34. Long-term Retreat Rates of Israel’s Mediterranean Sea Cliffs Inferred from Reconstruction of Eroded Archaeological Sites

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The Israeli coastal cliff extends approximately 50km along the eastern Mediterranean and is comprised of late Quaternary eolianites (locally known as Kurkar) and paleosols (locally known as Hamra) that reach heights of up to 50m above current sea-level. Generally, these areas are currently undergoing erosion, which has raised concern with regard to protection of coastal heritage, as well as directing coastal planning and management. However, the retreat rates are unclear. Until now, the majority of retreat rate estimates has been based on aerial photos from the past century, and therefore do not provide multi-century estimates of retreat rates. Amongst the victims of this process are partially eroded structures from different time periods, which leave behind remnants that can be interpolated to determine their original dimensions. We studied Bronze Age to Crusader archeological sites (ca. 3700 years) located on Israel’s coastal cliff and used their spatial relation to the cliff to estimate the long-term centurial – millennial retreat rates of the cliff. The resulting retreat rates are significantly lower than those previously calculated using observations from around 100 years. The archeological data also display the periodicity of the cliff failure events. The research highlights both the issue of the loss of valuable archaeological cultural resources, and simultaneously the usefulness of eroding coastal archaeological features to resolve questions of modern significance.

35. Ancient Shipwreck Sites in the Eastern Mediterranean: Revealing the Fragments of Their Biographies in the Present

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The Mediterranean seabed preserves an important number of shipwrecks, the most typical and thoroughly studied type of underwater archaeological remains. Since the first professionally directed ancient shipwreck excavation at Cape Gelidonya in 1967 (1200 BC, Turkey), shipwreck archaeology has developed from the ‘academic immaturity’ to the theorization of the field.
Likewise, the management of ancient shipwreck sites has progressed from a legislative focus in the 1970s, to the adoption of several management solutions concerning their research (excavation, partial excavation, \textit{in situ} preservation), as well as their public interpretation (\textit{in situ} and \textit{ex situ}). However, there is a noticeable gap between the prevalent approaches to shipwreck archaeological research and management, and the complex intermingling of meanings and connections developed within present-day society.

The paper approaches ancient shipwreck sites as a distinct type of underwater antiquities, the particularities of which highlight diverse axes of interpretation and raise challenging issues regarding their research and management. Ancient shipwreck sites are discussed in view of the \textit{Cultural Biography of Objects}, with an emphasis on their \textit{afterlife}, which begins after their discovery. With focus on the Eastern Mediterranean sites, the paper will attempt an overview of the research and public interpretation methods adopted diachronically, within the general trajectory of the field. Using Cyprus as a case study, I will highlight how important it is during the interpretation process to take into consideration the itineraries shipwrecks follow after their discovery and the subsequent shifting in meanings.

36. Maritime Archaeological Management in Italy: Skeleton-first or Shell-first Construction?

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Cultural heritage represents an extremely sensible cultural ‘resource’. It is sensible due to its intrinsic characteristics; it is fragile, under continuous threat due to the action of time, human neglect, and active destruction by man, either through building development or pillaging and illicit trafficking. It is also sensitive, as it connects with several human endeavors (identity formulation in particular) that have a role in the shaping of the world we live in and creating a conscious and aware public sphere. The management of the maritime cultural heritage has developed to confront each of these aspects. To do so, this paper argues that a thorough and effective maritime archaeological management cannot be achieved without a ‘skeleton first’ approach where the management structure is shaped, connected and correctly waterproofed before management activities can fully and fluidly develop their full potential. In Italy, this means mending legislative and administrative obstructions – following the mandates of the UNESCO 2001 Convention on the Protection of the Underwater Cultural Heritage – that prevent connections and collaborations between institutions and stakeholders variously involved in the cultural heritage sector. For effective management, it is therefore an essential pre-requisite to lay the foundations for a ‘skeleton’ of actors and procedures able to establish a sound management system: (1) governmental heritage bodies able to direct and oversee the management of a relevant cultural resource; (2) universities able to fully train maritime archaeologists, and to establish and maintain a research program, routinely collaborating with government institutions; and (3) territorial governments enabled to participate in these processes. It is therefore paramount to first create a ‘skeleton’ able to actively support and enable various stakeholders to participate in the management of maritime archaeological heritage. In order to do so, a reformulation of the relations between public actors, and the involvement of public, private and NGOs (volunteers)
need to be precisely defined by the legislator. Only following the clear shaping of a neat infrastructure a solid ‘skeleton’ would it be possible to add a shell, such as thorough and effective long-term research and monitoring programs, as well as systematic public outreach and public access programs.

37. A Strategic Protection Scheme for the Submerged Bronze Age Town at Pavlopetri

Barbara Euser (President, Greek Chapter of Alliance for the Restoration of Cultural Heritage (ARCH), Neapolis, Greece)

The Bronze Age site of Pavlopetri is the oldest submerged town in the world, with indications also of earlier Neolithic occupation. At eight hectares it is the largest area of Bronze Age ruins on mainland Greece. The fragile ruins are threatened by pollution, rotting posidonia weed, sand movement, nearby tankers, tourist boats anchoring on the site and casual tourist pilfering. Since the first mapping in 1968, the ruins have been mapped again to modern standards during 2009-2012 using Total Station and AUVs. The condition of the ruins has been monitored continuously since 2008. The ruins are degrading more rapidly than expected. Since 2014, the Greek Chapter of the Alliance for the Restoration of Cultural Heritage (ARCH) has worked within the local community and up and down the political-bureaucratic spectrum to preserve and protect Pavlopetri, including work with UNESCO, EU, Greek government agencies, World Monuments Fund, Greek Coastguard, and local schools. We have made powerful contacts locally and at every level of academic and European and Greek politics. We effectively educated key players and used negotiation and diplomacy to gain support and advance our goal. Greek ARCH has developed a strategic program of protection. The site must be protected for future archaeological research, and for current public enjoyment and access. This paper describes the underwater work on site and the range of bodies that have to be engaged, permits and approvals required, maintaining local commitment and pride, as well as the pragmatic design of improved public access. Can any underwater damage to the ruins at the site be legitimately repaired? Can sponsors be found to fund protection? The necessary components of protection are not yet all in place and much work is still needed. The Pavlopetri campaign serves as a useful example for community engagement and activism to protect underwater cultural heritage sites elsewhere in the Mediterranean.

38. From jus naufragii and lex rhodia to UNESCO 2001 Convention

Katerina P. Dellaporta (Director of Antiquities, Ministry of Culture, Athens, Greece)

The aim of this paper is to present a comparative historical analysis of national and international legal systems and models for the management of the underwater cultural heritage. It focuses mainly on crucially sensible managerial issues such as in situ preservation of shipwrecks and sites and underwater archaeological parks of submerged ancient settlements and remains. Secondly, this paper attempts an approach to the different or opposite managerial practices applied by the private sector for the commercial exploitation of shipwrecks and submerged
archaeological sites compared to the philosophy of public good. Taking into consideration the importance of the underwater cultural heritage for economic, social and touristic growth, the paper attempts to look into a potential theoretical alternative synergy system, conciliating an opposite approach relative to the management of underwater cultural heritage that could be efficient and compatible in the frame of the existing International Law of the Sea and UNESCO 2001 Convention. Finally in view of the potential ratification of UNESCO 2001 Convention by Greece, the paper will attempt a critical comparison of advantages and disadvantages concerning the convention’s implementation in the Greek national legislative framework. This is due to the main issues regarding the protection and management of underwater cultural heritage that still remain internationally open and ambiguous due to different conceptual approaches.