

---

# Ancient TL

www.ancienttl.org · ISSN: 2693-0935

---

Bonavia, D., 1983. *Letters*. Ancient TL 1(3): 10-11. <https://doi.org/10.26034/la.atl.1983.066>

This article is published under a *Creative Commons Attribution 4.0 International* (CC BY):  
<https://creativecommons.org/licenses/by/4.0>



© The Author(s), 1983

## LETTERS TO THE EDITOR

Comments on "Universidad Nacional de Ingenieria (Peru) Ancient TL Dates - 1983."  
(Ancient TL, v.1., n.1, 1983)

Dr. Duccio Bonavia  
Departamento de Biología  
Universidad Peruana Cayetano Heredia  
AP. 5045 Lima - Peru

I have had the opportunity of seeing your "Ancient TL", Vol.1, No.1 (January, 1983) and I have found information about a site in Huarmey which I excavated years ago. This information is not correct (p.9, c, Sample UNI-TL-4).

- 1) The correct situation of the site is  $10^{\circ}02'45''\text{S}, 78^{\circ}10'21''\text{W}$ .
- 2) The site is not Chavin de Huantar. The exact name is Los Gavilanes (PV35-1).
- 3) Fragments of the same sample delivered to the U.N.I. laboratories in Lima, have been treated by Laboratoire de Cristallographie et de Physique Cristalline of the Faculty of Sciences of the University of Bordeaux in France, and the dating was checked two times for security. The result was  $4800 \pm 500$  years BP (BOR 20).
- 4) For control, samples of charcoal from the same strata was processed by the C14 method, and the date obtained was  $4140 \pm 160$  (GX-5076). With Damons et al. calibration (I) the date become  $4730 \pm 90$  years BP. This coincides with thermoluminescence dating. The report of Rouanet (1976) quoted by López Carranza, et al., is only a thesis. But in any case the data are correct.
- 5) The archaeological context of the site is in complete agreement with those datings.
- 6) The results of my research in Huarmey, informing of the thermoluminescence dating was published in a preliminary report in Nature (II) and in a final report in my last book (III). In this book the reader can not only find the datings (p.73-75) but also a lengthy discussion on this topic (p.275-276; 280).

#### "References"

- (I) Damons, P.E.; Ferguson, C.W.; Long, A.; Wallick, E.I. (1974) "Dendrochronologic calibration of the radiocarbon time scale" American Antiquity Vol. 30, No 2, part 1, April. Washington. pp.350-366.
- (II) Grobman, Alexander and Bonavia Duccio. (1978) "Pre-ceramic maize on the north-central coast of Peru" Nature, Vol. 276, No. 5686, 23 November. London. pp. 386-387.
- (III) Bonavia, Duccio. 1982  
Precerámico peruano. Los Gavilanes. Mar, desierto y oasis en la historia del hombre.  
Corporación Financiera de Desarrollo S. A. Instituto Arqueológico Alemán. Lima.

E. L. Carranza  
Departamento de Fisica  
Universidad Nacional de Ingenieria  
Av. Tupac Amaru S/N.  
Apartado 1301  
Lima - Peru

1. Prof. Bonavia is right in the correction of the exact geographical situation of the excavation site.
2. "Chavin de Huantar (?)" in our paper is a designation of the predominant Peruvian culture in the time 90 BC (our datation). I understood that in this place in the paper should appear a culture designation. The reference of the site PV35-1 is given also by us.
3. Our datation 90 BC was communicated to Professor Bonavia before publication. I showed him the first manuscript of our paper and he was unopposed to its publication. He assured me that the sample which we dated was not the same sample BOR 24 dated at Bordeaux. The last datation, 4979 years, was communicated in the second version of our paper but was dropped in the final version for reasons of space.
4. We believe that the Bordeaux datation (1976), communicated to us by Professor Bonavia, is right and our datation (1979) is also right, because it comes from a different sample (in the hypothesis which we assumed). The annual doses of both samples are almost the same but the difference in age comes from a factor 2 in the accumulated dose. We feel reasonably confident of the general correctness of our procedures. Dates from this laboratory agree in most cases with results from other labs obtained by different methods.

### SOME RECENT BIBLIOGRAPHY \*

W. Wang (1982) Ultrathin TLD system for beta dose determination in thermoluminescent dating. Kexue Tongbao, 27, 1139-1141.

H. Valladas (1983) Estimation de la temperature de chauffe de silex prehistoriques par leur thermoluminescence. C. R. Acad. Sc. Paris, 296, Serie II, 993-996.

For burnt flints, the thermoluminescence sensitivity to radiation of the 380°C peak increases with the heating temperature. Thus a flint that has been heated at 500°C in the laboratory emits, for a given dose, twice as much thermoluminescence as the same flint after heating at 400°C. This property makes it possible to propose a procedure to give an approximation of the temperatures reached in the past by prehistoric flints. This method has been applied to various Mousterian flints from Southern France and shows that they have been heated between 400 and 600°C.

S. Charalambous and F. Hasan (1983) Regenerated thermoluminescence. Phys. Letters A, 95, 259-262. A regenerated, non-radiation induced TL was observed. Results versus dose, storage time, storage temperature, maximum first heating, are presented. For the phenomenon a theoretical model is given, based on the

\* Abstracts from the quoted papers are given here to inform readers on contents.