

<p style="text-align: center;">Cross-cultural and Cross-latitudinal Responses to Extreme Weather and Climate Events in the Ancient World</p>

Climate dynamics and collapse at the end of the Roman Empire

Today, historical research seems increasingly aware that the environment cannot be seen as a mere backdrop to events. Attention to the role of natural phenomena has become increasingly important, spurred on by the threat of planetary climate change, a prospect to which specialists in the field of history have shown particular sensitivity. In the last few years, the study of extreme environmental phenomena has been gaining protagonism in historical research, as triggering forces of disasters and catastrophes are being valued as a useful tool for historical analysis, creating a denominated “*history of disasters*” (Van Babel *et al.* 2020). The capacity of potentially catastrophic natural phenomena, such as earthquakes (Nur, 2008) or tsunamis (Martín-Casado, 2022), but especially climatic fluctuations (Brooke, 2014), to contribute to the knowledge of political and cultural processes in ancient societies has already been emphasised (Oliver-Smith, 1986, Gerrard and Petley, 2013, García Acosta, 2019).

This innovative line of work has also contributed to the development of a number of theoretical and methodological paradigms that will have a broad impact on future research. Especially the interdisciplinary component, which reflects approaches and a narrative based on a broad group of geological, climatic, archaeological and literary indicators or “natural archives” (McCormick, 2013: 62), widely recognised and accepted by the academic community. But also, interpretative proposals on the incidence of environmental factors in historical perspective demand explanatory theories that contribute to the elaboration of explanatory keys that are not limited to merely pointing out causal links (Haldon *et al.* 2018b: 3212).

Our case study would be to test the validity of including climate change among the explanatory causes of the crisis of the Roman Empire, more specifically in its western part. We consider it appropriate to approach the recent updating of the explanatory hypothesis that points to a causal link between environmental fluctuations and the historical process of disruption and crisis of the Roman imperial edifice (Martín-Casado, *i.p.*, McCormick *et al.* 2012, Harper 2016, Harper 2017, Harper and McCormick 2018).

This contribution connects with the PhD thesis project on which I am carrying out my research, entitled “*The role of natural catastrophes in the historical process of coastal communities in the Iberian Peninsula in the first millennium BC*”, whose aim is to investigate the impact that environmental phenomena, from high intensity ones, such as earthquakes and tsunamis, to more progressive ones, such as climate change, may have had on the ancient communities of the Iberian Peninsula. As specific subject of study we consider the historical process of the Roman province of *Baetica* during the Late Antiquity chronological horizon (Brown, 1971), between the 3rd and 5th centuries AD, a historical juncture characterised by notable changes in various facets of political, social, economic, and symbolic life.

Taking the pulse of this debate allows us to combine one of my main research focuses, the identification of theoretical mechanisms to conceptualise the relationship between environmental shocks and historical dynamics, with the objectives proposed for this seminar, as the debate across disciplines in the humanities, social and natural sciences, which offers recent examples focusing on this area of study (Sessa, 2019) or the clarification of the ways in which past communities responded to extreme/unpredictable weather and climate events.

We will review the capacity of the new proposals on the environmental crisis of the Roman Empire to offer solvent explanatory solutions in order to consider the climatic fluctuations of the 3rd-5th centuries as a crisis factor, feeding back into other factors of a political, social, and economic nature. Of course, we approach this research with the awareness that environmental fluctuations are not exclusively related to crisis processes; the dialectic established between the environment and human beings is multifaceted (Degroot *et al.* 2021). Nevertheless, we judge that this working area is innovative and may help in the task of defining how the social system represented by Rome accommodates environmental stress and how this could have translated into systemic change.

The original chronological framework of my thesis, which included up to the beginning of the Roman period, has required an extension, as we realise that the province of *Baetica* offers a very interesting scenario in the Late Antique period, in the 3rd-5th centuries, as there seems to be a concentration of extreme natural phenomena. Research in coastal environments is beginning to point to the occurrence of a horizon of destruction associated with a high-energy marine event (Rodríguez-Ramírez *et al.* 2016; Campos

Carrasco *et al.* 2015), while inland there is significant evidence of seismic episodes, to the point that there is even talk of a Late Roman “*seismic crisis*” (Silva Barroso *et al.* 2016; Silva Barroso 2019: 61). To this we must add the documented incidence of a climatic change towards colder and drier conditions (Martínez-Cortizas *et al.* 1999).

The question is whether there really exists a concentration of events and these generate a crisis, or whether, being a period traditionally considered a crisis period, there has been a tendency to relate all ambiguous indicators to natural disasters, thus creating a false perception. This can be what M. G. L. Baillie (1991) calls the interpretive fallacies of “suck-in and smear”. In order to be able to evaluate this scenario in perspective, and hence to offer theoretical and interpretative reflections conscious of the research panorama, I have taken the pulse of the recent update of this explanatory trend on the crisis of the Roman Empire, which is developing its reflections on a more global scale. The evaluation of this particular scenario from different points of view is one of the main objectives of my participation in this seminar.

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