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UNIVERSITY OF WISCONSIN RADIOCARBON DATES II

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This report summarizes the radiocarbon dates obtained at the University of Wisconsin since November 1964; the procedures followed have been described previously (Wisconsin I, 1965).

The counting equipment has been supplemented with a second detector of 500 ml volume for which the nominal background at 1 std atm, 298.2° K, is 2.1 cpm as determined with petroleum methane (Phillips Petroleum Co.). The corresponding standard count for contemporary methane derived from NBS oxalic acid 95% A_{OX}, is nominally 2.8 cpm at 1 std atm, 298.2° K. The additional counting equipment was also obtained from the Sharp Division of Beckman Instrument Co.

The dates reported have been calculated on the assumption of a half-life of 5568 yr for C^{14}, with 1950 as the reference year. Samples have normally been run at 3 atm pressure for a minimum of 15,000 counts. The standard deviation quoted includes only the 1σ of the counting statistics of background, sample, and standard counts.

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SAMPLE DESCRIPTIONS

I. ARCHAEOLOGIC SAMPLES

A. Mill Creek Series, Iowa

Witrock site, Iowa 130B4

Samples from Witrock village site (43° 0′ N Lat, 95° 30′ W Long), coll. in 1963 by A. E. and D. R. Henning, Univ. of Wisconsin, Madison; subm. by D. A. Baerreis.

WIS-51. Witrock site (130B4) **440 ± 80 A.D. 1510**

Bone from uppermost level of occupation of site, 9 in. below surface; represents most recent occupation of site.

B. Oneota Series, Iowa

Units of the widely distributed Oneota culture have been interpreted as reflecting a shift from a marked dependence on agriculture to a heavier emphasis on hunting which is associated with a decline in cultural level. These changes are regarded as being the consequence of the

onset of cooler weather conditions with a shorter growing season. The period of gradual decline is thought to fall between A.D. 1300 to 1650, during the episode dating between A.D. 1200 and 1700 and having the appropriate climatic characteristics (Griffin, 1961). The dates were secured as part of a project to test the hypothesis of climatically induced culture change.

Correctionville site, Iowa (13WD7)

Correctionville site (13WD7) located on Little Sioux River in Woodbury County, Iowa (42° 30′ N Lat, 95° 45′ W Long) is in process of being destroyed by gravel removal operations. Since no white trade goods have been found, it is assumed to be prehistoric. Charcoal from site was obtained in 1963 by D. R. Henning, Univ. of Wisconsin; subm. by D. A. Baerreis.

290 ± 90

WIS-35. Correctionville site (13WD7) A.D. 1660

Sample was collected from Trash Pit ♯1 and was in association with artifacts typical of Oneota occupation in NW Iowa.

410 ± 80

WIS-71. Correctionville site (13WD7) A.D. 1540

Sample from Trash Pit ♯3 which contained an abundance of cultural material.

Dixon site, Iowa 13WD8

Dixon site is located on Little Sioux River S of Anthon, Woodbury County, Iowa (95° 45′ W Long, 42° 15′ N Lat). Site has been described as covering at least 80 acres and as being prehistoric in that no trade goods indicative of white contact have been found (Henning, 1961, p. 17). Charcoal samples dated were secured in excavations conducted in 1964 and 1965 under supervision of A. E. and D. R. Henning; subm. by D. A. Baerreis.

a) 280 ± 70
A.D. 1670
b) 350 ± 80

WIS-59. Dixon site (13WD8) A.D. 1600

Sample from Feature 13 (Sq. 60 R 5), a storage pit within house pattern along N wall.

500 ± 75

WIS-104. Dixon site (13WD8) A.D. 1450

Sample collected from Pit ♯7, one of many trash pits along river bank. As in the other features, cultural material, ash, and charcoal occurred throughout pit.

575 ± 70

WIS-105. Dixon site (13WD8) A.D. 1375

Sample collected from upper half of Pit ♯6, a trash pit along river

bank. Cultural material was found throughout pit; human bones lay in lower portion.

690 ± 80

WIS-107. Dixon site (13WD8) **A.D. 1260**

Sample from bottom of Pit #6. Human bone described in WIS-105 lay immediately above matrix from which WIS-107 was collected.

590 ± 100

WIS-91. Dixon site (13WD8) **A.D. 1360**

Collected from Pit #2, a trash pit along river bank.

680 ± 75

WIS-106. Dixon site (13WD8) **A.D. 1270**

Sample from Pit #5, a trash pit along river bank.

650 ± 80

WIS-111. Dixon site (13WD8) **A.D. 1300**

Sample from Pit #11, a trash pit along river bank.

630 ± 90

WIS-86. Dixon site (13WD8) **A.D. 1320**

Collected from Feature 8, Sq. 50 R 15, 8 to 12 in. below surface. Feature 8, a deposit of ash, charcoal, and trash, was within the house pattern.

640 ± 80

WIS-87. Dixon site (13WD8) **A.D. 1310**

Collected 12 to 14 in. below surface in an area of burned earth, probably hearth or fireplace, within house pattern, in Sq. 45 R 20.

820 ± 80

WIS-56. Dixon site (13WD8) **A.D. 1130**

Collected from Pit #3, one of many trash pits along river bank.

850 ± 80

WIS-53. Dixon site (13WD8) **A.D. 1100**

Collected from an ash lens just exterior to S wall of house pattern, 14 to 16 in. below surface (Sq. 30 R 25).

1020 ± 80

WIS-54. Dixon site (13WD8) **A.D. 930**

Collected at 12 to 18 in. below surface in Feature 1 (Sq. 35 R 25), a concentration of cultural debris along S wall of house pattern.

C. Oneota Series, Missouri

Guthrey site, Missouri 23SA131

This prehistoric Oneota component is located in Saline County, Missouri, adjacent to Missouri River (93° 11′ W Long, 39° 20′ N Lat). Charcoal samples were recovered in excavations conducted in summer of 1964 under supervision of D. R. Henning; subm. by D. A. Baerreis.

WIS-75. Guthrey site (23SA131) **560 ± 80 A.D. 1390**

Collected from Feature 2 (Sq. 45 R 40, Area #1), a trash pit containing cultural material. Sample was collected 12 to 18 in. below surface from same trash pit as WIS-64.

WIS-64. Guthrey site (23SA131) **750 ± 80 A.D. 1200**

Charcoal from Feature 2.

WIS-65. Guthrey site (23SA131) **520 ± 75 A.D. 1430**

Sample collected from concentration of trash in pit, Feature 14 (Sq. 2) in Test Area F. Matrix included pottery, artifacts, bone, ash, and charcoal.

WIS-82. Guthrey site (23SA131) **620 ± 75 A.D. 1330**

Sample from Feature 6 (Sq. 50 R35, Area 1), a trash pit, 12 to 18 in. below plow zone.

WIS-78. Guthrey site (23SA131) **580 ± 80 A.D. 1370**

Sample collected 16 to 20 in. below surface in Feature 9 (Sq. 45 R 25, Area 1), a double trash pit; sample from E pit which contained pottery fragments, stone, bone, and an antler tool.

WIS-81. Guthrey site (23SA131) **600 ± 80 A.D. 1350**

Sample collected from Feature 12 (Sq. 1, Test Area E), a trash pit containing pottery, chert flakes, bison scapula, and a corn cob fragment.

D. Oneota Series, Wisconsin

Lasley's Point village site, 47WN96

This site (88° 41′ W Long, 44° 08′ N Lat) on E shore of Lake Winneconne in Winnebago County, Wisconsin, has been assigned to Lake Winnebago Focus (McKern, 1945, p. 126, 163). The series of "mounds," of which 55 have been listed in print (Bullock, 1942, p. 35-36), are discrete refuse accumulations. Earlier dates for this complex as opposed to the Midway site would seem to confirm Hall's interpretation (1962, p. 107) of the resemblances of some Lasley's Point materials to his Developmental Oneota horizon. Charcoal samples were collected in summer of 1964 through excavations supervised by G. Richard Peske, Univ. of Wisconsin; subm. by D. A. Baerreis.

WIS-62. Lasley's Point (47WN96) **780 ± 80 A.D. 1170**

Sample from refuse heap, Test Pit 15, Mound K, which contained bone, charcoal, shell, pottery, and copper.

780 ± 80

WIS-47. Lasley's Point (47WN96) **A.D. 1170**

Collected from Feature 2, an aboriginal fire pit or hearth, 10 to 12 in. below surface. Feature (excavation unit 1550-5090) was located in unstratified refuse midden heap.

960 ± 70

WIS-50. Lasley's Point (47WN96) **A.D. 990**

Sample from Test Pit 16, Levels 2 and 3 in N portion of site. Levels are within an unstratified refuse heap which included sherds, animal bone, corn, nuts, and seeds.

680 ± 80

WIS-57. Lasley's Point (47WN96) **A.D. 1270**

Collected 8 to 10 in. below surface from Level 4 of excavation unit 1550-5090 within a refuse heap.

Carcajou Point site, Wisconsin, 47JE2

Recent work of Robert L. Hall (1962) at Carcajou site on Lake Koshkonong, Jefferson County, Wisconsin (42° 53′ 22″ N Lat, 88° 57′ 30″ W Long), has demonstrated that the occupation spans several stages in the development of the Oneota tradition. Two radiocarbon dates (M-786: A.D. 900 ± 250, and M-785: A.D. 1020 ±250, Michigan IV) place "Emergent Oneota horizon" as represented at Carcajou component of Koshkonong focus as roughly ca. A.D. 1000. A third date (M-747: A.D. 1520 ± 250, Michigan IV) is indicative of the range of occupation as indeed are the abundant trade goods of the historic period. Charcoal from site was coll. by G. R. Peske in 1964; subm. by D. A. Baerreis.

WIS-76. Carcajou Point (47JE2) **modern**

Sample from Feature 12, a refuse pit with Koshkonong focus materials.

1060 ± 80

WIS-77. Carcajou Point (47JE2) **A.D. 890**

Sample from Feature 2, Level 2, a refuse pit with Koshkonong focus material, animal bones, corn, and copper.

Midway village site, Wisconsin, 47LC19

One of the three components, located in La Crosse County, on the basis of which W. C. McKern (1954) described the Orr focus in Wisconsin. Limited excavations were conducted at the site (43° 55′ N Lat, 91° 30′ W Long) by Guy Gibbon, Univ. of Wisconsin, during the summer of 1964 at which time the charcoal samples were obtained. Although trade goods are absent in the Wisconsin site, a late time placement is to be expected considering the resemblances to the related Orr focus sites in Iowa, where trade goods are prevalent.

320 ± 60

WIS-79. Midway village site (47LC19) **A.D. 1630**

Sample was collected from 36 to 40 in. below surface from Feature 5, Test Pit 1, in association with artifacts of Upper Mississippi temper and design.

530 ± 70

WIS-61. Midway village site (47LC19) **A.D. 1420**

Sample was 2.5 to 3 ft below surface in Test Pit 20 in center of small refuse area. Associated with pottery, shell, and bones of fish and mammals.

E. Aztalan Series, Wisconsin

The dates now available for Aztalan (M-1307: A.D. 750 ± 150, Michigan VII), M-1214: A.D. 1370 ± 100, Michigan IX, and M-642: A.D. 1620 ± 200, Michigan IV), a Middle Mississippi site on Crawfish River in Jefferson County, Wisconsin, represent an unacceptable span of time for the site. Robert Ritzenthaler (1963, p. 180) regards the A.D. 1370 date as the most "agreeable" thus far obtained for the site. James B. Griffin (1964, p. 250-1) interprets the northern and northwestern push of the Old Village culture as taking place during a relatively mild climatic period from ca. A.D. 700 to 1200. From this point of view, the A.D. 1370 date would be too late while the earlier A.D. 750 date is within the suggested span of time. The tight cluster of new dates from the twelfth and early thirteenth centuries supports the later time placement but also confirms the appropriateness of the climatic episode assignment.

Aztalan village site, 47JE1

Charcoal samples from Aztalan (43° 04′ N Lat, 90° 29′ W Long). Coll. 1964 under supervision of J. E. Freeman and J. Brandon, Wisconsin Hist. Soc., Madison; subm. by D. A. Baerreis.

820 ± 80

WIS-63. Aztalan site (57JE1) **A.D. 1130**

Sample coll. 0.9 ft from surface from ash layer in Feature 1 (64) in Sq. N 275-R 83 and R 84, N 276-R 83 and R 84. Feature was 0.5 ft from present surface, maximum depth 1.2 ft.

730 ± 80

WIS-74. Aztalan site (47JE1) **A.D. 1220**

Sample from pit 1 ft below present surface, maximum depth 3.0 ft in Feature 42 (64), Sq. N 261-R 81. Charcoal was in association with double-pointed bone needles, shell, and grit tempered pottery.

820 ± 80

WIS-73. Aztalan site (47JE1) **A.D. 1130**

Collected from Mound 3, Feature 49, N 299-R 111, maximum depth 1.1 ft. In association with grit and shell tempered pottery.

850 ± 80

WIS-68. Aztalan site (47JE1) **A.D. 1100**

Sample collected from Feature 17a (64), Sq. N 279-R 83 and N 280-R 83, at depth of 2.5 ft from present surface. Feature was circular in plan, 4.4 ft in diam, contained charred corn cob, sherds of shell and grit tempered wares, charcoal, and a piece of sheet copper.

F. Panhandle Aspect Series, Texas and Oklahoma

Samples from various Panhandle aspect sites were dated to test a hypothesis, based on climatological data, that the Panhandle region of Texas and Oklahoma was occupied by farming peoples derived from a Central Plains tradition after a climatic shift dated around A.D. 1250 produced drought conditions in western Kansas and Nebraska. Trade sherds from the Pueblo area had indicated a time range between A.D. 1300 and 1450 but no sites had been dated by radiocarbon techniques. Samples from the site in the Oklahoma Panhandle (TxStI) were provided by James A. Brown, Stovall Mus. of Science and History, Univ. of Oklahoma, Norman. Those from site PT-25 were subm. by F. E. Green, The Museum, Texas Technological College, Lubbock. The remaining samples were provided by Jack T. Hughes, Panhandle-Plains Hist. Mus., Canyon, Texas. Six samples from the same series were also dated by the Radiocarbon Dating Lab. of the Univ. of Texas, four of these being from sites that were also dated in the Wisconsin lab.

Stamper site, Texas County, Oklahoma TxStI

Charcoal from Stamper site (36° 43′ N Lat, 101° 20′ W Long). Coll. in 1934 by C. S. Johnston.

650 ± 70

WIS-83. Stamper site (TxStI) **A.D. 1300**

Sample from refuse pit in a trench NE of House 3 ("large house") and E of House 8 ("kiva") at depth of 20 in.

650 ± 80

WIS-84. Stamper site (TxStI) **A.D. 1300**

Charcoal from charred posts overlying a layer of charred seeds and grass upon SE corner of floor of House 3 ("x" [H & B] ♯335), evidently part of burnt walls or roof of house.

Coetas ruin, P-PHM site A611, Texas

Charcoal from Panhandle aspect village near Canadian River, Site A611, Studer site 55 (35° 30′ N Lat, 101° 44′ W Long). Coll. 1965 by J. T. Hughes; subm. by D. A. Baerreis.

690 ± 60

WIS-92. Coetas ruin **A.D. 1260**

Sample from midden.

a) **490 ± 70**
A.D. 1460
b) **520 ± 85**
A.D. 1430

WIS-94. Coetas ruin
Sample from room fill.

520 ± 70
A.D. 1430

WIS-89. Coetas ruin
Sample from room fill.

800 ± 75
A.D. 1150

WIS-95. Coetas ruin
Sample from room floor.

Alibates ruin, P-PHM site A45, Texas

Charcoal from Alibates ruin, Studer site 28, Panhandle aspect village on Canadian River (35° 34′ N Lat, 101° 40′ W Long). Coll. 1939 by Ele M. Baker, Panhandle-Plains His. Mus., Canyon, Texas; subm. by D. A. Baerreis.

600 ± 70
A.D. 1350

WIS-101. Alibates ruin
Sample from Room 24.

Potter County site, Texas, PT-25

Charcoal from Antelope Creek focus, Potter County, Texas (35° 32′ 20″ N Lat, 101° 46′ 25″ W Long). Coll. 1964 by F. E. Green; subm. by D. A. Baerreis.

a) **420 ± 80**
A.D. 1530
b) **520 ± 80**
A.D. 1430

WIS-99. Potter County, Texas (PT-25)
Sample from floor of Room 1 (15N-7W).

520 ± 70
A.D. 1430

WIS-102. Potter County, Texas (PT-25)
Sample from Room II, Post Hole 2.

Handley ruin, P-PHM site A609

Charcoal from Texas Panhandle aspect village on Wolf River, P-PHM site A609 (36° 13′ N Lat, 100° 40′ W Long). Coll. 1965 by J. T. Hughes; subm. by D. A. Baerreis.

360 ± 75
A.D. 1590

WIS-97. Handley ruin
Sample from midden near Moorehead's "Handley Ruin."

a) **640 ± 70**
A.D. 1310
b) **740 ± 80**
A.D. 1210

WIS-90. Handley ruin

Sample from midden near Moorehead's "Handley Ruin."

Palisades shelter, P-PHM site A530

Charcoal from Texas Panhandle aspect site, Palisades shelter, in Palo Duro Canyon (35° 04′ N Lat, 101° 48′ W Long). Coll. by J. T. Hughes; subm. by D. A. Baerreis.

a) **630 ± 75**
A.D. 1320
b) **600 ± 75**
A.D. 1350

WIS-108. Palisades shelter

Samples from Sq. 5, 30 to 36 in. depth.

330 ± 75
A.D. 1620

WIS-98. Palisades shelter

Collected from fire pit at depth of 36 in.

Currie ruin, P-PHM site A254

Charcoal from Panhandle aspect house in Palo Duro Canyon (35° 03′ N Lat, 101° 46′ W Long). Coll. 1956 by J. T. Hughes; subm. by D. A. Baerreis.

670 ± 75
A.D. 1280

WIS-100. Currie ruin

Sample from house fill.

II. GEOLOGIC SAMPLES

A. Northwest Territories

Southwest Keewatin series

Previous samples of this series were from charcoal layers over podzol soils, collected to establish dates and extent of former forest in southern Canadian tundra (Bryson *et al.*, 1965). Two extensive podzol-forming episodes were identified. Present samples are mostly from a muskeg monolith taken from one of the sites used in that study (WIS-7, Wisconsin I) to study vegetative history of the region in greater time detail.

This monolith was coll. by R. A. Bryson in 1963 from a peat bank on shores of Ennadai Lake at 61° 10′ N Lat, 100° 55′ W Long, ca. 5 km N of Ennadai Aeradio Station. It consisted of ca. 1.5 m of sphagnum peat including several charcoal horizons, and extended from the present surface down to permafrost. Two-cm-thick slices were cut from the block and subm. by H. Nichols, Univ. of Wisconsin, for dating.

The Ennadai peat bank began to accumulate after the draining of glacial Lake Kazan, which in turn is post-Cochrane-Cockburn according to the map of Falconer *et al.* (1965).

The latitude and longitude given above is corrected location for WIS-7 (Wisconsin I).

WIS-88. Ennadai Lake, N.W.T. **1510 ± 80**
A.D. 440

Sample from peat bank, 20 to 22 cm depth.

WIS-96. Ennadai Lake, N.W.T. **1530 ± 80**
A.D. 420

Humified sphagnum peat with charcoal fragments, 32 to 34 cm depth.

WIS-93. Ennadai Lake, N.W.T. **2670 ± 105**
720 B.C.

Sample from peat bank, 54 to 56 cm depth.

WIS-80. Ennadai Lake, N.W.T. **3650 ± 100**
1700 B.C.

Wood of *Larix* from 88 to 90 cm level in peat bank. Sample is from charcoal horizon which includes *Picea* wood and carbonized needles.

WIS-85. Ennadai Lake, N.W.T.
a) **5570 ± 100**
3620 B.C.
b) **5720 ± 110**
3770 B.C.

Fossil sphagnum peat, 130 to 132 cm below surface.

WIS-67. Ennadai Lake, N.W.T. **5780 ± 110**
3830 B.C.

Fossil sphagnum peat 148 to 150 cm below surface, immediately overlying a charcoal horizon. Is deepest level of organic samples recovered from Ennadai Lake. It thus provides minimum age for disappearance of late-Wisconsin ice in this area and for subsequent draining of glacial Lake Kazan.

WIS-52. Dubawnt Lake, N.W.T. **3540 ± 110**
1590 B.C.

Charred wood and forest duff from a 15-ft square of charcoal overlying grey and red soil presumed to be A_2 and B horizon of a podzol exposed by recent deflation of (presumably thin) sand overburden. From S end of Dubawnt Lake, 10 mi N of mouth of Kamilukuak River on a low gravel point, E of sand dunes 100 yd N of a bedrock hill (62° 47′ 45″ N Lat, 101° 48′ 45″ W Long). Coll. 1963 by W. N. Irving, Natl. Mus., Ottawa; subm. by R. A. Bryson.

B. Manitoba

Samples from near Lynn Lake, Manitoba, were coll. from a 1.5-m peat bank overlooking a lake (56° 50′ N Lat, 101° 3′ W Long). The

organic material rested conformably on a grey-blue lacustrine clay deposited in the proglacial lake during melting of late-Wisconsin ice in this area. Most of the section consisted of lake mud and sedge peat with sphagnum peat only in the top 20 cm. Samples were analyzed for fossil pollen and spores and a pollen diagram has been constructed. Dates reported here are for vegetational changes reflected in the diagrams. Since lower m of Lynn Lake peat bank was frozen at time of collection, dynamite was employed to shatter face of the bank in such a way that an approximately vertical and continuous section of peat could be removed. This was later divided into 2-cm-thick horizontal slices for macrofossil analysis and C^{14} assay. Coll. 1964 and subm. by H. Nichols, Univ. of Wisconsin, Madison.

2170 ± 80
220 B.C.

WIS-113. Lynn Lake, Manitoba

Fossil sedge peat (*Carex*) from 34 to 36 cm below surface of peat bank.

a) **5140 ± 100**
3190 B.C.

b) **5130 ± 100**
3180 B.C.

WIS-112. Lynn Lake, Manitoba

Carex from 68 to 70 cm below surface.

5970 ± 110
4020 B.C.

WIS-66. Lynn Lake, Manitoba

Carex from 118 to 120 cm below surface.

6060 ± 110
4110 B.C.

WIS-60. Lynn Lake, Manitoba

Carex from 120 to 122 cm below surface.

6530 ± 130
4580 B.C.

WIS-72. Lynn Lake, Manitoba

Blue-grey silty clay and lake mud at base of peat bank, 130 to 140 cm below surface. Date provides minimum age for local disappearance of late-Wisconsin ice sheet.

C. Colorado

WIS-69. Engineer Mountain Bog, San Juan Mountains, Colorado — **2520 ± 90**, **570 B.C.**

Sedge peat with wood fragments from bog 0.6 mi N of S boundary of San Juan County, W of U. S. Highway 550 (107° 48′ W Long, 37° 39′ N Lat), 8825 ft above sealevel. Sample taken with Livingstone piston sampler from N side of open-water section of bog on floating sedge mat, from 183 to 203 cm depth in bog sediment core; underlies sand layer at 180 cm. Coll. 1963 and subm. by L. J. Maher, Jr., to date sediments used in a pollen study.

WIS-70. Engineer Mountain Bog, San Juan Mountains, Colorado **4170 ± 100 2220 B.C.**

Sedge peat with wood fragments from same location as WIS-69. From 243 to 261 cm depth, level with lowest organic material.

III. CHECK SAMPLES

WIS-58 **1000 ± 65 A.D. 950**

Same as M-1293, A.D. 760, charcoal from Cahokia, Illinois, Site Ms-2-2, Feature 227 (Michigan VIII).

WIS-110 **1190 ± 80 A.D. 760**

Same as P-643, A.D. 729 ± 54, *Sequoia gigantea*, P-SW-SEQ-2, dendrochronologically dated to A.D. 650 ± 5 (Pennsylvania VIII).

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