The Avellino event: distal palaeoecological impacts of the great Bronze Age eruption of Mount Vesuvius

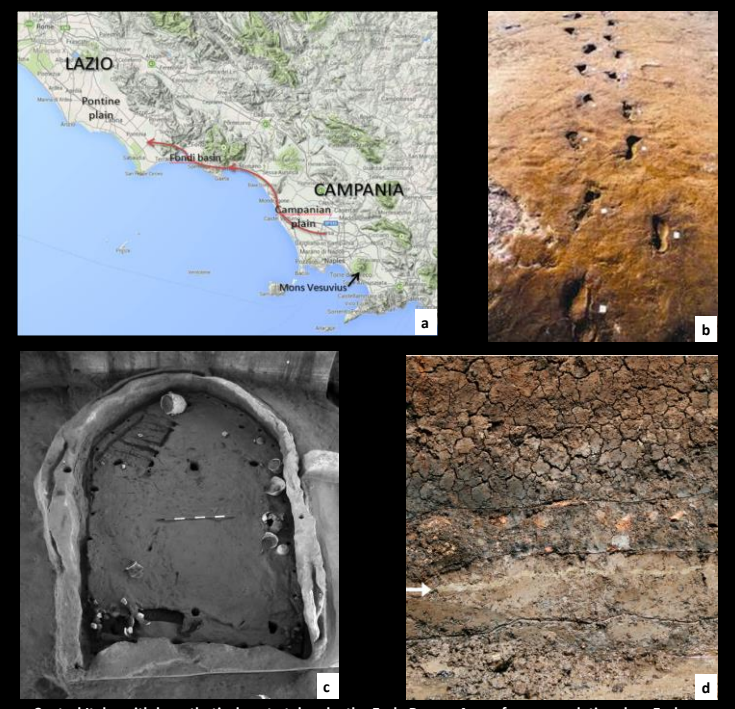
Marieke Doorenbosch [1], Michael H. Field [1], Luca Alessandri [2], Peter A.J. Attema [2], Corrie C. Bakels[1], Wouter van Gorp[2], Martijn van Leusen[2], Jan Sevink[3]

[1] Faculty of Archaeology, University of Leiden, [2] Groningen Institute of Archaeology, [3] Institute for Biodiversity and Ecosystem Dynamics (IBED), University of Amsterdam

Cultural and demographic effects of the great Bronze Age eruption of Mount Vesuvius

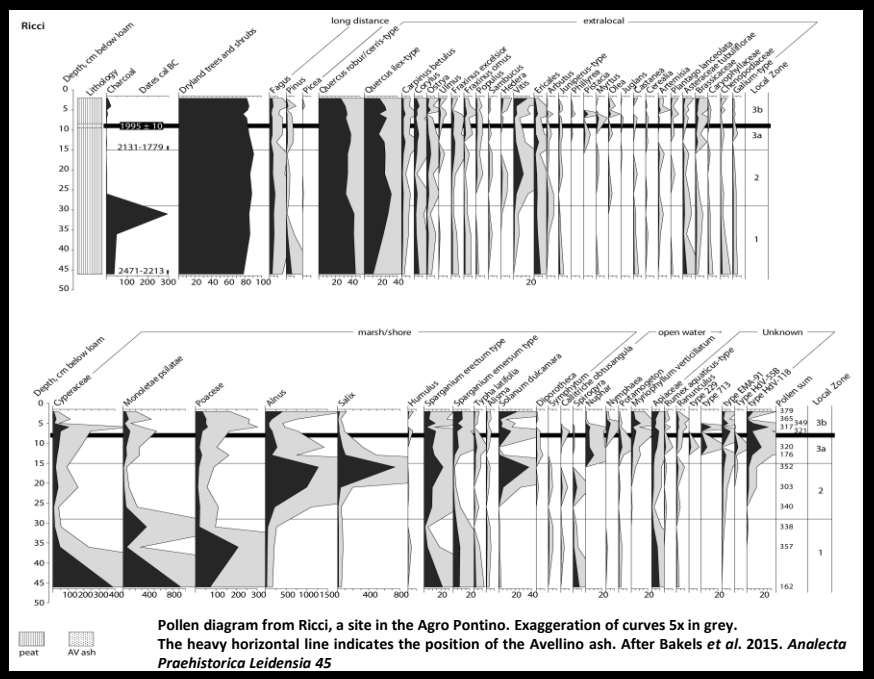
A major eruption of the Monte Somma Vesuvius (1995+-10 BC), the so-called Avellino event, devastated the landscape and the flourishing Early Bronze Age society then occupying the southern part of the region of Campania (Italy). The population had to flee the area and it is known that they did not return for centuries. So far no research effort has been spent to establish the subsequent whereabouts of the refugee Early Bronze Age people population.

The central hypothesis of this research is that a significant percentage of the refugees must have decided to resettle in the nearest coastal plains to the north - the Agro Pontino and the Fondi Basin of South Lazio, and that we should therefore be able to prove this by tracing the ecological, demographic and cultural impacts that this immigrant population must have had. Crucially for the research program, the distal ash from the Avellino eruption has now been found in the Agro Pontino in the sediments of a large late Holocene inland lake and river plain. This means that archaeological and palaeo-ecological observations of the requisite high chronological resolution and quality can be made to identify changes occurring immediately after the eruption. This program aims to demonstrate and document any significant demographic, environmental and cultural impacts that would result from the presence of the postulated Early Bronze Age refugee population in South Lazio.



a. Central Italy, with hypothetical route taken by the Early Bronze Age refugee population. b-c. Early Bronze Age archaeology in the area of Nola and Avellino. d. The Avellino ash in the Agro Pontino

The Avellino ash embedded in the sediment of the Fondi basin at 'Tumolillo'



Pollen diagram from Ricci, a site in the Agro Pontino. Exaggeration of curves 5x in grey. The heavy horizontal line indicates the position of the Avellino ash. After Bakels *et al.* 2015. *Analecta Praehistorica Leidensia 45*

Future research

New coring will take place to provide high resolution data on the vegetation in the coastal wetlands of south Lazio before and after the Avellino eruption. Sampling locations for

both palynological and plant macrofossil investigations will be carefully chosen from the margins of the former lakes within the Pontino and Fondi sedimentary basins to provide suitable archaeobotanical data.

High resolution sub-sampling of the cores around the Avellino tephra layer will provide a detailed record of how the environment changed immediately after that event.

Palaeoecological impacts

This research will focus on the reconstruction of the vegetation in the coastal wetlands of south Lazio before and after the Avellino eruption by the use of pollen and plant macrofossil data. The aim of this work is to detect the environmental impacts brought about by the influx of the postulated substantial body of immigrants from Campania.

Preliminary palaeobotanical research of the Agro Pontino plain show a human impact on the environment, before and after the Avellino eruption. There is a slight increase in anthropogenic influence after the Avellino event. Is this effect due to people from further afield or to an increase of the local population?

An analogue for the Bronze Age landscape of south Lazio?

Contact information:
M. Doorenbosch
Faculty of Archaeology, University of Leiden
Postbus 9514
2333 CC Leiden
Email: m.doorenbosch@arch.leidenuniv.nl
Tel: +31715276473

Universiteit Leiden

university of groningen

NWO Netherlands Organisation for Scientific Research

Mediterranean Palynology - 2015 "GPSBI - APLE Symposium"