

LOUVAIN NATURAL RADIOCARBON MEASUREMENTS III

E. GILOT, N. ANCION and P. C. CAPRON

Department of Nuclear Chemistry, University of Louvain, Louvain, Belgium

The following list covers the samples measured at the Louvain C¹⁴ dating laboratory in 1964.

INTRODUCTION

All the measurements were made with the 0.6-L CH₄ proportional counter, operating at 3 atm pressure. Ages are calculated on the basis of a C¹⁴ half life of 5570 yr. As a modern carbon standard, we use wood taken from A.D. 1870 to A.D. 1900 tree rings.

Errors include the experimental standard deviation on the counting rate of the background, of the modern standard and of the unknown sample (Crèvecoeur, Vander Stricht and Capron, 1959).

No changes were made in the chemical pretreatment and CH₄ preparation. The procedure has been described in Louvain I.

ACKNOWLEDGMENTS

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SAMPLE DESCRIPTIONS

I. GEOLOGIC SAMPLES

Terneuzen series

Peat and wood from fossil pine stand at Terneuzen (51° 19' N Lat, 3° 48' E Long), Zeeuws Vlanderen, The Netherlands, alt sealevel. The trunks were covered by Sub-Boreal peat, 150 cm thick, under Sub-Atlantic clay, 100 cm thick. Coll. 1962 and subm. by A. Munaut, Univ. of Louvain, Lab. of Palynology and Dendrochronology.

General Comment: the following series represent a continuation of the program to test the dendrochronologic method in the Terneuzen site (see Louvain II, Lv-114 to Lv-120).

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|-----------------------------------|---------------------------------------|
| Lv-121. Terneuzen 15-20 cm | 3260 ± 110 1310 B.C. |
|-----------------------------------|---------------------------------------|

Peat from 15 to 20 cm below surface of peat layer. Sub-Boreal level.
Comment (A.M.): pollen analysis shows *Fagus* content larger than 1%.

| | |
|-----------------------------------|---------------------------------------|
| Lv-122. Terneuzen 42-48 cm | 3750 ± 100 1800 B.C. |
|-----------------------------------|---------------------------------------|

Peat from 42 to 48 cm below surface of peat layer. Sub-Boreal level.
Comment (A.M.): at that level comes the 4th hazel maximum (*Corylus avel-*

lana—C III), before the decrease of *Ulmus* dated as 3500 B.P. in Louvain II (Lv-118).

Lv-123. Terneuzen 75-80 cm **4590 ± 110**
2640 B.C.

Peat from 75 to 80 cm below surface of peat layer. Atlantic level. *Comment* (A.M.): end of the local increase of *Pinus*. Date seems too old according to the other dates.

Lv-124. Terneuzen 97-102 cm **4560 ± 110**
2610 B.C.

Peat from 97 to 102 cm below surface of peat layer. Atlantic level. *Comment* (A.M.): beginning of the local increase of *Pinus*.

Lv-128. Terneuzen pine B 14 **4120 ± 100**
2170 B.C.

Wood from pine trunk (*Pinus silvestris*, id. by E. Frison) from peat 180 cm below ground surface. Sample is taken between 1st and 20th growth ring.

Lv-125. Terneuzen pine B 11 **4010 ± 130**
2060 B.C.

Wood taken between 205th and 225th growth ring of the same pine as Lv-128.

Lv-126. Terneuzen oak B 12 **4530 ± 110**
2580 B.C.

Wood from oak trunk (*Quercus*, id. by E. Frison) lying under the pines, from peat 180 cm below ground surface.

Lv-127. Terneuzen pine B 13 **4120 ± 100**
2170 B.C.

Wood from pine trunk (*Pinus silvestris*, id. by E. Frison) from peat 180 cm below ground surface.

Lv-129. Terneuzen pine B 16 **4700 ± 120**
2750 B.C.

Wood from pine trunk (*Pinus silvestris*, id. by E. Frison) from peat 180 cm below ground surface. *Comment* (A.M.): date seems a little too old according to the dendrochronology.

Lv-132. Terneuzen oak B 15 **4550 ± 160**
2600 B.C.

Wood from oak trunk (*Quercus*, id. by E. Frison) lying under the pines, from peat 180 cm below ground surface.

Lv-51. Anlier II **4850 ± 150**
2900 B.C.

Peat from Fange des Beutiers (33° 10' N Lat, 5° 35' E Long), at Rulles, Prov. of Luxembourg, Belgium, alt 440 m. Sample is taken at depth of 130 to 160 cm below ground surface. Coll. 1962 and subm. by W. Mullenders, Univ. of Louvain, Lab. of Palynology. *Comment* (W.M.): pollen analysis shows hazel increase (*Corylus avellana*) with decrease of *Ulmus*; considering thickness of sample, date agrees with a level a little younger than CX. At same level, presence of corn pollen indicates the Neolithic culture of Michelsberg.

Dunes of Westhoek series

Humic matter from De Panne (51° 05' N Lat, 2° 33' E Long), Prov. of West-Vlaanderen, Belgium, alt 9.60 m. Horizon below the wind-blown dunes of XVIth and XVIIth centuries. Coll. 1963 and subm. by F. Depuydt, Univ. of Louvain, Geol. Inst.

Lv-173. Westhoek 340-360 cm **550 ± 70**
A.D. 1400

Sample from 340 to 360 cm below ground surface.

Lv-174. Westhoek 255-270 cm **370 ± 70**
A.D. 1580

Sample from 255 to 270 cm below ground surface.

II. ARCHAEOLOGIC SAMPLES

Ordonna series

Charcoal from Ordonna (41° 18' N Lat, 15° 37' E Long), Prov. of Foggia, Italy. Coll. and subm. by J. Mertens, Univ. of Louvain, Archaeol. Inst.

Lv-175. **2070 ± 70**
120 B.C.

Charcoal from oldest layers of the ancient Roman colony at Herdoniae, now Ordonna.

Lv-176. **2270 ± 90**
320 B.C.

Charcoal from same level as Lv-175.

Lv-177. **1900 ± 80**
A.D. 50

Charcoal from a burned horizon leveled while constructing a section of Via Appia across southern Italy.

Lv-178. **1930 ± 100**
A.D. 20

Charcoal from same level as Lv-177.

Lv-181. Bouillon **<190**

Wood from "Godefroid" room in feudal castle at Bouillon (49° 47' N Lat, 5° 04' E Long), Prov. of Luxembourg, Belgium. Coll. 1963 by F. Bourgeois, Service des Fouilles, Brussels; subm. by J. Mertens. Date confirms the previously found modern age of the cross found in that room (Lv-50, Louvain II).

Lv-30. Sainte Marie **1860 ± 80**
A.D. 90

Wood from Roman road at Sainte Marie (49° 55' N Lat, 5° 29' E Long), Prov. of Luxembourg, Belgium, alt 479 m. Sample is taken at 0.60 m depth. Coll. and subm. by J. Mertens, Service des Fouilles, Brussels.

Lv-41. Les Causses **2750 ± 100**
800 B.C.

Resin from La Roque Sainte Marguerite (44° 09' N Lat, 3° 11' E Long), Dept. of Aveyron, France, alt 800 m. Coll. 1960 by L. Balsan; subm. by W.

Mullenders. Resin was contained in an urn, probably Gallo-Roman, found at depth of 0.30 cm inside a dolomite stone circle. *Comment*: resin was treated with HCl, but not with NaOH, because of its solubility. *Culturally*, according to the urn characteristics, date seems too old.

Lv-104. Collège de la Sainte Trinité **<190**

Wood from lime stub in situ (*Tilia*, id. by E. Frison) in garden of Collège de la Sainte Trinité at Louvain (50° 53' N Lat, 4° 41' E Long), Prov. of Brabant, Belgium. Coll. 1963 and subm. by A. Vander Stricht, Univ. of Louvain. The stub was found near remains of arches, probably a cellar, along ruins of a sewer, showing the site to have been a by-street, now destroyed.

Leopoldville series

Samples related to prehistoric industries in the Leopoldville plain (van Moorsel, 1956; De Ploey, 1963). Coll. by H. van Moorsel, Prehistorical Mus., Lovanium Univ., Leopoldville, Congo; subm. by F. Gullentops, Univ. of Louvain.

Lv-162. Mont Gafula **5750 ± 110**
3800 B.C.

Charcoal from Mont Gafula (4° 28' S Lat, 15° 13' E Long), Prov. of Leopoldville, Congo, alt 600 m. Sample is taken at depth of 2 m, in eolian yellow sand, from a stone-working factory characteristic of late Tshitolian. A sample from same level (Lv-45, Louvain I and II) was dated as 5830 B.P.

Lv-163. Basoko 3 **>26,000**

Charcoal from valley of Basoko River (4° 21' S Lat, 15° 17' E Long), Prov. of Leopoldville, Congo. Charcoal was imbedded in muddy yellow sand at 30 cm above the sandstone layer. At the same level, Lupembian stone industry. Date agrees with Lv-47 (Louvain I and II) from same level.

Lv-164. Basoko 2 **9730 ± 200**
7780 B.C.

Sample from same site as Lv-163. Charcoal coll. from a Tshitolian horizon in the clay bank of the river.

Lv-165. Cabu 4 **8920 ± 160**
6970 B.C.

Charcoal from valley of Belgika River (4° 20' S Lat, 15° 19' E Long), Prov. of Leopoldville, Congo, alt 308 m. Fireplace with Tshitolian industry in clayey sand at depth of 0.60 m below ground surface.

Lv-166. Cabu 5 **15,080 ± 480**
13,130 B.C.

Charcoal from same site as Cabu 4, but at depth of 2 m below ground surface, just above the sandstone layer. With the charcoal, middle Lupembian industry.

Lv-167. Funa **2220 ± 90**
270 B.C.

Charcoal from the sources of Funa River (4° 26' S Lat, 15° 18' E Long), Prov. of Leopoldville, Congo. Sample is from hearth buried together with a

few potsherds at 1.10 m depth in humic layer 2 m thick which overlies the sandstone layer. Just on the sandstone, Tshitolian industry.

Lv-168. Ile des Mimosas

1540 ± 100

A.D. 410

Charcoal from Ile des Mimosas (4° 20' S Lat, 15° 14' E Long). in the Congo, Prov. of Leopoldville, Congo. Charcoal together with old potsherds in the humic layer above the fluviatile sand overlying the red sandstone blocks.

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