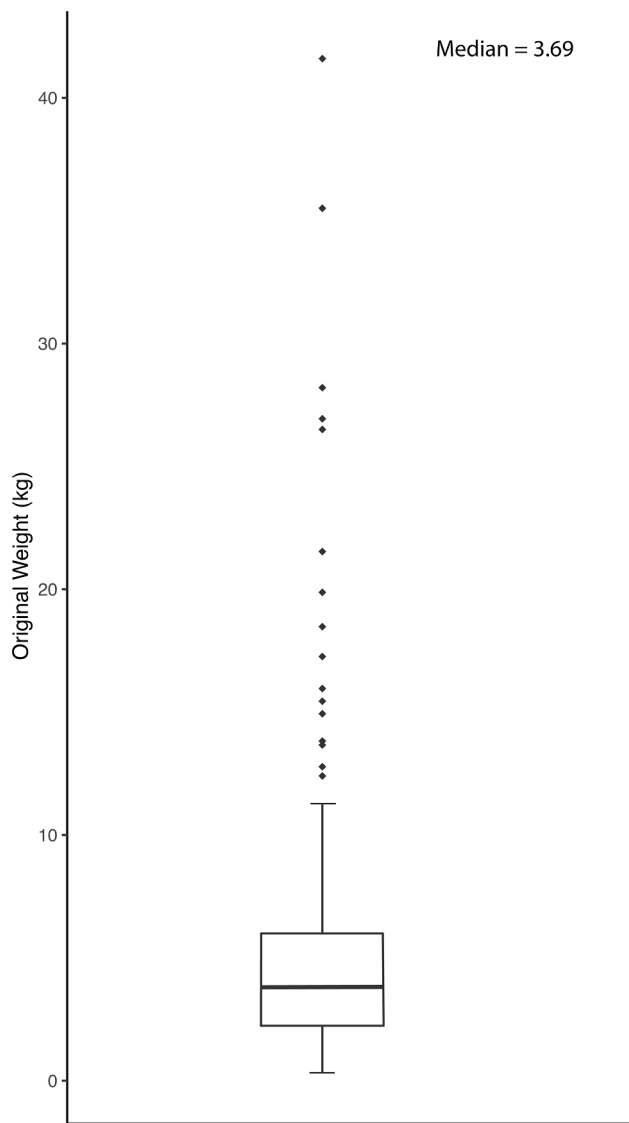


Fig. 3. Box and whisker plot of original weights of Cypriot game boards.

remains for all sites, sherd data for ProBA sites). Furthermore, when tabulating artifact counts, there was a huge number of artifact types with few artifacts in each type. To improve the results of the MCA, I combined artifact classes to condense the data to mitigate the detrimental effects of a sparse data matrix. For PreBA sites, I ignored differences in the Red Polished ceramic tradition, overwhelmingly the most common ware type on the island, and the vessels were categorized by vessel shape. I categorized other ware types as “heirloom” if they were Chalcolithic types, or “imported” if they were Drab Polished Blue Core or Black Polished wares, regional ceramic types from the west and north coasts of the island, respectively (Frankel and Webb, 2006: 139–40). ProBA ceramic data had fewer categories, so I did not combine them.

I merged ground stone, metal, terracotta, bone artifacts and architectural features into functional groups for the same reasons (See Crist, 2014 for specific artifact types included in each category), eliminating several artifact types from the data because only one example was represented and their functions are unclear: perforated disk, stone with depression, perforated stone, work surface, marble plaque, and chalcidony flake. I also removed pebblecrete emplacements from the data because they only appear at Marki Alonia (Frankel and Webb, 2006: 130).

The tabulation only included fully excavated architectural spaces. Importantly, one space contained only a game and a hearth (Unit L at Marki Alonia), so it also was not included because of the lack of associated finds. Once the data was formatted thus, 21 spaces with 38 artifact types remained in the PreBA data, and ten spaces with 26 artifact types for ProBA sites. Using the *ca* package in R (Greenacre, 2018), I then performed MCA on the datasets.

6. Results

6.1. PreBA

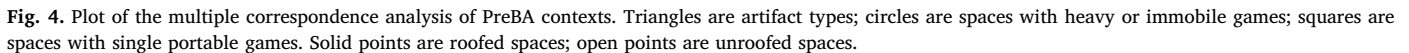
Of the 21 spaces included in the MCA of PreBA sites, nine were potential gaming spaces, with at least one from each of the three sites represented in the data identified as such (Fig. 4). Six of these nine were open-aired spaces, lending credence to the argument that they were places where people played games. The first two factors generated by the MCA account for 28.8% of the variation in the data, a number that is in line with other archaeological applications of this method (e.g., Alberti, 2013: 486; Engelstad, 1988: 80–81; Shennan, 1997: 331). Three clusters in the data appear that help elucidate what the first two factors represent. The first factor, plotted on the x-axis, mainly distinguishes contexts with assemblages typical of domestic life from those that are interpreted as ritual or non-domestic in nature. Cluster 1 in Fig. 4 contains the non-domestic contexts. Most important in this group are all of the spaces in the Unit 12 complex at Sotira *Kaminoudhia*, an enigmatic space with the greatest concentration of games anywhere on the island. All of these spaces produced multiple or immobile games, and most of them were open-aired, as well. Importantly, the artifact types most clearly associated with this cluster are stone tools. There is a notable absence of ceramic types associated with these contexts.

The second factor, represented on the y-axis, separates roofed spaces with evidence for storage and household production from other domestic spaces that contain a mix of different types of contexts. These are identified as Clusters 2 and 3 in Fig. 4, respectively. Cluster 2 contains only smaller, roofed spaces, and only one space with multiple games (Unit 10 at Sotira *Kaminoudhia*). Many artifact types are associated with this cluster, including most of the artifact types associated with household production and storage of goods, such as weaving material, grinding equipment, cooking pots, storage jars, and copper tools. Cluster 3 does not follow a consistent pattern regarding space type or the presence of games. Notably, there is much less evidence for household production in these spaces. The artifact types associated with this cluster are more difficult to interpret, but it is important to note that spouted vessels, heirloom bowls, jars, juglets, and small bowls are associated with this cluster. This suite of artifact types suggests that these spaces were ones in which people consumed food or drinks.

Ultimately, MCA shows that there is patterning to be found in the distribution for the evidence of play. The spaces in Cluster 1 are the most clearly indicative of game play, with clusters of games and immobile games in mostly open-aired spaces. Cluster 2 contains spaces with mostly single portable games in roofed spaces with evidence for household production, which is the least indicative of game play. Finally, Cluster 3 has mixed evidence for game play, with many different kinds of spaces including some that are good candidates for obvious gaming spaces, and with evidence for eating and drinking. It is possible that these spaces were where more everyday gaming activities took place, while those spaces in Cluster 1 were places where more specialized gameplay took place.

6.2. ProBA

MCA of the ten spaces dating to the ProBA also produced interpretable patterns (Fig. 5). Of these, three from two sites (Episkopi *Phaneromeni* and Maa *Palaeokastro*) were identified as potential gaming spaces. Three of five open-aired spaces had multiple or immobile



In the first iteration of the MCA, two outliers were produced when plotting the first two factors, accounting for 49.8% of the variation in the data: Maroni *Tsaroukkas* Room 3 (Building 1) and the “Room with Benches” from Morphou *Toumba tou Skourou*. These factors appear to be indicating that these two spaces are considerably different from the others because of copper smelting materials in factor one and pottery production in factor two. Both of these spaces are from settlements in the highest tier of ProBA sites: coastal centers.

The two iterations of MCA, when performed on ProBA data, support an interpretation that games were found in different contexts in settlements belonging to different tiers in the settlement hierarchy. Games in coastal centers were found in areas relating to production, games in tier two were found in spaces where there is evidence for drinking, and games in agricultural villages were found in domestic contexts.

Framing these results vis-à-vis the grounding and performative nature of games is crucial for understanding patterning in light of different degrees of social complexity in Bronze Age Cyprus. For both the PreBA and ProBA, it is apparent that play was mobilized in different ways to harness the social benefits of these processes. In addition to the results of the MCA, other evidence for games that was not suited for this type of analysis provides further evidence for the changing status of play as social complexity increased.

The results of the MCA indicate a complicated landscape of play during the PreBA. Based on the characteristics of the spaces with regard to their size and the artifacts contained within them, there is clear patterning in the data that shows different contexts in which games were and were not played. It seems most likely that the three clusters of spaces produced by the analysis represent two kinds of gaming practice,

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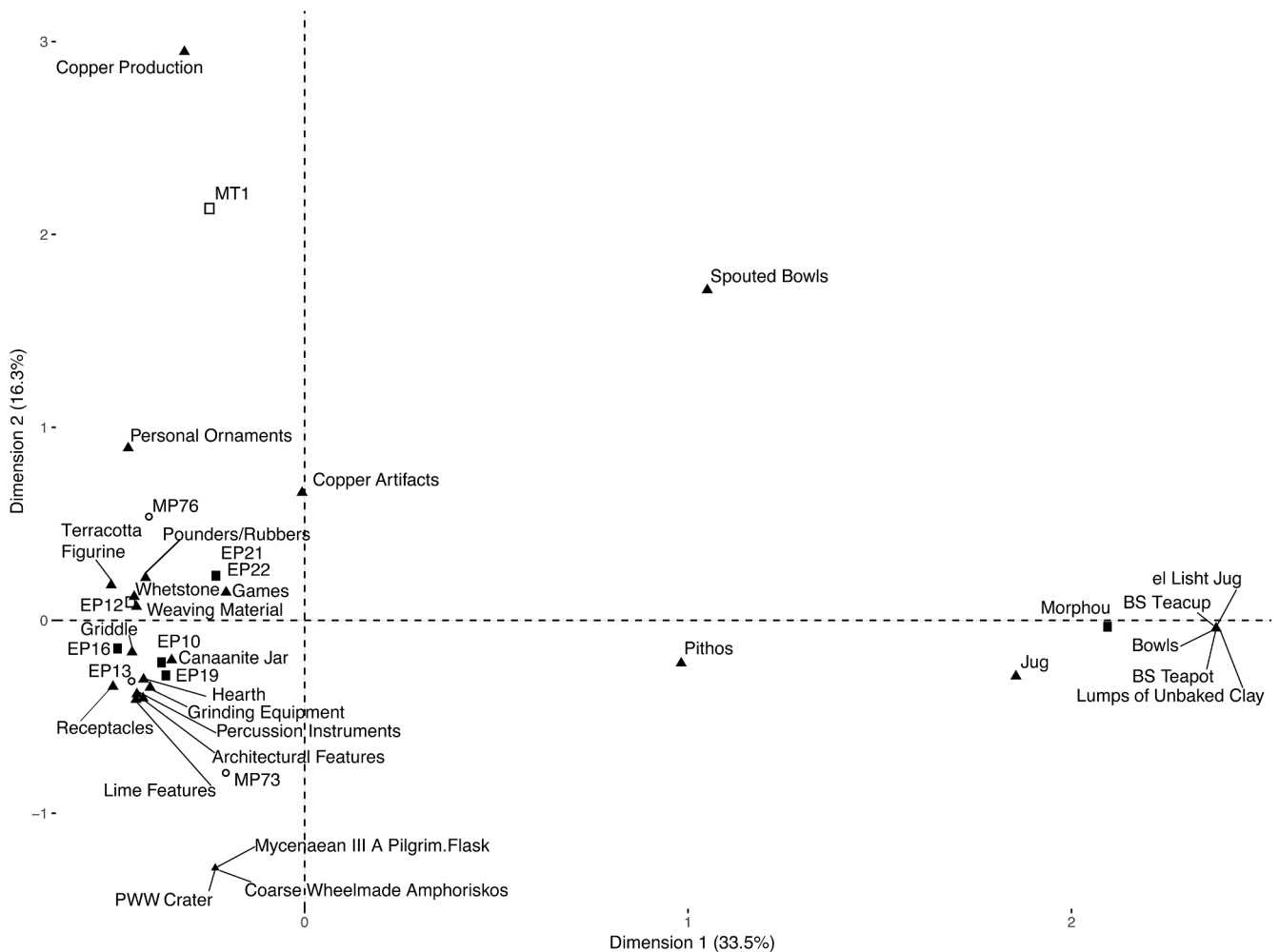


Fig. 5. Plot of the first iteration of multiple correspondence analysis of ProBA contexts. Triangles are artifact types; circles are spaces with heavy or immobile games; squares are spaces with single portable games. Solid points are roofed spaces; open points are unroofed spaces.

as well as a number of contexts in which games may not have been played.

The first pattern that is immediately apparent in the analysis is that play did occur in communal spaces during the PreBA. The spaces included in Cluster 1 of the MCA contains all of the individual spaces of the Unit 12 complex at Sotira *Kaminoudhia*, another large open space from the same site (Unit 21), as well as a residential building at Alambra *Mouttes* with a game on a threshold. The two spaces not in the Unit 12 complex are more difficult to explain; their presence in this cluster may be related to a relative dearth of ceramics in those spaces, rather than a true functional difference. The threshold at Alambra *Mouttes* was located in a doorway between two interior spaces (Coleman et al., 1996: 35–6). Unit 21 at Sotira *Kaminoudhia* was described as an unusual large space with a large amount of animal bone, but few other artifacts (Swiny et al., 2003:48–9).

Nevertheless, the spaces in the Unit 12 complex (Fig. 7) provide the strongest evidence for a place where people played games from any site in the PreBA. This space, roughly 80 m² in size, is one of the largest spaces in the period anywhere on the island, and its unique layout and suite of artifacts, including large stone basins located at entrances, a 6 m high lime-plastered wall footed by three large boulders, and a human burial that may be interpreted as ritual in nature, indicate that this space was an important place in the community. Several of the games were located on a shelf in Unit 12c, on which a piece of copper slag and the scapula of an ass were also found. The presence of the largest cluster of games anywhere on the island, which included

immobile games as well as portable ones, in such a large space that appears to have been used for some kind of communal activity—potentially ritual (Swiny, 2008: 48–50)—indicates the importance of grounding and the construction of identity in such a context. Playing in such a space allows more opportunity to play with others in the community, and therefore to maintain relationships with them. It may also be possible that the concentration of games in this place indicates that people from other communities also came to this building (see Knapp, 2013: 328; Swantek, 2006: 124–34; Swiny et al., 2003: 237–8), and games were used as a kind of social lubricant for people from disparate communities to interact with one another.

Webb's (2014: 623) observation that the activities attested in the Unit 12 complex and analogous modeled scenes on ceramic vessels “suggest common symbolic practices beyond the level of the household across the south and center of the island” is informative here, though games were not found in all spaces with evidence for extra-household consumption events. Most notably, there is an absence of games from the other large communal space from PreBA Cyprus, Room IV at Alambra *Mouttes*. This room has the best evidence for feasting in a settlement during this time period, with a large hearth and many examples of serving and drinking vessels (Coleman et al., 1996: 77; Knapp, 2013: 291–2). The differences between this space and the Unit 12 complex—one which saw many people playing games but no evidence for eating and drinking, the other with feasting but no games—indicate the difference in the kinds of communal activities that occurred in these spaces, or that games were an important part of those

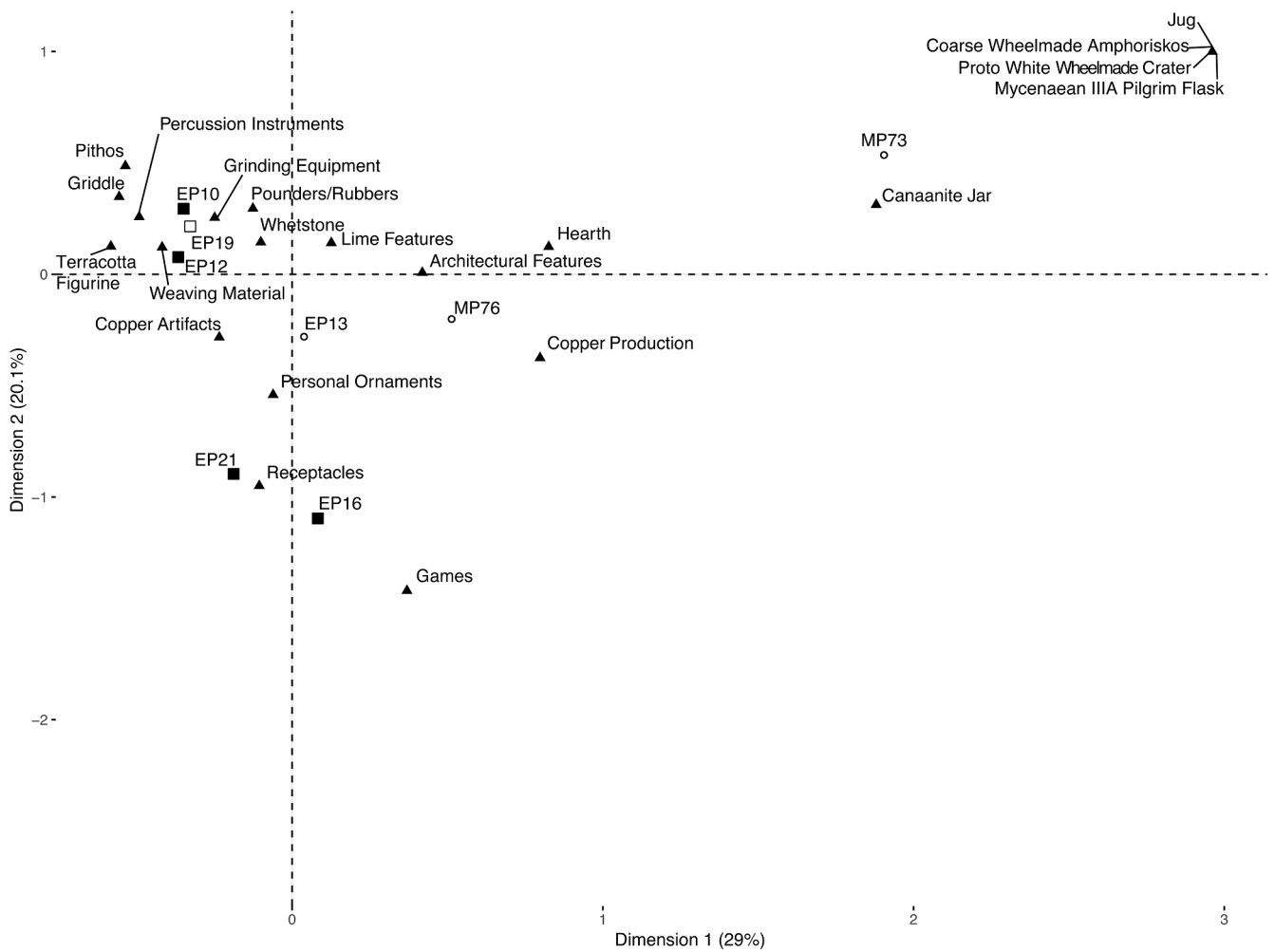


Fig. 6. Plot of the second iteration of multiple correspondence analysis of ProBA contexts. Triangles are artifact types; circles are spaces with heavy or immobile games; squares are spaces with single portable games. Solid points are roofed spaces; open points are unroofed spaces.



Fig. 7. View of the Unit 12 Complex at Sotira Kaminoudhia, looking west. Games were found clustered on the shelf in the room in the top left corner, and also in the large room to the bottom right.

activities at Sotira Kaminoudhia but not at Alambra Mouttes. Multiple games, including immobile ones, were also discovered in a large open space at Politiko Troullia (Falconer and Fall, 2013: 106, 109), but further contextual information is not yet available. If games were included

in symbolic and communal practices at some PreBA sites, it seems that games were not included in all of these events.

Other extra-household events were related to mortuary activity. Indeed, most of the evidence for feasting in PreBA Cyprus is from mortuary contexts (Manning, 1993: 45, 48; Webb and Frankel, 2008). While some isolated game boards have been found at cemetery sites, notably Bellapais Vounous (Swiny, 1986: 35), Dheneia Kafkalla (Herscher, 1998: 320; Frankel and Webb, 2007: 149; see also Saggio, 2017), Marki Kappara (Swiny, 1986: 36), and Sotira Kaminoudhia (Swiny et al., 2003: 258), there is currently no indication that they were connected with mortuary ritual there. Determining whether these were locally specific rules for where and when game playing was appropriate or island-wide proscriptions for play requires the discovery of more communal spaces in PreBA settlements.

That is not to say, though, that games were completely dissociated from eating and drinking. Cluster 3 of the PreBA MCA, where gaming spaces are associated with serving and pouring vessels, indicates that, on a smaller scale than feasting, people ate and drank in places where they also played games. Three of these spaces (Unit 4 at Sotira Kaminoudhia and two phases of Unit XC at Marki Alonia) were open-aided courtyards of household structures, while others were interior spaces in similar buildings, particularly at Marki Alonia. One space, Unit 2 at Sotira Kaminoudhia, has been described as a smaller communal open-aided space (Swiny et al., 2003: 39–42), but is not directly attached to a household unit. The spaces represented in this cluster can be interpreted as places where people engaged in everyday play. Marki

Alonia has no larger communal spaces that fit this mold, and so evidence there only exists for quotidian play.

It makes sense that there would be several different kinds of spaces in which people would play games in their everyday lives. These include somewhat larger spaces that could accommodate groups of people who meet for non-ritual social gatherings. Such gatherings have social importance, as illustrated by Malaby's work in Crete at *kafeneia*, coffee shops found in Greece and Cyprus. Men playing *tavli* and poker games there built social relationships that have import outside of those specialized social settings through the act of play (Malaby, 2003: 52–74). This occurs both through the demonstration and perception of their control over contingency through the performance of play, but also through the process of grounding by engaging in a social act common to both parties that requires little prior knowledge of the other person. Unit 2 at Sotira *Kaminoudhia* particularly fits the mold for a type of space that would see this kind of everyday play, as an open-aired space without direct access to a household unit and with a large number of small bowls compared to other spaces at the site (Swiny et al., 2003: 39–42).

Of course, the playing of games does not always take place in a communal setting or to create relationships between people meeting for the first time. That does not diminish the social effects of these games, because the effects of grounding can serve to maintain social relations between people who already know each other. Ethnography has shown that a common use of games involves building relationships with new family members (Finkel, 2006: 72; Townshend, 1977: 92). Such interactions may have happened in the home in PreBA, particularly in conjunction with other activities with a social aspect, such as drinking or eating.

The smaller spaces with mostly single portable games identified as Cluster 2 in the PreBA MCA appear to have been places where people were not likely playing games. These smaller indoor spaces, with plenty of evidence for household production activities neither conform to the types of spaces able to accommodate many people, as expected to be ideal for game play, nor are these spaces associated with eating and drinking. Nevertheless, the possibility that people did play these games in more intimate settings cannot be eliminated.

In summary, the evidence for games in PreBA Cyprus shows that games were played in some communal gatherings, but may not have been played in large gatherings where eating and drinking was central. Instead, eating and drinking was associated with game play on a smaller, more intimate scale. Both kinds of settings in which play took place offer people different ways to exploit the social properties of games to build relationships and bridge social distances that existed in a society with emergent social complexity.

7.2. ProBA

Marked changes can be seen in the distribution of games at ProBA Cypriot sites. This time period sees the introduction of new game types, a decrease in the number of stone game boards, and what appears to be differentiation in the social context of games that corresponds to Knapp's four-tiered settlement hierarchy. These changes are a reflection of changing strategies used by people to interact across social boundaries that are more complex than those seen in the PreBA.

7.2.1. Coastal centers

Coastal centers in ProBA Cyprus were the focus of elite wealth accumulation and foreign interaction. At this time, Cyprus became a major player in the eastern Mediterranean interaction sphere, and was involved in high-level exchanges with elites throughout the region. It is clear that Cypriot elites living on the coast were in close contact with their mainland counterparts. This has implications for the archaeological evidence of play, as the materiality and, thus, performance of play—and preservation of game boards—changed.

It is immediately apparent from the data on stone game boards at

coastal centers that there are comparatively few present at these sites. Only two were included in the analysis discussed here, one from Maroni *Tsaroukkas* and another from Morphou *Toumba tou Skourou*.⁵ Because of the small sample size, it is difficult to make definitive statements from the results of the MCA. Nevertheless, both of the contexts from coastal centers were in spaces that were most closely associated with production activities, copper in the case of Maroni *Tsaroukkas* and pottery in the case of Morphou *Toumba tou Skourou*. This social context could indicate that the games were not played in these spaces.

However, it could also be an indication that certain kinds of games were played by certain segments of the population. Games found in elite contexts at coastal centers are imported newly introduced games, including the example from Maroni *Tsaroukkas*, which is a game of Aegean origin known as 10-Ring (Hillbom, 2011: 110–1). The most popular foreign game was the game of twenty squares, which originated in third millennium BCE Sumer but which was a commonly-played game throughout the Near East and Egypt during the time period in question (Crist et al., 2016a: 186–90). This game had a particular association with elites, as boards on which it was played were decorated in the International Style, a suite of motifs that reflect shared ideologies throughout the eastern Mediterranean (Feldman, 2006). Indeed, one of these boards found in Cyprus is nearly identical to two other boards found in Thebes, Egypt and Kamid el-Loz, Lebanon (Crist et al., 2016a: Fig. 7).

Three ivory examples of the game of twenty squares were found at Enkomi, including the famous game box now in the British Museum from an elite tomb (Fig. 8; Murray et al., 1900: 12–14). Fragments of two others were found in a cache below the Level IIIA floor in the Ashlar Building, a large elite structure at the site that was likely involved in public events (Fig. 9; Dikaios, 1969: 255; Fisher, 2009). Other evidence for foreign elite games come in the presence of faience game pieces and astragali—used similarly to dice—from elite tombs at Hala Sultan Tekke *Vyzakia* (Niklasson, 1983: 175–6), Kalavassos *Ayios Dhimitrios* (South, 1996: 167), and Kouklia *Teratsoudhia* (Karageorghis, 1990: 65). The evidence for elite games in coastal centers is, thus, stark in comparison to that of traditional Cypriot stone game boards, which are relatively absent.

This largely seems to reflect a specific choice of Cypriots in coastal centers to emulate the play of mainland elites. The materiality of gaming was different among this group, as stone games are rare, with a preference for boards made of wood or precious materials. Furthermore, the manufactured gaming accoutrements, such as playing pieces, are absent from earlier Cypriot sites, likely because seeds, pebbles, or other naturally occurring materials were used as playing pieces (Swiny, 1986: 48). The changing materiality of games contributes to the performance of play by communicating status as a conspicuous display of esoteric knowledge. It also, in cases where the games are made of precious materials, conveys status via wealth. In addition, the choice of materials allow for different types of performance, particularly involving sound, that have effects on the perceived control over contingency (Malaby, 2003: 65–6) that also contributes to elite status. The distribution and materiality of games at coastal centers thus indicate that people were playing games in new and cross-culturally recognized ways that were probably meant to convey elite status. Though none of the elite games were found in a settlement context that can tell us much about the specific settings in which games were played, the fact that two were hidden away before the destruction of the Ashlar Building at Enkomi suggests that they were important items, likely part of publicly visible elite events that occurred in the adjacent Room 14 of that structure (Fisher, 2009).

If there were some kind of class-level distinction between gaming

⁵ Other stone game boards were found at Kition *Kathari*, in what appear to be secondary contexts, as well as Hala Sultan Tekke *Vyzakia* and Episkopi *Bamboula*, which are not yet fully published.



Fig. 8. Ivory game box with the game of twenty squares found in British Tomb 58 at Enkomi. British Museum 1897,0401.996. ©The Trustees of the British Museum. All rights reserved.



Fig. 9. View of the Ashlar Building at Enkomi, looking south, showing Room 14 where publicly viewable elite events occurred (middle ground bounded by fine ashlar blocks). Two games of twenty squares were found in the room behind the northernmost ashlar wall to the east of Room 14. Photo by Kevin Fisher.

practices in ProBA Cyprus, then it is possible that the stone game boards found at these sites were played by people in non-elite spaces, with the implication that either the players themselves were not elites, or that people actively did not play these games where they could be readily seen doing so. This could indicate a kind of social pressure against playing games that were considered to be more traditional, especially considering the relatively more common presence of stone game boards at sites belonging to lower tiers in the settlement hierarchy.

7.2.2. Maa Palaekastro

Though games were found at two of the major excavated regional centers on Cyprus, Pyla Kokkinokremos (Karageorghis and Demas, 1984: 14, 36, 40) and Maa Palaekastro, only those at Maa Palaekastro were found with associated artifacts, and are thus the only ones included in the analysis. The MCA suggested that these contexts are different from those found at Episkopi Phaneromeni because they are associated with imported ceramic vessels. Both of these games are located on thresholds to the building with Rooms 73, 76, 77, and 96. One of these thresholds is located in the entrance to the building next to an open courtyard; while the other threshold lies at the entrance to the building. There was considerable evidence for drinking and eating in the courtyard, and these thresholds are interpreted as places with a considerable amount of movement of people (Karageorghis & Demas, 1988: 48), and thus in a very visible place. Eating and drinking with imported wares in association with games located in visible locations suggests that being seen playing was important in this place where people were gathering for status building events.

Maa Palaekastro is a fairly unique site on the island, and though Knapp places it in his second tier, he admits that it is not really a perfect fit for any of the categories (Knapp, 2013: 357). Its strategic position on a small peninsula on the west coast of the island, as well as the large fortifications there, have led to various interpretations for its function,

such as defensive (Karageorghis & Demas, 1988: 127–30; Steel, 2004: 188–90), storage (Smith, 1994: 274), or a place where lower-ranking elites attempted to establish a new center for themselves (Sherratt, 1998: 300–1). Sherratt's interpretation of the site as a place where a contingent of elites from the coastal center at Kouklia Palaepaphos broke away and founded a new settlement with the intention of building a new power base there is suggestive when thinking about the use of play in visible places adjacent to status displays. Without commenting on the validity of the details as to why emergent elites lived at this site, it is informative that there are games and evidence for elite drinking events that is different from that seen at the coastal centers. Certainly, the practice of gaming is different here than has been documented elsewhere in the ProBA of Cyprus.

Playing in such high traffic areas invites spectators to witness the act of play, thereby putting an emphasis on the performance of play. Building from Sherratt's assertions about the nature of this site, the play of games at these events, in the view of large numbers of people, would have provided an opportunity for people in this settlement to engage, build relationships, and to negotiate their identities with one another. It's possible that these identities could have been especially fluid in a place such as this, if emergent elites were attempting to establish themselves in a new place, other people may also have been trying to renegotiate their identities in this social reality. Regardless of the reasons, it is clear from the MCA that the social situations in which people played games at this site were different from those in which people played in the coastal centers, and this is most plausibly explained by a different suite of social boundaries that existed on the intrasite level.

7.2.3. Agricultural villages

The fourth tier of the ProBA settlement hierarchy, the agricultural support villages, smaller settlements whose economy was based around agricultural production, shows another difference in the distribution of the social context of games. Because of the lack of large or monumental structures at these smaller sites and less evidence for the presence of elites and foreign interaction, it is clear that the social context of gaming at these sites would be different from that at sites in higher tiers of the settlement hierarchy.

The MCA confirms this separation based on the evidence from Episkopi Phaneromeni. All of the spaces except one, Unit 16, were clustered together by the analysis. Unit 16 appears to be an outlier due to the number of receptacles (i.e., mortars, stone bowls, and other bowl-shaped stone artifacts) in this space. There is a mixture of roofed spaces with single games as well as two spaces, Units 13 and 19, which are interpreted as partially roofed (Swiny, n.d.). Overall, the distribution of games in various different contexts is very similar to the pattern identified for the PreBA data, with games found in a variety of spaces that may indicate everyday play activities. In the absence of large public buildings and the social settings they provide, it is not surprising to find that people played games in a way similar to the way they did at earlier sites, when they were also absent.

Little more can be said about the social context of gaming in agricultural villages, since the excavations at Episkopi Phaneromeni and other sites in this tier which have produced games are not yet completely published. There are a considerable number of games from Kissonerga Skalia (Crewe, 2018) and, particularly, Aredhiou Vouppes, (Allen, 2008) but these were found in secondary contexts. At Aredhiou Vouppes, as is also common at PreBA and ProBA sites throughout the island, games were used as building material in walls, often in perfectly playable condition. The limestone blocks chosen for games were also the predominant building material in Bronze Age Cyprus, but their deliberate removal from use and consistent incorporation into the structure of households may point to higher-level meaning (Steel and McCartney, 2008: 30–2; Steel, 2013: 191). Games certainly seem to have been a part of life for people living in the agricultural hinterland. Steel (2016:530) describes games as part of a “complex network of socialized, embodied practices and cognitive actions” very much

parallel to the conclusions of the present study. Though direct evidence for the nature of these practices and actions during the act of play at Aredhiou *Vouppes* remain elusive, the implications for identity construction and community building Steel suggests are consistent with the play of games in contexts indicative of grounding, similar to those at Episkopi *Phaneromeni*.

While the MCA shows a clear difference among tiers, it is entirely possible that this difference is reflective of the state of the archaeology on ProBA Cyprus. The excavations at Episkopi *Phaneromeni* largely consist of domestic contexts and potentially some communal spaces (Swiny, n.d.), while those at higher-tiered settlements largely focused on buildings with more dramatic architectural remains, such as civic and religious centers and elite residences (Knapp, 2013: 359–81). This difference in the types of context could be what is manifested in the archaeological record for games, and thus in the MCA. Alternatively, the difference could be a chronological one. Episkopi *Phaneromeni* was occupied during the earlier ProBA 1, while the other sites were in use later, during the ProBA 2–3. These subdivisions of the ProBA experienced different forms of social complexity (Knapp, 2008: 144–53).

7.3. Games and complexity

The emergence of social complexity profoundly affected the types of everyday interactions in which people engaged, and the population growth and regional integration that accompanied it in Bronze Age Cyprus further added to the social distance between individuals interacting with one another. MCA of the contexts in which games were found on Cyprus show that there are differences in the places and social settings in which people played games between the less complex PreBA and the more complex ProBA. These differences reflect the changing social realities of the periods and sites in which people lived. They also demonstrate various ways in which people were harnessing the social properties of games in response to those realities.

During the PreBA, most of the evidence for game play is in quotidian settings, some in more intimate spaces closely associated with domestic life, and others in smaller, generally outdoor, spaces that have evidence for eating and drinking. The only context in which games are found in a large communal space is the Unit 12 complex at Sotira *Kaminoudhia*, where the largest concentration of games anywhere on the island was found. People appear to have gathered in this space, in part to play games. Such locations have not been documented elsewhere on the island. One explanation for the unusual concentration of games in this place could be that Sotira *Kaminoudhia* was a major site for trade in picrolite, a stone widely used for personal ornaments that had clear social importance, the major source of which is the Kouris River, only 7.5 km away. Manufacturing debris and blanks have been found at Sotira *Kaminoudhia*, but are rare elsewhere. It has been suggested that the site may have been a center for the manufacture and exchange of this stone, which has been found at sites far from the source (Swantek, 2006: 152–5; Knapp, 2013: 328). If people were coming to Sotira *Kaminoudhia* to procure picrolite, the site would have become a place where people were continually being brought into contact with one another to engage in trade. Games often travel along trade routes and certain games are particularly common at sites where traders congregate, such as Byblos and Arad (Dunand, 1954: 310, 1958: 531, 559, 661; Sebbane, 2001). The high concentration of games and gaming spaces at Sotira *Kaminoudhia* could be a material remnant of the use of games as a social lubricant for the purpose of initiating and maintaining economic relationships between local people and others from elsewhere on the island.

Play in quotidian settings has its own set of social consequences. As people play, the grounding effects of play are important in helping to build and maintain relationships with others, even though the opponents may already be known to one another. The liminoid properties of games allow for a space for people to engage with their identity and negotiate it vis-à-vis their peers through perceived control over the

various forms of contingency present during play. Of course, quotidian play happens in all societies, and is not indicative of lesser complexity. Indeed, *patolli* seems to have been played by elite Maya in restricted, private settings (Walden and Voorhies, 2017: 215–7).

Nevertheless, there are some changes in play that are apparent during the more complex ProBA. There is a remarkable absence of evidence for play in households and other everyday settings, except at sites near the bottom of the settlement hierarchy. There is an absence of traditional limestone gaming boards in general from this later period of Bronze Age Cyprus, which may indicate an avoidance of play in the kinds of buildings that have been excavated (mostly large civic or administrative buildings, temples, and elite residences), or a change in the materiality of games on that island, i.e. the appearance of a new preference for boards made of perishable materials such as wood. Such a change in the preference for certain materials could reflect a new emphasis on emulation of foreign gaming practices, since people on the mainland seem to have preferred materials other than stone for playing. Such foreign emulation is part of the performance of play, where the act of playing a game with non-traditional materials (and, in some cases, a new foreign game) is itself a performance of the identity the players wish to convey.

Certainly, a change in the preferred material reflects a change in the performance of play, since the sonic and tactile properties of stone are much different from that of wood or ivory. They allow for different possibilities in the performance of play which may be explained by the different social contexts in which games were played during the ProBA in comparison to the PreBA. The presence of game of twenty squares boards made of ivory in the elite Ashlar Building at Enkomi points to this difference in materiality alongside publicly visible displays of wealth that are not seen in the PreBA.

The association between traditional Cypriot games at Maa *Palaeokastro* and the location of a massive *mehen* game near Temple IV at Kition *Kathari* (Karageorghis and Demas, 1985: 150, 279) all suggest that traditional games were still visibly played in upper-tiered settlements. The connection with drinking – in particular, drinking with imported wares—that is apparent at Maa *Palaeokastro* is different from what is seen in earlier periods and at Episkopi *Phaneromeni*, where the connection to drinking still exists, but not necessarily always in highly visible spaces. Even the 10-Ring game found at Maroni *Tsaroukkas* was found in a visible location in an entrance courtyard. Cretan games, including 10-Ring, are materially identical to the Cypriot ones – only the pattern of depressions differs (Crist, 2016a: Figure VII.2). This may explain the disproportionate popularity of the game of twenty squares compared to 10-Ring; because 10-Ring was so similar to the indigenous games, it was not as easy to communicate status through play as it was for the game of twenty squares, which was materially and, consequently, experientially different.

The location of play in visible spaces may indicate that the performance of play was important to people during the ProBA. Playing in visible spaces allows for people to more effectively perform during play, and to engage with their identity and status in ways that are visible to more people. The pattern of game play in visible places in larger settlements during periods of increased complexity shows that people were more concerned with their visibility during play. This suggests that the actions they took during the course of play had important meaning that was meant to be viewed. In addition to engaging with identity, playing in communal places allows for the process of grounding to take place with more people, in the form of spectators or as sequential opponents over multiple games. The difference in the kinds of visible places in which indigenous or indigenous-looking games were played in contrast with the socially charged events in which obviously foreign games were preferred show the social strategies undertaken by the players.

In the PreBA there is less of an attempt to harness play in such a public manner. Mortuary feasts were major occasions for communicating and displaying wealth and status during this time period

(Chovanec, 2013: 45; Georgiou et al., 2011: 355; Keswani, 2004: 48, 68, 82). The remnants of these feasts are often found associated with tombs, but game boards are rare in cemeteries. Furthermore, the strongest evidence for communal consumption activity during the period, at Alambra *Mouttes*, did not include games. The exclusion of games from occasions in which status and identity were being displayed suggests that play was not used for the purpose of mobilizing performance to engage with semiotic contingency and, thus, identity. This stands in contrast to the ProBA evidence, where complexity and visibility of game play are both increased.

8. Conclusion

There is an indication that, on Cyprus, people used the play of games in different ways depending on their social realities. This can be explained, in part, by the development of increased social complexity in the ProBA, and the proliferation of new social boundaries and social distance that accompanies it. People living during the PreBA played in a range of spaces that can be best described as quotidian play; sometimes in domestic spaces, sometimes in smaller unroofed spaces, associated with evidence of drinking, but absent from large communal eating and drinking contexts. The Unit 12 complex at Sotira *Kaminoudhia* provides an important exception, where games were played in a communal space, but without associated eating and drinking evidence. Nevertheless, the contexts in which games were played show more of an emphasis on grounding as a social process to build and maintain relationships between smaller numbers of people.

During the more socially complex ProBA, the appearance of new foreign games and the changing materiality of games communicate identities and actual or desired status. Furthermore, the play of games in publicly visible spaces in settlements where elites were concentrated, both for new types of games and traditional ones, is more common during the ProBA than during the PreBA. Because much of the focus of excavation has focused on tombs and monumental religious and civic buildings, there is less evidence for play in the same kinds of domestic contexts as the PreBA. The evidence from Episkopi *Phaneromeni* and, to an extent, Morphou *Toumba tou Skourou*, where a *senet* game was in a pottery workshop, show play in quotidian settings, and demonstrate that games were not always played in contexts where identities could be communicated and manipulated while being viewed by groups of people.

Despite the bias in archaeological investigation, the changes in the social contexts of gaming are consistent with strategies to counteract increased social distance during periods of complexity. With complexity, the increasing interconnectivity of people and places brings more and more people into contact with others to whom they are not related or previously acquainted. Not only does this present a situation where social lubricants such as games help to initiate relationships between people, it also presents an opportunity to manipulate and engage with one's own identity through the liminoid action of play. The PreBA, with emergent complexity, shows less of an emphasis on play in large communal spaces such as this. The existence of communal play at Sotira *Kaminoudhia*, nevertheless, may anticipate ProBA gaming practices, which could be explained by the centrality of the site with regard to picrolite trade and the number of people from other settlements this would have brought there.

More broadly, this research provides further evidence for strategy games in socially complex societies. De Voogt (2017: 308) says that most known board games fall under the category of strategy games, and there is no indication that *senet* and *mehen* are anything but strategy games; *mehen* cannot be a game of chance since it is never associated with randomization devices in art, and the captions of *senet* players in Egyptian tombs describe actions describing choices made by players indicating the use of strategy during play (Piccione, 1990: 49–73). These games were adopted by Cypriots living in a middle-range society from Egyptians living in a highly stratified state. Cypriots continued

playing it as complexity increased on the island, suggesting that the level of social complexity in itself had little to do with the preference for the games. Instead, the connection between games and social complexity is a social one. It does not appear that the type of game matters; it is manner in which games are used as an option for navigating social realities that differs with changing social organization. This approach uses games as evidence to discuss social processes that are more widely useful to researchers; investigating the ways social processes affect particularities of gameplay is less useful to researchers outside of games studies.

Other assemblages of games might be amenable to similar kinds of research that use space and associated activities to investigate games and play in past societies. Graffiti games in particular are known in considerable quantities worldwide, and can provide fruitful comparisons from the intrasite to the regional scale. Roman sites throughout the Mediterranean basin, including in Asia Minor (Roueché, 1993: 85–99, 100–70), North Africa (Ballu, 1902), and Rome itself (Thédénat, 1923) have pavements scratched with games graffiti. Pharaonic monuments in Egypt also have games on their pavements (Jacquet-Gordon, 2003: 78, 84; Piccione, 1990: 45–8, 436–7; Pusch, 1979: 320–1). The medieval city of Vijayanagara in India contains thousands of games etched on its streets and plazas (Rogersdotter, 2015). In Mesoamerica, *patolli* games are known from sites including Teotihuacán (Sánchez, 1996: 168–200) and many others in the Maya area (Walden and Voorhies, 2017). The Parthenon has games etched on its stylobate that have only recently been published and identified (Karakitsou, 2009), suggesting that games are not sufficiently documented even at extensively studied archaeological sites. The examination of graffiti games is not without difficulty, as highlighted at Petra (de Voogt et al., 2017) where most of the graffiti games discovered are much more recent than the Nabataean city. The examination of these games and their locations in these sites, when compared cross culturally, would further add to our understanding of the social and societal impacts of playing games.

Examining the consequences of play offers insight into some of the everyday practices of ancient life that are difficult to access with archaeological evidence. Because of these consequences, people use play as a tool to build and maintain relationships with others, which includes attempts to shift identities and increase one's access to prestige and, thus, resources. The attempts are, of course, not always successful; the players are engaging with risk because of the many kinds of contingency at work during play, which can result in the worsening of relationships or decreased status of a player who performs unsatisfactorily. While these individual interactions and outcomes cannot be observed in the archaeological record, changes in the social context of play can provide indications of how people behaved differently when social distance was greater. Better identification of games at archaeological sites may allow for more comparative analysis of the social contexts, consequences, and motivations of play in societies.

Declaration of Competing Interest

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Appendix A. Supplementary material

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