

Appetite for destruction: current interpretations of accidental or deliberate destructions in Bronze Age Cyprus

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ABSTRACT – *Destruction processes are considered ‘time capsules of material culture’ (Driessen 2013) as they freeze a site at one moment of its history providing key evidence for interpreting the archaeological record and reconstructing social, political, cultural and ideological circumstances. By focusing on selected case-studies, this paper aims at briefly discussing existing evidence of destruction events in Bronze Age contexts in Cyprus, and at a preliminary presentation of new research data resulting from ongoing interdisciplinary analyses at Middle Bronze Age Erimi.*

KEY WORDS – *destruction events; abandonment practices; Bronze Age Cyprus*

Želja po uničenju: sodobne interpretacije naključnih in namernih uničenj v bronasti dobi na Cipru

IZVLEČEK – *Procese uničenja razumemo kot ‘časovne kapsule materialne kulture’ (Driessen 2013), saj prostor zamrznejo v nekem trenutku njegovega obstoja, s čimer zagotavljajo ključne dokaze pri razlagi arheološkega zapisa in nudijo rekonstrukcijo družbenih, političnih, kulturnih in ideoloških okoliščin. S tem prispevkom nudimo kratko razpravo o obstoječih dokazih in o dogodkih uničenja v kontekstu bronaste dobe na Cipru, in sicer na podlagi izbranih študijskih primerov, hkrati pa predstavljamo nove raziskovalne podatke, ki izhajajo iz interdisciplinarnih analiz, ki so v teku na ciprskem srednje bronastodobnem najdišču Erimi.*

KLJUČNE BESEDE – *dogodki uničenja; prakse opuščanja; bronasta doba; Ciper*

Introduction

All archaeological contexts are destruction contexts. Human actors, natural disasters, and post-depositional processes, all represent transformative forces that contribute to changing the original occupation setting. The primary importance of abandonment and destruction sequences in the analysis of built environments has long been recognized in the study of formation processes of archaeological deposits (Schiffer 1987; La Motta, Schiffer 1999). As a matter of fact, the concept of destruction embodies a social and cultural dimension. As much as construction and maintenance activities, destruction practices form part of the settlement life cycle, and as such they represent a social phenomenon involving a

community (Cameron 1991; 2003; Driessen 2013; Stevanovic 2002; Tringham 2013; Twiss et al. 2008).

Destruction events represent the culmination of social, cultural, political, and ideological circumstances; therefore, cases of destruction should be analysed by taking into account their preceding phases in order to provide a better understanding of the causes that led to the final destruction and to identify its agents (Zuckerman 2007; Torrence, Grattan 2002). It is fundamental to consider the multiple aspects of destruction processes when we approach the analysis of an archaeological context. Destruction is multi-scalar: it can affect a single structure or an entire set-

tlement. Destruction has a multi-temporal dimension: it can be temporary, then followed by reparation and renovation, or definitive with no chance of second reconstruction. Destruction can be random and sudden, when triggered by external and uncontrolled factors, such as natural disasters, or it can be an anticipated consequence of deliberate actions carried out by individuals or communities who destroy to express identities, beliefs and ideas (*Tringham 2005; Stevanovic 1997; Cameron, Tomka 1993*). Each of these aspects impacts on the archaeological record by producing distinct evidence.

Detecting disasters like earthquakes may be extremely challenging in the archaeological record, especially when degradable building materials are used in the construction practice. Recent studies have applied an integrated approach for identifying ancient earthquakes, combining macroscopic indicators and supporting evidence from microscopic geoarchaeological techniques, such as micromorphology (*Schachner et al. 2019; Lazar et al. 2020*). Recurrent patterns of macroscopic markers have been detected as expected effects of earthquakes observable on the stratigraphic deposits and included in the so-called 'Potential Earthquake Archaeological Effects' (PEAEs) (*Jusseret et al. 2013*). PEAE markers include effects expressed in architectural elements (*e.g.*, tilted walls, displaced walls) and in the characterization of the archaeological deposit (*e.g.*, oriented fallen objects, localized fire damage, compact layers of rubble burying valuables suggesting sudden collapse) (*Lazar et al. 2020.Tab. 1*).

In this paper we examine the act of building destruction as a complex social phenomenon, and in doing so we focus on a set of Bronze Age contexts in Cyprus. The aim is to present a brief review of studies

concerning abandonment dynamics and destruction processes in Cyprus by discussing evidence from Early-Middle Bronze Age sites, and by briefly presenting new research results on destruction sequences at Middle Bronze Age Erimi.

Between the event and the practice: interpreting destructions in Bronze Age Cyprus

The multi-scalar and multi-temporal dimension of destructions is rarely observed in the interpretation of prehistoric contexts. However, these two dimensions are key to understanding the nature of a specific destruction and identifying it as either an uncontrolled event or as a deliberate practice. The first can be caused by natural catastrophes or human agency, and its consequences for the community are rather unpredictable. Conversely, the second type of destruction has controlled effects and may also serve a 'regenerative' social function. In both scenarios, destruction marks a crucial turning point in site history, but they greatly differ from each other insofar as they embody different perceptions that the community has of its own history.

Thanks to the increasing number of projects that are sensitive to depositional, destructive and abandonment processes, which are based on fresh analysis of old excavated contexts like that of the Sanctuary of the Horned God at Enkomi (*Papasavvas 2014*) and on new excavations, especially at Early and Middle Bronze Age sites (*e.g.*, *Frankel, Webb 1996; 2006; 2012; Swiny et al. 2003; Bombardieri 2017; Sneddon 2019*), Cypriote Prehistory offer good case-studies to discuss abandonment destruction practices (Fig. 1, Tab. 1).

At Early Bronze Age Marki *Alonia*, the inter-related analyses of architectural units, features and finds have made it possible to broadly analyse depositional contexts and exclude the occurrence of localized catastrophic events or sudden site-wide abandonment (*Frankel, Webb 2012*). In the settlement structures there is a continual process of change as individual rooms or areas were renovated, reorganized, rebuilt, demolished or left as standing ruins (*Frankel, Webb 1996; 2006*). Marki *Alonia* represents a straightforward case where the absence of indicators for destruction by natural disaster or deliberate anthropic actions indicates



Fig. 1. Map of Cyprus showing the Bronze Age sites mentioned in the text.

that the settlement was gradually abandoned and the structures were subjected to slow deterioration by post-depositional processes, and possibly to episodic post-abandonment re-use.

In other contexts, however, abandonment sequences indicate the occurrence of rapid destruction events, as the cases of Sotira *Kaminoudhia* and Alambra. Evidence of destruction retrieved from these sites has been interpreted as indicating destruction by natural circumstances: an earthquake for some of the collapsed structures at Sotira, and an accidental fire at Alambra.

Evidence of coursed tumbles retaining the spatial arrangement of the building blocks, coherent with a PEAE marker, has been documented in the destruction sequences of many structures at Early Bronze Age Sotira *Kaminoudhia* and interpreted as the consequence of a seismic event that specifically affected houses in Areas A and B (*Herscher, Swiny 2003.505*). In support of the seismic event interpretation, Stuart Swiny indicates a series of evidence including the complete abandonment of the settlement and the absence of traces of reconstruction post-destruction; the occurrence of collapsed roofing materials completely sealing the houses' inventory; the presence of human skeletal remains in three rooms (units 6, 16 and 22) without any clear mortuary treatment (*Herscher, Swiny 2003; Swiny 2008*) as evidence of accidental death in catastrophic circumstances; the recurrence of burnt deposits covering the floors of many structures as result of conflagration associated with an earthquake event (*Swiny et al. 2003.53–54*).

In validating the assumption of a seismic event at Sotira, George Rapp (*2003.465–466*) asserts that mudbrick and undressed stone construction used in building technique in the settlement are poorly resistant to seismic damage. However, it is important to stress that foundations cut into the solid bedrock – as in many buildings at Sotira (*Swiny et al. 2003.56*) – are much more stable to seismic waves than unconsolidated soil materials (*Grant et al. 1974*), and that one-storey structures generally have a better static performance during strong earthquakes due to their inferior load (*Kallika 2017*). Even in the circumstance of intense earthquakes with the consequent collapse of the mudbrick superstructure, only moderate damage to the stone structure is produced (*Rapp 1986.368*), thus permitting fast rebuilding and restoration of the structures to habitable condition.

| Chronological phases | Approximate dates Cal BC |
|----------------------|--------------------------|
| Philia Early Cypriot | 2400/2350–2250 |
| Early Cypriot I | 2250–2150 |
| Early Cypriot II | |
| Early Cypriot III | 2150–1950 |
| Middle Cypriot I | 1950–1850 |
| Middle Cypriot II | 1850–1750/1700 |
| Middle Cypriot III | 1750/1700–1680/1650 |

Tab. 1. Chronological schema for Early and Middle Bronze Age Cyprus (after Manning 2013).

In this regard, the idea of human burial as possible victims of a catastrophic earthquake at Sotira should be also reconsidered. In the examination of destruction sequences in archaeological contexts it is common to attribute the occurrence of skeletons buried under rubble to a sudden death caused by the collapse of building in an earthquake (*Bombardieri in press*). Skeletons of people killed and buried under the debris of fallen dwellings imply that the collapse came suddenly, without warning, and caught them while sleeping or lying down. However, ethnographic analyses conducted in a large set of traditional villages in the Near East destroyed by earthquakes in the 1960s and 1970s indicate that in general younger people, who attempted to escape outdoors, are those that suffered more casualties from being injured by collapsed structures falling around. In contrast the elderly, who stayed indoors, were much safer (*Ambraseys 2006.1011*). We must also consider that bodies of people killed outdoors or indoors are almost always recovered by the survivors and given proper burials, as also recorded in ethnographic cases (*Ambraseys 2006*) and as expected for early societies with standardized funerary rituals and mortuary treatment traditions, like those of Bronze Age Cyprus (*Bombardieri in press; Baxevani 1997; Keswani 2012; Knapp 2013.311–321*).

In advancing these criticisms, we do not exclude the idea proposed by Swiny of a seismic event at Sotira; however, we question the assumption of an earthquake as a principal triggering factor for the definitive destruction and abandonment of many structures at the settlement.

Taking into consideration the possibility of a fire event as a consequence of the earthquake, it is unlikely that an accidental fire could have been responsible for an extended burnt horizon as that documented in all three areas of the settlement (*Swiny et al. 2003.53–54*). In fact, structures in mudbrick and stone are very difficult to ignite without additio-

nal accelerants (Dennis 2008:177; Harrison 2008; Amadio, Bombardieri 2019:6–7). Therefore, even in the case of an uncontrolled blaze, fire could not have spread from one building to the other, and from one area of the settlement to the other.

A similar conclusion can be drawn for the destruction context at Early-Middle Bronze Age Alambra, which represents a further interesting case-study to analyse destruction processes in prehistoric Cypriot contexts. No evidence of wall collapse by seismic event has been recorded at the site; however, Andrew Sneddon (2019) reports the occurrence of extended traces of burnt and ashy materials in the abandonment sequences of unit 1 and in other structures of the ancient settlement – including clusters of buildings in Areas A and C (Georgiou 2008; Sneddon 2015) – which he considers clear indicators of destruction by fire.

By focusing on the analysis of unit 1, Sneddon (2019) interprets the absence of objects in the structure as a deliberate act of clearing as part of a planned and gradual abandonment; yet his reconstruction of the fire event appears less defined. Considering that the fire was not restricted to unit 1, but also involved other areas of the settlement, Sneddon sustains the hypothesis of a large conflagration, possibly due to a forest fire, which swept across part of Alambra soon after the settlement was abandoned.

Likewise, units 22 and 44 at Sotira, unit 1 at Alambra presents a case of a human internment covered by a layer of ashy debris. According to Sneddon's (2019) interpretation, this intramural burial is unlikely to be the victim of a catastrophic fire, due to the fact that mudbrick buildings with stone footing – like those of prehistoric Bronze age villages – do not explode into flames (Swiny 2008:51), and a person inside would have had the time to escape outdoors to abandon the building before the roof collapsed (Bombardieri *in press*). In the analysis of the context, Sneddon rejects the idea of a possible act of violence or conflict because of the evidence of a set of copper ingots deliberately placed on the deceased's chest (Sneddon 2019:10). He further discards the hypothesis of the burial as part of an act of 'domicide' – the act of deliberate destruction to mark the end of the house's occupation upon the death of the head of the household (Tringham 2005; 2013). However, one may also hypothesize that unit 1 was destroyed by fire because of the burial itself, as argued for Prehistoric Levant (e.g., Verhoeven

2000; Akkermans 2008; Akkermans et al. 2012) and potentially attested by ethnographic parallels (e.g., Porteous, Smith 2001).

The assumption that the conflagration of unit 1 might have been part of the symbolic destruction of specific residential clusters at Alambra is difficult to validate due to the lack of univocal evidence in the analysis of the destruction context. Additionally, the identified macroscopic PEAE markers (e.g., localized fire damage, broken *in situ* vessels) (Lazar et al. 2020:Tab 1) can either be interpreted as the effects of a controlled destruction or the consequences of natural catastrophic events, including earthquakes.

Nonetheless, even if the practice of deliberate house/settlement destruction, as a preliminary step toward the settlement's final abandonment, has never been identified in prehistoric Bronze Age contexts in Cyprus (Sneddon 2019:10), the repeated occurrence of burnt structures in the contexts presented above certainly deserve further consideration, especially on the basis of the new evidence and the application of a new multi-scalar methodology at Middle Bronze Age Erimi.

A case for destruction at Middle Bronze Age Erimi: ongoing analyses and interpretations

Erimi *Laonin tou Porakou* is a Middle Bronze age site in the south region of Cyprus, on the river Kouris valley area (Limassol district). Extensive excavations since 2009 have exposed a substantial part of the prehistoric settlement, which was built on a limestone hill and organized in three main areas: the productive area, with a workshop complex on the top (Area A); the residential area on the degrading terraces (Areas B, B2; T2, T3); and the funerary clusters on the slopes surrounding the settlement (Area E and *Vounaros*) (Fig. 2). The research programme conducted at Erimi has provided a wealth of new data on Middle Bronze Age society in Cyprus, from settlement life-history to material culture, technologies and subsistence practices (Bombardieri 2017; Webb, Knapp 2021).

Excavations in the workshop complex revealed the occurrence of wholly burned building-units, full of ashes and other incinerated materials (Fig. 3). Since the destruction sequences in these structures are characterized by a totally different depositional history from those of naturally degraded buildings of the workshop complex and of the residential areas (Amadio, Bombardieri 2019; Amadio et al. *in press*),

interdisciplinary scientific analyses have been applied to the examination of these contexts in order to provide multi-scalar and networked data to analyse and reconstruct the destruction dynamics.

Stratigraphic analysis has been integrated with micromorphology to conduct high resolution characterization of depositional sequences and examination of the pre-depositional environment, depositional and post depositional processes that impacted on the deposits and materials in order to identify natural and/or anthropic processes that contributed to the formation of destruction sequences. FTIR analyses have been applied to a wide range of materials, including intact and degraded mudbricks, burnt deposits, floors, objects and natural sediments to distinguish between carbonates of different origins and

ascertain the heating temperatures of clay minerals in order to examine the impact of fire on surfaces and deposits. Phytolith analysis was further applied as an important proxy to analyse the occurrence of plant materials in destruction deposits and occupation sequences in order to acquire information about possible organic substances that contributed to the conflagration. The analyses conducted on burnt structures at Erimi in the workshop complex are summarized in Table 2, with specific reference to unit SA V.

According to the integrated analyses on macro and micro evidence (*Amadio et al. in press*) the destruction by fire at Erimi was most probably deliberate, as demonstrated by the fact that burnt structures are not adjacent to each other, as we would expect in



Fig. 2. Erimi. The terraced configuration of the Middle Bronze Age settlement and cemetery site, on the east bank of the Kouris river valley (Limassol, Cyprus) (Archive Erimi Archaeological Project/Italian archaeological mission in Erimi, Cyprus).

| | <i>in situ</i> EVIDENCE | INTERPRETATIONS |
|-------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| MACRO | Burnt building-units are not contiguous. | Structures were burnt intentionally. |
| | No evidence of re-construction and re-use after the destruction event. | Structures were not re-occupied but were definitively abandoned. |
| | No evidence of fire outside the building's perimeter. | The fire was controlled. |
| | Occurrence of rich floor assemblages in a good state of preservation (most of the medium-small size vessels are intact). | Possibly deliberate deposited objects. |
| | Intact mudbricks showing T of 450–500° C. | The fire was intense enough to bake part of the mudbrick wall structure. |
| | Burnt deposits mostly composed of pyrogenic calcite. | Formation of ash due to slow burning fire. |
| | Floor not altered by fire (no ignition points). | The fire did not start from the floor. |
| | Object are coated by a crust of pyrogenic calcite. | Ash produced during combustion of roofing structures deposited on the vessels. |
| | Unfired loom weights on the floor show no signs of fire alteration. | Ash produced during combustion of roofing structures insulated the objects. |
| MICRO | Occurrence of high percentage of dendritic phytoliths on the floor. | Possible addition of flammable material (?). |

Tab. 2. Summarized data from integrated analyses conducted on burnt buildings at Erimi (Amadio et al. 2021).

case of uncontrolled fire spreading all over a settlement area, and as indicated by the limited occurrence of burnt and ashy residues outside the external perimeter of the building, which suggests that precautions were taken to contain and control the fire. Micro data further indicate that temperatures were prolonged enough to bake and sinter part of the mudbrick wall structure. In fact, accidental fires of modest intensity and short duration result in no or very little sintering of the mud wall (*Akkermans*

et al. 2012.311; *Shaffer* 1993). Data also show that the fire was ignited starting from the roof, as the floor of the building-unit SA V shows no sign of alteration by fire. This constitutes further evidence in favour of an intentional conflagration rather than an accidental burning. As demonstrated by experimental analysis, a house with mudbrick and stone walls and a flat roof made of wood and clay – as at Erimi – must be prepared for burning or it will not burn at all (*Gordon* 1953.149; *Dennis* 2008).



Fig. 3. Erimi. Burnt structures in the workshop complex – Area A: a unit SA I; b unit SA V; c unit SA IV, the picture shows the black deposit covered by a layer of degraded mudbricks (the pale orange layer) and some intact mudbricks (the white rectangular features); d E-W section of unit SA I; e E-W section of unit SA V; f E-W section in unit SA IV; all the three sections shows a similar sequence formed by a layer of degraded and intact mudbrick materials covering the black ashy deposits; this destruction sequence covers the plaster floor, which – in most of the cases – is not preserved intact due to the collapse of the upper-standing structures during the conflagration (Archive Erimi Archaeological Project/Italian archaeological mission in Erimi, Cyprus).

While the data that was collected made it possible to attempt a valid reconstruction of the destruction event at Erimi, which presumably consisted of a first phase of a slow burning fire and a second phase of a well-vented fire, more uncertain is the interpretation of the causes that triggered the presumed deliberate destruction. The analysis of residues and assemblages on the floors of burnt buildings, which indicates the occurrence of many intact non-functional vessels with possible ritual use, such as a zoomorphic *askos* (Fig. 4), along with prestige and imported objects bearing a symbolic value and homogeneous tool sets (Fig. 5), may suggest that these materials were deliberately deposited within the buildings and that the abandonment was possibly organized in advance.



Fig. 4. Erimi. Unit SA III. A goat-shaped askos found on the floor of the building-unit (Archive Erimi Archaeological Project/Italian archaeological mission in Erimi, Cyprus).

This assumption may be further supported by the absence of victims inside of the workshop complex. The idea of an intentional conflagration of selected building-units of the workshop complex as part of abandonment rituals is also conceivable. The lack of evidence for reconstruction and re-occupation of the building-units after the conflagration, the fact that the structures destroyed by fire are those with a richer floor assemblage (maybe a deliberate deposition?), and that all the burnt structures are those

of the communal and most representative area of the settlement, might endorse this interpretation. However, caution is needed before arriving at a more certain conclusion about motivations on the basis of the presumed deliberate destruction and final abandonment at Middle Bronze Age Erimi.

Conclusions

The cases presented in this short review provide new insights into the examination of destruction processes and practices in Early and Middle Bronze Age communities in Cyprus. The paper underlined the primary importance of destruction events in the examination of long-term socio-cultural processes and in the reconstruction of settlement life-histories. Throughout the case-studies presented we illustrated the complexity of analysis focused on destruction sequences because destruction events are always multifaceted and involve many distinct aspects, which all contribute to the formation of multiform *in situ* evidence and consequent ambiguous interpretation.



Fig. 5. Erimi. Unit SA XII. A set of textile tools and large ceramic containers on the floor of the building-unit (Archive Erimi Archaeological Project/Italian archaeological mission in Erimi, Cyprus).

The case of Sotira well exemplifies the difficulty of finding a univocal reconstruction for the destruction

and final abandonment of the settlement. In this regard a consideration should be made. Many structures at Sotira were built with a foundation cut into the bedrock floor, possibly to enable better static performance of the buildings (*Wright 1992:399–405*). Considering that the cutting of the calcareous bedrock is a task that required communal effort and a large investment of labour, why was the decision made to not reconstruct the collapsed parts of the buildings and instead to definitively abandon the structures? By advancing this consideration, we want to stress that even admitting the occurrence of a natural catastrophic event at Sotira, as well as at Alambra and Erimi, the choice of destruction and abandonment was possibly based on socio-cultural factors and motivations.

In examining the processes and causes of deliberate destruction, analyses conducted at Alambra and the new research initiatives and results at Erimi have disclosed interesting directions to examine the meaning of intentional conflagrations for Middle Bronze

Age communities in Cyprus. In future analyses, the examination of the social, political, cultural and ideological implications behind the practice of deliberate destruction might offer an excellent point of entry into the social configuration of Cypriot society at the end of Middle Bronze Age Cyprus, which represents a significant turning point from a household-based society into a transformed socio-cultural system typical of Late Bronze Age urban centres.

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