Ranikot Fort (Jamshoro, Sindh): An AMS Radiocarbon Date from Sann (Eastern) Gate

Paolo Biagi and Renato Nisbet

2009

-1-

Ranikot Fort (Jamshoro, Sindh): An AMS Radiocarbon Date from Sann (Eastern) Gate

Paolo Biagi and Renato Nisbet

Abstract

The first radiocarbon date from charcoal included in the mortar of a collapsed pillar lying overturned in the riverbed at Sann (Eastern) Gate, Ranikot, confirms that at least this sector of the fort was built, or repaired, between the beginning of the XVIII and the beginning of XIX century AD, that is between the beginning of the Kalhoras and the beginning of the Talpurs rule. The present note, without positively solving the much debated issue of the age of the fort, points to a new line of research on the topic, which deserves future work, in order to collect more organic material for absolute dating.

1. Preface

As "*one of the many mysteries in the history of Sind*" (YUSUF, 1985: 94), for many years Ranikot has attracted attention to its military function, architectural structure, archaeology and, above all, its chronology. According to the many authors who debated the question using different sources (HASAN, 2006), most, or all of the Ranikot walls, were built in later prehistory by Amri Culture people (RASHID, 1978: 4), or Parthians, and subsequently reinforced by later invaders (YUSUF, 1985), or Indo-Greeks, or Schythians (PANHWAR, 1981: 18), or Talpurs (BALOCH, 2002: 384). Following the Gazetteer of the Province of Sind (HUGUES, 1876: 721), the fort was built in the early XIX century AD by the Talpur Ameers, Mir Kharam Ali Khan and Mir Murad Ali Khan. According to N.A. BALOCH (2002: 383-384), who quotes the authority of the poet Ghulam Ali Ma'il, it was completed between 1815 and 1819.

In the course of an archaeological survey carried out on January 30th, 2009, we visited Ranikot area as a possible flint source for the production of prehistoric chipped stone artefacts (see also ABRO, 1996: 81-82). On such occasion, a detailed examination of the Sann gate right pillar led to the discovery of many small (0.5-2.0 cms) charcoal fragments, suggesting the possibility to date them by radiocarbon method, after their botanical identification.

2. The collapsed pillar

The description of the stone structure, where the charcoal sample was collected for radiocarbon dating, is taken from T.M. SAHRAI (1981: 2) who wrote "*at Sann gate there is one pillar in the bed of the river, and there are two bank joint pillars. One of them still stands at its original position, but the second one has been dis-joined and stands drifted at a small distance*

from its original place, by the gushing waters of the river during the monsoons."

It is, perhaps, important to point out that, according to M.H. PANHWAR (1981: 6) "*the present-entrance gate (The Sann gate) is not of the original construction. It must have been repaired or renovated by Talpurs about 160 years back"* although, the author does not give any explanation of his assumption. Furthermore, the same author states that the Kalhoras "*could not have built this Fort*" (PANHWAR, 1981: 11).

The collapsed pillar, as it is visible today, has a rectangular section with rounded corners, sides of 8.50 and 4.50m respectively, and a height of some 4.40m. Its upper part consists of the original limestone bedrock, on which the pillar itself has been erected (fig. 3). The detachment niche is still visible on the cliff, ca. 10m above the river bed. The stone bricks are of a different sizes, regularly laid in the inner part of the pillar, and perfectly arranged on its surface.

3. Botanical identification

The charcoal sample was included in an exposed horizontal layer of the Sann Gate pillar, some 1 m above the present-day course of Nai Sann torrent (BROHI, 1998: 45) (figs. 1 and 2).

The presence of a few charcoal fragments in the mortar of the collapsed pillar (figs. 3 and 4) could be explained, as a result of 1) the process of lime production in kilns, or 2) their accidental inclusion during the preparation of the plaster used to stick the bricks. In both cases, the charcoal dates some operations that probably occurred just before the erection of the pillar.

Seven fragments of charcoal included into the mortar, or plaster, amongst the bricks of the wall were analysed at SEM in order to identify the tree species and their possible ecological provenance. Their main anatomical characteristics are (fig. 5): growth rings usually discernible diffuse wood, pores rounded or slightly oval, isolated or in short (3-4) radial chains, paratracheal parenchyma, with abundant crystalliferous cells. Rays 1 to 3(4)-seriate, homogeneous; vessel pits mostly elliptical.

All fragments show the anatomy of *Acacia* sp. but, out of more than 30 species and sub-species growing today in Pakistan (ALI, 2008) no attempt to determine a lower taxonomical level has been made, due to the absence of a complete reference collection.

Acacia wood, apart from being largely available as one of the most common trees growing in the region, is commonly used as firewood and charcoal, having a high calorific value, which makes it largely used in kilns burning pure limestone. Nowadays it has been commonly replaced as fuel by *devi* (*Prosopis juliflora/P. glandulosa*) after its introduction from Central America.

4. The AMS radiocarbon date

An *Acacia* charcoal sample collected from the above exposed surface was sent to Groningen Radiocarbon Laboratory (NL) for AMS dating. It yielded the following result 160±30 uncal BP (GrA-44671). Although its calibration is rather problematic, given that the curve at this point is highly fluctuating with several interceptions, most probabilities indicate that the pillar was erected between cal AD 1720 and 1828 (47.6% at 2 sigmas, according to OxCal 4.10: BRONK RAMSEY, 2009),although another interception suggests a much more recent date (fig. 6).

5. Discussion

The above radiocarbon result shows that Sann Gate was built, or at least repaired, between the first half of the XVIII and the first half of the XIX century AD. The date confirms that the eastern entrance of the fort was constructed before the British invasion, during the administration of the Kalhoras, or more probably, the Talpur Mirs. Given the importance of this result, which attributes the gate to a late historic period, and rejects earlier chronological attributions, further analyses are to be made to date other parts of the fort walls, many of which are very rich in organic material, in order to produce a list of radiocarbon determinations that will help define the chronology of the construction periods of different parts of the fort.

Acknowledgements

The authors are very grateful to Mir Atta Mohammad Talpur and Zulfiqar Ali Kalhoro for all the useful information and the bibliographic references. Special thanks are due to Prof. K.Thomas (Institute of Archaeology, UCL, London) for reviewing the text and the useful suggestions.

The AMS date presented in this paper has been possible thanks to a grant from EURAL Gnutti (Rovato, Brescia, Italy), with many thanks.

References

ABRO, B. 1996 - *Dewar-e-Sindh: Ranikot*. National Fund for Cultural Heritage, Islamabad (in Urdu).

ALI, S.I. 2008 - *Mimosaceae. Flora of Pakistan*, eFloras (2008). Published on the Internet http://www.efloras.org [accessed 12 December 2009] Missouri Botanical Garden, St. Louis, MO & Harvard University Herbaria, Cambridge, MA.

BALOCH, N.A. 2002 - *Sindh: Studies Historical*. Pakistan Study Centre. University of Sindh, Jamshoro.

BROHI, A. K. 1998 - *The Temple of Sun God (Relics on the Past)*. Sagam, Karachi.

BRONK RAMSEY, C. 2009- Bayesian Analysis of radiocarbon dates. *Radiocarbon*, 51(1) : 337-360

HASAN, S.K. 2006 - Runni-kote, who built it? *Quarterly Journal of the Pakistan Historical Society*, LIV (4): 55-60. Karachi.

HUGUES, A.W. 1786 - *Gazetteer of the Province of Sind*. Gorge Bell and Sons, London.

PANHWAR, M.H. 1981 - Ranikot Fort Its Odd Location and Way? In ALLANA, G.A., MEMON, A.M., CANNA, A.M., PANHWAR, M.H. and SAHRAI, T.M. (eds.) *Souvenir Ranikot Seminar*. District Council, Dadu: 4-18.

RASHID, K.A. 1978 - *Historical Dissertations*. Volume 2. Progressive Books, Lahore.

SAHRAI, T.M. 1981 - An Introduction to Rani Kot. In ALLANA, G.A., MEMON, A.M., CANNA, A.M., PANHWAR, M.H. and SAHRAI, T.M. (eds.) *Souvenir Ranikot Seminar*. District Council,

Dadu: 1-3.

YUSUF, M. 1985 - Ranikot or Rannikot. *Sindhological Studies*, Winter 1985: 94-109.

Fig. 1 - Ranikot Fort: satellite image of the Sann (Eastern) Gate with the location of the collapsed pillar (arrow) (*courtesy of F. Fuolega*).

Fig. 2 - Ranikot Fort: the collapsed pillar at Sann (Eastern) Gate (*photograph by P. Biagi*).

Fig. 3 - Ranikot Fort: the surface from which the charcoal sample was collected (*photograph by P. Biagi*)

Fig. 4 - Ranikot Fort: *Acacia* charcoal fragments *in situ* in the pillar's exposed surface (*photograph by P. Biagi*)

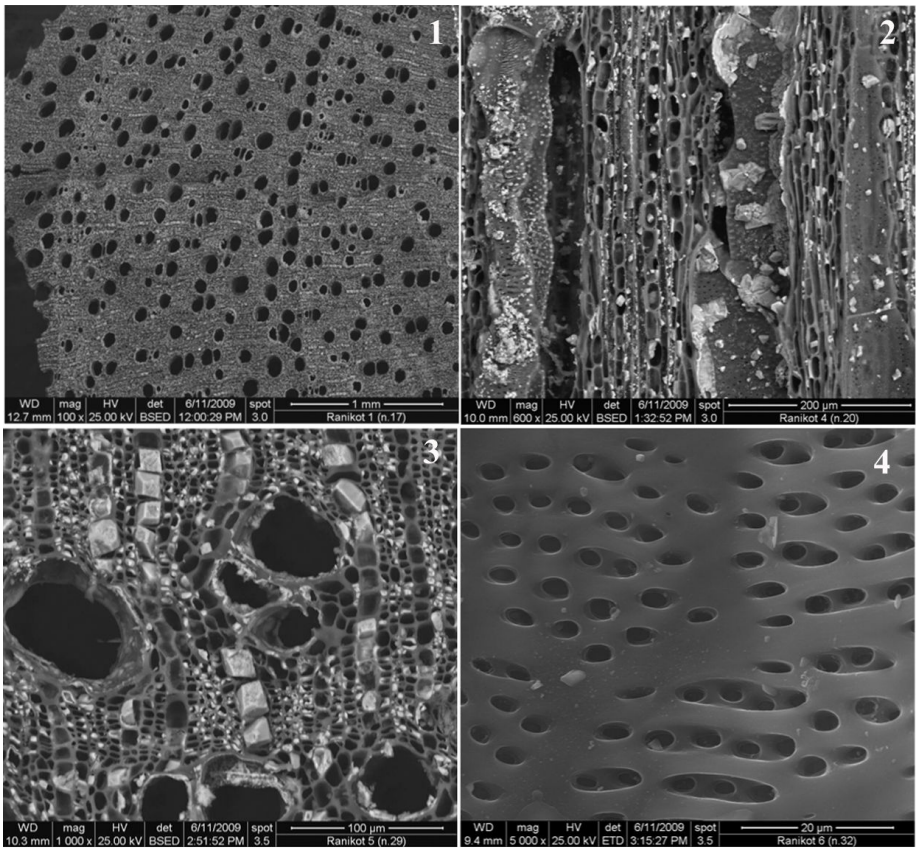

Fig. 5 - Ranikot Fort: *Acacia* charcoal. 1) Transverse plane, diffuse pores; 2) tangential plane, uni- and biseriate rays; 3) transverse plane, crystalliferous parenchyma cells surrounding the pores; 4) radial plane, vessel pits (*SEM photographs by R. Nisbet*).

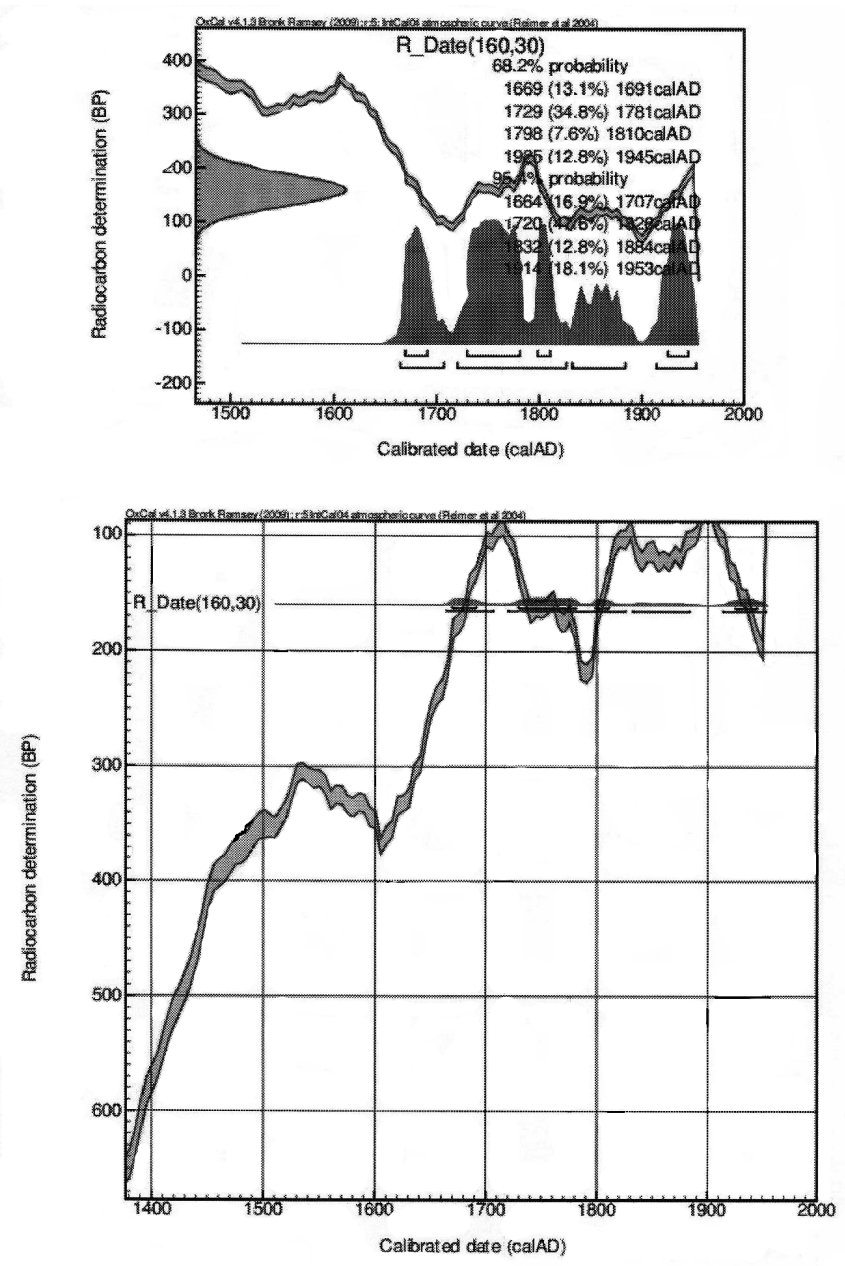

Fig. 6 - Ranikot Fort: radiocarbon and calibrated results of sample GrA-44671 (*courtesy of T. Fantuzzi*).