COPENHAGEN RADIOCARBON DATES VI

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The following list comprises a selected number of measurements made up to November 1963. Age calculations are based on a contemporary value equal to 95% of the activity of the NBS oxalic-acid standard, and on a half life for C^{14} of 5570 \pm 30 yr.

Results are expressed in years before 1950 and in the B.C.-A.D. scales. Errors quoted include the standard deviations of the count rates for the unknown sample, the contemporary value, and the background. Calculated errors smaller than 100 yr have been increased by rounding to that figure as a minimum. Sample descriptions have been prepared in collaboration with collectors and submitters.

SAMPLE DESCRIPTIONS

I. GEOLOGIC AND POLLEN-DATED SAMPLES

A. Denmark

Draved Mose series, the elm fall

Samples from an open profile, 30 m long, in the central part of the bog Draved mose (55° 1' N Lat, 8° 57' E Long), Løgumkloster, Jutland. The profile exposes peat from Boreal to present, overlies sand. A standard pollen diagram is being prepared. Samples include the much debated elm fall, which occurs in European pollen diagrams at the Atlantic/Sub-boreal transition, and is marked here by two charred layers. The lower layer occurs where the elm curve begins to fall, the upper one where the fall ends. Coll. 1959 by Alfred Andersen; subm. by Johs. Iversen, Geol. Survey of Denmark. *Comment*: dates, the first direct determinations of the elm fall in Denmark, fit well with other dates for the elm fall in NW Europe (Godwin, 1960).

K-737. Draved Mose, D.G.U. 156 5080 ± 110 3130 B.C.

Sphagnum peat in and below lower charred layer, 29 to 30 cm above the sand. Antedates elm fall. 4080 ± 100

		4900 - 100
K-738.	Draved Mose, D.G.U. 157	3030 в.с.

Sphagnum peat above the lower charred layer, 30 to 31 cm above the sand. Beginning of elm fall. Average of two determinations:

	 4960 ± 110
K-738 B	5010 ± 110
K-738 A	4940 ± 110

K-739. Draved Mose, D.G.U. 158 3010 B.C.

Sphagnum peat above upper charred layer, 33 to 34 cm above the sand. At end of elm fall.

K-741. Draved Mose, D.G.U. 159 4880 ± 110 2930 B.C.

Sphagnum peat 2 cm above upper charred layer, 35 to 36 cm above the sand. Postdates elm fall.

K-101. Ruds Vedby (remeasured)

10,970 ± 120 9020 в.с.

Wood from a thin, dark layer representing pollen-zone border II/III, Allerød-Younger Dryas. Isolated from peaty lake mud in a profile at Ruds Vedby (55° 32' N Lat, 11° 22' E Long), Zealand (Iversen, 1953; Krog, 1954). Coll. 1951 by H. Krog; subm. by Johs. Iversen. *Comment*: sample was dated as black C to 11,090 \pm 240 (Copenhagen III). This time it was run in series with K-770 (this date list) as a control of that determination.

B. U.S.A.

K-770. Menasha, Two Creeks oscillation $11,800 \pm 120$ 9850 B.C.

Section of well-preserved wood (*Picea* sp.) from a forest bed in till 37 mi W of the Two Creeks type locality, at Menasha (44° 13' N Lat, 88° 19' W Long), Wisconsin. Believed to correlate with Two Creeks oscillation. Coll. by R. F. Black; subm. by W. S. Broecker, Lamont Geol. Observatory. *Comment*: sample first treated for humic acid removal. As a check, sample was run in series with K-101 (above). Part of sample dated at Lamont as L-607 B (Broecker and Farrand, 1963). Date agrees well with results at Lamont: L-607 B (Cellulose) 11,760 \pm 100 and L-607 B (Lignin) 11,820 \pm 100. Copenhagen result is the average of two measurements:

K-770 A	$11,\!710\pm150$
K-770 B	$11,890 \pm 150$

C. Finland

Kuusamo series, Late-glacial

Pollen-dated gyttja from tarn at Kuusamo (66° 10' N Lat, 29° 0' E Long), North Finland, representing characteristic pollen horizons during oldest phases of vegetational development following last glaciation at the locality (Vasari, 1962 and 1963). Coll. 1959 by Y Vasari, Inst. of Geol. and Paleontol., Helsinki; subm. by Johs. Iversen. *Comment*: dates are older than supposed; contamination with redeposited material is suspected by collector.

K-721. Kuusamo 2.x.59

11,790 ± 110 9840 в.с.

Fine silty gyttja from depth 475 to 485 cm below surface. Are the 10 lowermost cms of gyttja overlying silt of supposed Late-glacial origin. Sample, non-calcareous, contained only ca. 2.5% organic matter. Supposed to mark Younger Dryas/Pre-boreal transition. Date is the average of two determinations:

K-721 A	$11,\!850\pm140$
K-721 B	$11,\!720\pm140$

K-771. Kuusamo 3.x.59

Coarse gyttja from depth 420 to 430 cm. From an intermediate period with almost equal frequencies of pine and birch pollen and with high NAPvalues. Supposed to be late Pre-boreal or early Boreal.

K-722. Rovaniemi 33

Decayed Bryales-peat from organogenic layer between two tills at Rovaniemi (66° 70' N Lat, 26° 12' E Long), N. Finland. Stratigraphy suggests interglacial or interstadial deposit. Pollen frequencies: Alnus 1%, Betula 85%, Picea 1%, Pinus 13%, ratio of NAP to AP = 1:1. Coll. 1961 by V. Okko, Univ. of Helsinki; subm. by Sigurd Hansen. *Comment*: date confirms an interglacial or interstadial age.

D. Czechoslovakia

K-766. Zispachy Z 4, Late-glacial

11,060 ± 250 9110 в.с.

Peat sample from pollen-dated profile in a raised bog at Zispachy (49° 1' N Lat, 15° 6' E Long), Ceskomoravska vrchovina, Czechoslovakia. From 270 to 285 cm below present surface at swamp peat/sphagnum peat transition. Supposed to represent Allerød or Younger Dryas. Coll. 1958 by E. Rybnickowa, Botanical Inst. Brno; subm. by Johs. Iversen. *Comment*: date suggests Allerød age.

II. ARCHAEOLOGIC SAMPLES

A. Denmark

Christiansholms Mose series

Lignin fractions of slightly charred, uncarved pieces of wood from Christiansholms Mose (Ordrup Mose) $(55^{\circ} 45' \text{ N Lat}, 12^{\circ} 34' \text{ E Long})$, Copenhagen. Found in 1876 together with carved wooden objects (vessels, axe handles, and a spoon), and with bone implements. Supposed to represent a late Ertebølle phase (Troels-Smith, 1960). Subm. by J. Troels-Smith, Natl. Mus., Copenhagen. *Comment*: samples had been treated with preservatives (probably Al-sulphate and glycerol) prior to dating. Cellulose and lignin fractions were isolated as described in K-599 (Copenhagen V). Only the lignin fraction yielded material enough for a dating; thus it could not be checked whether the purification was complete. Dates agree well with each other but are somewhat older than expected. 5310 + 100

K-729.	Christiansholms Mose, 271, 275	3360 в.с.
Lignin fra	ction of two larger wood pieces (Ulmus sp.).	
K-750.	Christiansholms Mose, 269, 279	5370 ± 100 3420 в.с.

Lignin fraction of two wood pieces (Quercus sp.).

Tustrup series, Early Passage Grave Period

Samples from a cult building erected together with two dolmens and a passage grave on a megalithic cemetery at Tustrup (56° 29' N Lat, 10° 31' E

>35.000

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Long), Jutland. The three graves lie on the circumference of a semicircle with a radius of 46 to 48 m, and the cult building lies in the center of the semicircle. A votive deposit of 30 pottery vessels of a Middle Neolithic age was found locked in the building (Kjærum, 1955). Coll. 1954 and subm. by P. Kjærum, Prehistorical Mus., Aarhus, Denmark. *Comment*: compare K-717 (this date list).

K-718.	Tustrup, d	$egin{array}{llllllllllllllllllllllllllllllllllll$

Charred wood (Quercus sp.) from a wall plank in the cult building.

K-727.	Tustman	4440 ± 120
	rustrup, c	2490 в.с.

Bark (Quercus sp.) from a charred wall plank in the cult building.

K-717. Ferslev, Early Passage Grave Period 4430 ± 120 2480 B.C.

Charcoal (*Tilia* sp.) from a charred plank in the wall of a cult building found in connection with a number of Passage Graves at Ferslev (56° 57' N Lat, 9° 54' E Long), Jutland. In the building 35 pottery vessels of Middle Neolithic types were found. The cult building is supposed to be almost contemporaneous with the Tustrup house mentioned above (Marseen, 1961). Coll. 1959 and subm. by O. Marseen, Aalborg Hist. Mus., Aalborg, Denmark. *Comment*: compare K-717 and K-727 (this date list).

K-800. Lundgaardshede, yoke 2280 ± 100 330 B.C.

Wood (Acer sp.) from a draught-yoke for oxen found by peat cutting in a lowering in a bog Bredmose at Lundgaardshede (56° 31' N Lat, 9° 10' E Long), Jutland. Found together with other (not preserved) wooden objects. It is unknown when use of ox-yokes began in Denmark, and no safely datable yokes have previously been found. Coll. 1947; subm. 1961 by Skive Mus., Denmark. *Comment*: yoke had been treated with linseed oil prior to dating. Sample was therefore split in two halves and cellulose and lignin were isolated as described in K-599 (Copenhagen V). Their fractions were dated separately with the following results:

K-800 A.	Lignin-fraction	2320 ± 100
K-800 B.	Cellulose-fraction	2230 ± 100

Borremose series, Iron Age

Samples related to an Iron Age settlement on an islet in the bog Borremose $(56^{\circ} 47' \text{ N Lat}, 9^{\circ} 34' \text{ E Long})$, Jutland. In Celtic Iron Age a fortification was erected on the islet but soon after abandoned. After an intermediate period with no settlement a village with several houses was built, and a paved road connecting the dry land and the islet was constructed. These periods are clearly reflected in pollen diagrams from the locality. Coll. 1951 and 1955 by Alfred Andersen; subm. by Johs Iversen. *Comment*: dates agree well with the archaeological interpretation.

K-751.		2170 ± 110
	Borremose, D.G.U. 32 a	220 в.с.

Bayonet-shaped piece of wood (*Quercus* sp.), worked on, from a cult place belonging to the beginning of the fortification period.

0	0	0	0	-	1970 ± 100
K-789.	Borre	mose,	D.G.U. 32	b	20 в.с.

Piece of wood (*Salix* sp.) with marks from cutting, found on the same cult place from the beginning of the fortification period. Date is the average of two determinations:

K-752.	Borremose, D.G.U. 31 a	$\begin{array}{c} 1990\pm100\\ 40\text{ b.c.} \end{array}$
K-789 B		1990 ± 100
K-789 A		1950 ± 100

Shagnum peat with *Comarum* from just below a thin sand layer which represents the intermediate period. Taken from a pit close to the islet.

K-828.	Borremose, D.G.U. 29 a	2080 ± 140
		130 в.с.

Sphagnum peat with Comarum just below the same thin sand layer, but taken at a greater distance from the islet (profile II).

0		1	1040 ± 100
TZ 720	D. D.C.II	74	1040 ± 100
K-73U.	Borremose, D.G.U.	4	A.D. 110

Sphagnum peat with *Comarum* taken just below a layer of *Sphagnum-Vaginatum* peat. This contact can be followed over a long distance in the bog. According to pollen analyses it seems to coincide with the closing of the village period.

K-785.	Borremose, D.G.U. 73	A.D. 160

Sphagnum-Vaginatum peat just above the above mentioned contact.

Drengsted series, prehistoric iron furnaces

Samples from prehistoric iron furnaces at Drengsted $(55^{\circ} 5' \text{ N Lat}, 8^{\circ} 40' \text{ E Long})$, South-Jutland. Only the slag pits of these furnaces were left. Are up to 90 cm deep and 105 cm in diam. Plug of straw had been placed in each slag pit. During iron smelting, slag fused into single large lump which reproduces shape of a portion of the pit. Straw contained a score of seeds, predominantly of barley (Voss, 1963). Coll. 1961 and 1963 and subm. by O. Voss, Natl. Mus., Copenhagen. *Comment*: compare K-822 below.

K-784. Drengsted, EL 11	1740 ± 100 a.d. 210
Charred straw from pit EL 11.	
K-824. Drengsted, 3	1740 ± 100 a.d. 210

Charred straw from pit No. 3.

V 095	Dava and 1 101	1670 ± 100
N-04).	Drengstea, 101	А.Д. 280

Charred straw from pit No. 101. Date is the average of two determinations:

- 0 00 - 511	 	1650 ± 100
K-825 B		1650 ± 100
K-825 A		1690 ± 100

K-822. Ellum, prehistoric iron furnace

Charred straw from slag pit found at Ellum $(55^{\circ} 3' \text{ N Lat}, 8^{\circ} 55' \text{ E Long})$, South-Jutland. Slag pit belongs to prehistoric iron furnace similar to those mentioned in Drengsted series above. Coll. 1934 by Th. Thomsen; subm. by O. Voss. *Comment*: date agree well with dates from Drengsted series (this date list).

K-757. Broskov, Iron Age road

Branches (Salix sp.) from Iron Age road at Broskov (55° 8' N Lat, 12° 0' E Long), Zealand. Thin layer of branches had been placed below stone layers in construction of road. Two spear heads of indistinct type found in a sand layer above road, but no other directly datable objects were disclosed (Kunwald, 1962). Coll. 1961 and subm. by G. Kunwald, Natl. Mus., Copenhagen.

K-748. Kanhave canal

Wood (Quercus sp.) from a plank used in construction of Kanhave canal $(55^{\circ} 54' \text{ N Lat}, 10^{\circ} 37' \text{ E Long})$, Samsø, Denmark. At point where Samsø is ca. 1 km broad, an old canal, up to 1.5 m deep, and connecting Stavns Fjord to the E with the sea W of Samsø, was found. To protect sides of canal against waves, a wharf with three planks above each other was built. Sample taken from one of these planks. Supposed to be from Viking or early medieval time. Coll. 1961 and subm. by H. Stiesdal, Natl. Mus., Copenhagen. Comment: date suggests that the canal was build in Viking time.

Borup Ris series, early medieval village

Samples from a village founded in early medieval times after extensive clearings of the forests at Gunderslev (55° 19' N Lat, 11° 37' E Long), Sorø, Denmark. For unknown reasons the village was abandoned after ca. 200 yr. The old fields, which can be traced in the forests today, show that large areas were cultivated. Coll. 1957-1962 by J. L. Østergaard and A. Steensberg; subm. by A. Steensberg, Univ. of Copenhagen. *Comment*: dates confirm the early medieval age and suggest a short period of settlement.

K-579. Tyste Mose 1

$\begin{array}{r} 930\pm100\\ \text{a.d. 1020} \end{array}$

 1690 ± 100

 1150 ± 100

А.D. 260

а.д. 800

Charcoal (*Fagus sylvatica*) found in the bog Tyste Mose, situated within area belonging to medieval village Borup Ris. Sample taken in a characteristic charcoal horizon in the bog. On the basis of pollen analyses this layer believed to be contemporaneous with the foundation of the village; thus the continuous pollen curve for cornflower begins immediately above this layer.

K-580. Tyste Mose 1 a 910 ± 100 A.D. 1040

Bark ($Fagus \ sylvatica$) from the same charcoal layer as mentioned in K-579.

K-581. Tyste Mose 2

$\begin{array}{c} \textbf{2370} \pm \textbf{120} \\ \textbf{420 B.c.} \end{array}$

Charcoal (*Alnus* sp.) from lower charcoal layer in same profile in the bog Tyste Mose. Layer probably originates from a clearing phase prior to the founding of Borup Ris. The pollen spectra immediately above layer indicate a Sub-Atlantic age. Below the layer pollen destroyed and analysis not possible.

K-760. Borup Ris, farm 1 860 ± 100 A.D. 1090

Bark (*Alnus* sp.) found in layer of twigs 10 to 20 cm thick at bottom of well belonging to farm in village Borup Ris. Layer resting on a bluish gyttja and covered by mould. Farm was demolished before village abandoned, as shown by row of stones (a field division) placed over site of farm.

K-801. Borup Ris, Sandbækken 1 780 ± 100 A.D. 1170

Wood (*Quercus* sp.) from pile-planking weir of a water mill supposed to be contemporary with village Borup Ris. Wooden weir erected in a brook within area of village. Brook previously called Sandbækken and now named Pilebækken.

K-805. Borup Ris, Sandbæken 2 800 ± 100 A.D. 1150

Wood (*Quercus* sp.) from a post in same water mill as mentioned in K-801. Post driven into bottom of brook in connection with the construction of the weir.

B. Greenland

Sermermiut series, Main Area B

Samples from a Paleo-Eskimo site at Sermermiut $(69^{\circ} 12' \text{ N Lat}, 51^{\circ} 11' \text{ W Long})$, Jacobshavn district, West Greenland, from Sec. I, Main Area B. The section contained two separate culture deposits, a lower one (layers 2 to 3) with implements of Sarqaq type, and an upper one (layers 10 to 11) with implements of Dorset type (Mathiassen, 1958). These deposits have previously been dated (Copenhagen IV). The present series comprises a more complete sequence including the intermediate layers (7 to 9) and the overlying layer (12). A detailed pollen diagram is being prepared from this section. Coll. 1955 and subm. by J. Troels-Smith. *Comment*: dates agree well with the previous dates.

K-806.Sermermiut B, 17 3510 ± 120 1560 в.с.

Humus sand from Layer 2, 103 to 92 cm below the surface. The layer contained implements of Sarqaq type.

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Sermermiut B, 18	3360 ± 120 1410 b C

Highly humified peat from Layer 3, 92 to 87 cm below the surface. The layer contained implements of Sarqaq type.

	1 1 J1	2830 ± 120
V 000	Sammanning D 90	
N-0 00.	Sermermut D, 20	880 в.с.

Slightly humified peat from Layer 7, 77 to 73 cm below the surface. Intermediate between the Sarqaq and the Dorset deposits.

** 000		2570 ± 110	0
K-809.	Sermermiut B, 21	620 в.с.	

Slightly humified peat with twigs from Layer 8, 73 to 65 cm below the surface. Intermediate between the Sarqaq and the Dorset deposits.

17 011		2350 ± 110
К-811.	Sermermut B, 22	400 в.с.

Light-brown peat moss from Layer 9, 65 to 51 cm below the surface. Intermediate between the Sargag and the Dorset deposits.

V 010		2330 ± 11	0
K-812.	Sermermiut B, 23	380 в.с.	

Blackish-brown swamp peat from Layer 10, 47 to 37 cm below the surface. Intermediate between the Sarqaq and the Dorset deposits. Implements of Dorset type were found in the uppermost part of Layer 10.

21	11	1	2	1 2 40 . 100
17 019	S D 96			1540 ± 100
К-813.	Sermermut B, 20			а.р. 410

Pale-brown peat moss from Layer 12, 14 to 9 cm below the surface. Above the layers containing Dorset deposits.

Jørgen Brønlund Fjord series

Charcoal from driftwood from terraces (Deltaterrasserne) at Jørgen Brønlund Fjord (82° 10' N Lat, 31° 14' W Long), Pearyland. A series of raised beaches is found at levels of 21 m, 17.5 m, 14 m, 10 to 12 m, and 4 to 5 m above sealevel. Each terrace contains driftwood from the time when the terrace was at sealevel. The samples are from the 21 m and the 14 m terraces; a sample from the 10 to 12 m terrace had previously been dated (K-150, Copenhagen III). Paleo-Eskimo camp sites of Independence I Culture have been found on the terrace that was lowest in its time and picked up the wood for its fireplaces on the terrace where it lived. Coll. 1960 and subm. by Eigil Knut, Natl. Mus., Copenhagen. *Comment*: compare K-753 and K-756 (this date list) and other dates for Independence I Culture in Copenhagen III and IV.

K-754. Jørgen Brønlund Fjord, 21 m terrace 4540 ± 120 2590 B.C.

Charcoal (*Picea* sp.) from hearth in ruin No. 13 on the 21 m terrace. This is highest terrace at locality and the implements seem to represent an early phase of Independence I Culture.

K-755. Jørgen Brønlund Fjord, 14 m terrace 4140 ± 120 2190 B.C.

Charcoal (*Picea* sp.) from hearth in ruin No. 12 on the 14 m terrace. The flint implements on the campsite belong to Independence I Culture.

K-807.

K-753. **Danmark** Fjord

3680 ± 120 1730 в.с.

Driftwood (Larix sp.) from an old raised beach, 11.5 m above sealevel at Ranum Elv, Kap Viborg (80° 54' N Lat, 23° 45' W Long), Danmark Fjord, North Greenland, A campsite with implements from Independence I Culture was found 1.8 m above the terrace. Coll. 1960 and subm. by Eigil Knuth. Comment: compare K-754, K-755, and K-756 (this date list).

K-756. Wyckoff Land

3850 ± 120 1900 в.с.

Charcoal from driftwood (Larix sp.) from a fireplace in a campsite on a 15 m terrace on Wyckoff Land (82° 50' N Lat. 24° 0' W Long), Pearyland. Camp site represents an early Independence I Culture. Coll. 1960 and subm. by Eigil Knuth. Comment: compare K-753, K-754, and K-755 (this date list).

C. Alaska

Point Hope series, Near Ipiutak

Samples of driftwood from a Paleo-Eskimo campsite at Jabbertown (68° 19' N Lat, 166° 42' W Long), Point Hope, Alaska. The campsite was on the rear beach under a thick layer of turf. It contained flint implements of Near Ipiutak types (Larsen and Rainey, 1948; Larsen, 1961). Supposed to originate from 500 to 1 B.C. Coll. 1961 and subm. by Helge Larsen, Natl. Mus., Copenhagen. Comment: dates agree well with estimated ages for Near Ipiutak.

$\mathbf{2070} \pm \mathbf{100}$ K-725. Jabbertown, Fireplace 1

120 в.с.

Charcoal from driftwood (*Picea* sp.) from Hearth Area I, Fireplace 1.

1970 ± 100 K-724. Jabbertown, Fireplace 2 20 в.с.

Charcoal from driftwood (*Picea* sp.) from Hearth Area I, Fireplace 2.

D. Italy

Chia series, Punic-Roman settlement

Samples of charcoal from graves found below a temple building in the Punic-Roman settlement Bithia (38° 54' N Lat, 8° 58' E Long), Chia, Sardinia. The graves were found in a sand layer containing remains from a prehistoric culture. The graves are older than the temple and the question is whether they belong to the Punic-Roman settlement or to the prehistoric culture layer. Coll. 1953 by G. Kunwald and E. Thorvildsen; subm. by E. Thorvildsen, Natl. Mus., Copenhagen. *Comment*: dates refer the graves to the Punic-Roman settlement. 0140

K-558. Chia, 519	$egin{array}{c} 2140 \pm 120 \ 190 { m \ B.c.} \end{array}$
Charcoal found between the bones in grave No. 2.	
K-559. Chia, 536	$egin{array}{c} 2290 \pm 120 \ 340$ b.c.

Charcoal from grave No. 1.

E. Norway

Gyrinos series, Mesolithic

Samples from stone age dwelling places in the Norwegian highland at Lake Gyrinosvatn (60° 45' N Lat, 8° 12' E Long), Buskerud. The culture layers contained fireplaces and stone implements of a Fosna-like type, but no remains of houses or camps. The places represent a pure hunter's culture and therefore belong either to the Mesolithic or to groups of hunters who have survived into the Neolithic (Martens and Hagen, 1961). *Comment*: dates confirm the Mesolithic age.

K-710. Gyrinos III 7860 \pm 120 5910 B.C.

Charcoal (*Pinus sylvestris* L) from an open dwelling place, Gyrinos III, situated at shore of Lake Gyrinosvatn, 1100 m above sealevel. The thin culture layer was covered by peat.

	7 1	F700 1 100
K-711.	Caulton on W	5700 ± 120
	Gyrinos IV	3750 в.с.

Charcoal (*Pinus sylvestris* L) from a dwelling place, Gyrinos IV, 150 m N of Gyrinos III.

K-712. Digernes I, Mesolithic

Charcoal (*Pinus sylvestris* L) from a stone age dwelling place, Digernes I, in the Norwegian highland at Lake Ustevatn (60° 30' N Lat, 8° E Long), Buskerud. The open dwelling place was 950 m above sealevel. Culture remains were of same character as those at places mentioned in K-710 and K-711. Coll. 1959 by I. Martens; subm. by A. Hagen.

K-715. Bordalshelleren

$\begin{array}{c} 1920 \pm 120 \\ \text{a.d. 30} \end{array}$

 $\mathbf{7410} \pm \mathbf{130}$

Charcoal (*Pinus sylvestris* L) from a dwelling place, Bordalshelleren, in the Norwegian highland at Lake Bordalsvatn (59° 30' N Lat, 7° E Long), Telemark, 850 m above sealevel. The culture layer which contained stone implements was up to 45 cm thick and covered by 25 cm of turf. Represents either very late Stone Age or early Metal Age (Martens and Hagen, 1961). Coll. 1959 by I. Martens; subm. by A. Hagen.

F. Switzerland

Weier series, Early Neolithic

Samples from construction timber from a lake dwelling in Weier (47° 45' N Lat, 8° 42' E Long), Thayngen, Ct. Schaffhausen. The lake dwelling belongs to the Michelsberg Culture. Three settling phases have been recognized in the lake dwelling (Guyan, 1955, Troels-Smith, 1955). Coll. 1956 and subm. by J. Troels-Smith. *Comment*: K-539 is from an older construction than K-540, but the difference is not detectable by C¹⁴. Dates agree well with measurements on the same material made in Bern (Bern I).

K-539. Weier, Wh 158a

4750 ± 100 2800 в.с.

Wood (Alnus sp.) from a stick lying horizontally in the lower part of the culture layer.

K-540. Weier, Wh 149a

$\begin{array}{l} 4910 \pm 100 \\ \textbf{2960 b.c.} \end{array}$

Wood (*Quercus* sp.) from a large plank placed horizontally in the upper part of the culture layer. Date is the average of two determinations:

K-540 A.
$$4890 \pm 120$$

K-540 B. 4940 ± 120

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