more than the primitive ones, have numerous vocations to be filled. Natural selection has made all healthy human beings trainable for the performance of diverse duties. This is, then, a biological adaptation which makes people multiform, not uniform as is sometimes supposed. Educability, the ability to be trained, is consistently fostered in man by natural selection. And yet, the carriers of certain specialized genetic equipments, such as musicians or poets, may excel in the performance of some specialized functions.

Natural selection is active in all human societies, including the most advanced ones (15). It must be understood that there is nothing esoteric about the "naturalness" of natural selection. All that "selection" means is that the carriers of different genetic equipments contribute unequally to the gene pool of the succeeding generations. If the relative contributions are decided by human choice, the selection is artificial. If not, it is natural. Natural selection usually maintains or enhances the Darwinian "fitness" or "adaptedness." But "the fittest" is nothing more spectacular than the parent or grandparent of the greatest number of surviving descendants.

It is erroneous to equate Darwinian fitness with excellence in human estimation. Reproductive success may favor genetic equipments which we may hold to be undesirable on other grounds. Selection does not even guarantee that the species will endure; most biological species of the past have become extinct,

without issue, and yet their evolution was controlled by natural selection. This is because selection promotes what is immediately useful, even if the change may be fatal in the long run.

The biological evolution of our species continues to be at work. Perhaps no other problem of science is more challenging than the understanding of the biological and cultural evolutions of mankind in their interactions. As pointed out above, evolution in general has no program, and the evolution of man is no exception. No biological law can be relied upon to insure that our species will continue to prosper, or indeed that it will continue to exist. However, man is the sole product of evolution who knows that he has evolved and who has continued to evolve. It is up to man to supply the program for his evolutionary developments which nature has failed to provide. He has gained some knowledge which is a basis of hope that the problem is not impossible of solution.

This is an inspiring task but also a crushing responsibility. Albert Schweitzer once wrote that "our age has discovered how to divorce knowledge from thought, with the result that we have, indeed, a science which is free, but hardly any science left which reflects" (16). I hope that these angry words do not accurately describe the situation. We need and we have at least some science which is free and which reflects. It is our primary responsibility as scientists to see to it that such science prospers and bears fruit. Moreover, such science ought not to be a monopoly of some kind of technological elite. People at large, and particularly men of action who make the decisions which control so much in our lives, need not be as woefully ignorant of even the simplest principles of science as they are. At least some of the ideas which guide our work as scientists are not beyond the understanding of people of average intelligence who are not scientists professionally. The idea of evolution is one of them. As expounded by Darwin, it is one hundred years old, but we have barely begun to understand its full consequences (17).

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- I wish to thank my colleagues Drs. J. A. 17. Beardmore, L. C. Dunn, and J. A. Moore for critical readings of the manuscript of this article.

of the count on each sample is at least 48 hours, and in many cases it is 72 hours. Approximately every fourth sample placed in each counter is of known C14 content: CO2 derived either from 200-year-old wood (by ring count) or from petroleum. There is no detectable secular change in the results of the calibration runs.

The calibration figures used in calculating dates are "moving averages" based upon the last several calibration runs. For this reason, in the calculation of the standard deviation, the calibration figures are treated as if they contained four times as many counts as would be obtained in a 48-hour run. Therefore the major part of the contribution to the standard deviation comes from the run

University of Michigan Radiocarbon Dates II

H. R. Crane and James B. Griffin

A list of 109 radiocarbon dates obtained since the time of the last report (1) is presented in this paper (2). The technical method by which the dates were measured has not been changed in any essential way. Two complete counter systems are in continuous operation. The

counters are Geiger counters, filled with carbon dioxide and carbon disulfide at approximately atmospheric pressure. At present the background counting rate is 6.5 counts per minute, and eight additional counts per minute are obtained from carbon of zero age. The duration

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on the unknown sample. The standard deviation calculated purely from the numbers of counts on the unknown and on the calibration samples forms a useful minimum figure. The standard deviations for various ages, calculated on the assumption that the run on the unknown is 48 hours and that those on the calibration samples are four times as long, are as follows: for samples of zero age, ± 81 years; for samples of age 5600 years, ± 131 years; for samples of age 11,200 years, ±235 years; for samples of age 16,800 years, ±453 years; for samples of age 22,400 years, ±890 years.

In the date list given in Table 1, the standard deviations given will be found to be greater than those given above, generally by about a factor of two. We know that there are sources of uncertainty in addition to that contributed by the counting statistics, for example, the chemical process, the condition of the original sample, variations in the operation of the counters, and so forth. In each case the excess in the standard deviation above that given in the table represents our best estimate about the additional uncertainties attendant on the measurement of the particular sample. In a few cases there were specific circumstances which could affect the reliability of the measurements; for example, a lack of sufficient material to fill the counter, or the presence of visible rootlets which were not completely removable. In such cases a notation is included with the description of the sample.

Opinions about the reliability, plausibility, or interpretation of dates are to be found in some of the descriptive paragraphs. These are to be attributed to the persons who submitted the samples for dating.

Table 1. Radiocarbon dates.

Description	Sample No.	Age (yr)	Description Sample N	No. Age (yr)
I. Upper Mississippi Valley Sorg Site (21DK1), Minn. Charcoa from a limestone hearth found 19 in. be low the surface in excavation unit 1. Cu	-	800 ± 20 0	day pottery type, related to Madison Cord Impressed, found in the mound fill closer to the surface than the charcoal and away from the central portion of the mound,	
tural materials in the zone from 16 to 3 in. below the surface are in the Sorg focu- unnamed aspect. This is a Middle Wood land period focus with pottery in th Hopewellian tradition. Site excavated b	s, I- .e		apparently were introduced after the orig- inal period of mound construction. Charcoal from Mound No. 24. The small M-306 sample for analysis was assembled by col- lecting very small pieces just below the	430 ± 200
the St. Paul Science Museum; sample sub mitted by Louis H. Powell. Kolterman Mound 18, Dodge County	o- y, M-3 98	1180 ± 250	surface of the mound. The charcoal was not associated with the mound's inten- tional inclusions. This recent date is not	
<i>Wis</i> . Effigy Mound culture. Charcoal from cremation in heart region of otter effig			acceptable to determine the age of the mound's primary construction.	
mound. Associations: <i>Madison Cord</i> in pressed type pottery vessel and tw chipped-stone implements. Submitted b	1- 70		Charcoal from Mound 27, a bird effigy, M-307 found as scattered finds in mound fill from 6 to 18 in. below the surface; could	< 200
Warren L. Wittry, State Historical Societ			be recent. Collected and submitted by	
of Wisconsin (3). Modoc Rock Shelter, Randolph Count Ill. This site has previously been date	ł,		Paul L. Beaubien. Charcoal from the west portion of M-308 Mound 43 which produced sample M-305	2500 ± 250
and human occupation ranging back (7922 B.C. \pm 392 years was indicated (4) Samples collected in 1953. They shoul yield dates later in time and refer t). .d :co		as given above. Steuben Mound group, Marshall County, Ill. Collected and submitted by G. D. Morse and Dan F. Morse of Peoria,	
cultural materials belonging to the lat Archaic occupations of the site. Collecte by Melvin L. Fowler and submitted k Thorne Deuel, Illinois State Museum. Charcoal from 7½-ft level in squar	d yy	4720 ± 300	Ill. Ma ⁰ 202. Charcoal from burned log as- M-378 sociated with extended adult male burial No. 43 on the east side of pit D on the floor of the mound. Should date late	1660 ± 250
35:0. Eight feet above the top sample collected by Matson (C-899 and C-900 which were dated at 5955 ± 235 an	es I)		Hopewell occupation. Ma ⁰ 202. Charred bone of burial No. 43. M-380 <i>Cromwell, Noble County, Ind.</i> Tusk M-139	
5268 \pm 230 yr (5). Charcoal from 9½ to 10½ ft in squar 35R5. This sample is 5½ ft above Ma son's highest samples (C-899 and C-900 which were dated at 5955 \pm 235 an	t-))	5280 ± 300	fragments of the Richmond mastodon. Submitted by Everett Burmaster, Irving, N.Y., and Irving Reiman, University of Michigan. Compare with sample M-138, which gave a date of 5300 ± 400 on wood	
5268 ± 230 yr (5). Clayton County, Iowa. Samples exc. vated from Sny-Magill Mound grou (6), lots 1 and 2, sec. 23, T.94 N R. 3 W. Submitted by Paul Beaubien, N. tional Park Service.	ір І.,		said to have been associated with the tusk fragments (1, p. 667). Dreckshage site, west of St. Peters, St. M-323 Charles County, Mo. Charred house beam overlying late Mississippi Trappist house floor. Collected by Eugene Kozlovich and	530 ± 200
Charcoal from east portion of Mour No. 43. This mound, conical in shape, a proximately 78 ft in diameter and 6 ft height, contained bundle burials, copp beads, "Red Ocher" blades, and sever layers of red ocher. The charcoal was co lected from a partly consumed pole not close association with the principal incl sions, but it must have been in place who	p- in er al ol- in u-	2430 ± 250	submitted by J. B. Griffin. Pike County, Ill. Irving Site (Pk 2). M-485 Charcoal from square B. Should date late Hopewell or the Irving Late Woodland level. Collected and submitted by J. C. McGregor, University of Illinois. Platte County, Missouri. Curtiss Mound of Keller-Brenner. Excavated and sub- mitted by J. M. Shippee, University of) 1180 ± 250
the mound was formed. Sherds of a late 9 MAY 1958			Missouri.	1099

Description	Sample No.	Age (yr)
Charcoal from fire-burned area in low	er M-399	1500 ± 250

levels of mound. Original number 2f. Charcoal from deep in the mound and M-400 1650 ± 250

about 2 ft from the edge of the fire-burned area. Original number 3. Markets Place Factly County Mine M 412 = 25.00

Mankato, Blue Earth County, Minn. Wood from the middle till which lies stratigraphically below the youngest till in the Mankato vicinity. The middle till is probably the blue or black pre-Wisconsin till mentioned by Leverett and the "Kansan" drift mentioned in a footnote of the Glacial Map of North America (7). Similar samples (W-300 and W-301) submitted to the U.S. Geological Survey laboratory have been dated at more than 35,000 years ago (8). Collected and submitted by James H. Zumberge, University of Michigan.

Raaf Shell Mound (12 Sp 1), Spencer County, Ind. Fresh-water mollusk shells from Archaic shell heap on the north bank of the Ohio River. Collected and submitted by Glenn A. Black, Indiana Historical Society, Newburgh.

9 ft below surface.	M-196	6600 ± 400
8 ft below surface.	M-197	6150 ± 400
7 ft below surface.	M-198	5940 ± 400
6 ft below surface.	M-199	6170 ± 400
5 ft below surface.	M- 200	6000 ± 350
4 ft below surface.	M- 201	6250 ± 350

II. Great Lakes

Lenawee County, Mich. American mastodon (Mammut americanus) palate (No. 29276 University of Michigan Museum of Paleontology) and tusks from beneath 2 ft 4 in. of muck, resting on a beaver-cut limb of aspen and blue-gray clay containing mollusks in sec. 5, T. 8 S., R. 2 E. Discovered during drainage of a bog area on the J. M. Bruggeman farm. Submitted by Claude Hibbard, University of Michigan.

Inside portion of mastodon tusk. Outside portion of mastodon tusk.

Jackson County, Mich. Wood from J marl deposit 4 ft below surface and associated with Jefferson mammoth. Site is 11.5 mi southeast of Eaton Rapids. Submitted by R. H. Baker, Michigan State University.

Peat from top of 30-in. layer of peat M-29 near South Haven. Dates the rise in water level from the Chippewa stage to the Nipissing stage (Lake Michigan basin) (Zumberge and Potzger, 9).

Sanilac County, Mich. Submitted by J. H. Zumberge, University of Michigan.

Hemlock log (10 in. in diam.), south M-299 side of Mill Creek, 3 mi south of Lexington, on the shore of Lake Huron. Log is imbedded in 1-ft gravel lens, underlain by 3 ft of laminated clay resting on hard gray till. The gravel layer lies below a few feet of bedded medium-to-fine sand, probably of Nipissing age. The contact of gravel on the underlying clay is uncomformable. The gravel probably represents the deposit of stream flowing into a post-Algonquin low-water stage in the Lake Huron basin prior to the Stanley level.

Wood from the north side of the mouth M-300 of Mill Creek on the shore of Lake Huron, 3 mi south of Lexington. This specimen

San	nple No.	Age (yr)	Description	Sample No.	Age	(yr)
lower M	[-399	1500 ± 250	comes from what appears to be the same gravel bed as sample M-299, although the			
d and M urned	[-400	16 50 ± 250	stratigraphic relationships are less clear The date is not compatible with that o	f		
<i>Minn.</i> M h lies	[-412	> 25,000	M-299; hence some error is involved probably in the field interpretation.	,		
st till			III. Northeastern United States			
till is			Snell site, St. Johnsville, Montgomer			
consin			County, N.Y. Excavated in 1949 by			
"Kan- of the			joint expedition of New York State Mu seum and Rochester Museum of Arts and			
Simi-			Sciences. The site is one of early Owasc			
sub-			culture in eastern New York. Collected	-		
y lab-			and submitted by W. A. Ritchie.			
than			Charcoal from pit 13. Date shows con		1170 :	± 200
d sub- versity			siderable variance with those of M-28 (1 p. 667) and M-492 (see below), yet al			
versity			pits definitely pertained to the single pe			
bencer			riod of occupation at the site. In compari			
shells			son with other dated early Owasco sites i			
north			eastern New York (M-176, M-177) (A			
d and Idiana			p. 668), the plus value of this sampl (A.D. 985) would appear to be the most			
iuiuiiu			accurate of all dates obtained for this site			
\mathbf{N}	[- 196	6600 ± 400	Charcoal from pit 20. This date seem	s M- 492	800 :	± 20
	1 -197	6150 ± 400	too recent. However, the plus value of the			
	1- 198 1- 199	5940 ± 400 6170 ± 400	sample agrees very closely with the minu value of sample M-178, which would appear			
	1- 199 1- 200	6000 ± 350	pear to be the most accurate of all date			
	1 -201	6250 ± 350	obtained for this site (see M-178 above)			
			Bannerman site, Dutchess County, N.Y		4480 :	± 30
			Charcoal from hearth at 45 in. from th			
n mas- e (No.			surface at the base of an implement-beau ing level. This sandy stratum, 2 to 3			
um of			thick, underlay two undisturbed steril			
eath 2			strata. No pit lines could be detecte	-		
er-cut			about the hearth. The cultural materia			
ntain-			found throughout the occupied zone an indicative of the Laurentian phase of the			
E. Dis- rea on			indicative of the Laurentian phase of th middle Archaic and include the groun	-		
ted by			slate ulo. The sample would seem to dat			
higan.			an early Laurentian component in th			
	1 -280	7070 ± 240	mid-Hudson valley. Collected by W. A			
from N	4- 281 4- 507	7820 ± 450 $12,200 \pm 700$	Ritchie and James Shafer, submitted b W. A. Ritchie.	'Y		
d asso-			Castle Creek site, Broome County, N.I	. М- 493	760	± 20
Site is			Charcoal from a pit containing burne	d		
. Sub-			stones and potsherds of Castle Creek style			
State			from a section excavated by the Broom			
f peat N	4-291	4000 ± 300	County Historical Society. Late Owass culture. This sample was sent as a check			
water		4000 ± 350	on sample M-179 $(1, p. 668)$, with which			
to the			it is in general agreement. These late dat	es		
basin)			tend to support the original interpretation			
h by T			of the site as showing Owasco-Iroquo temporal overlap and cultural interaction			
l by J. an.			Submitted by Foster Disinger, Binghan			
south N	4 -299	7270 ± 450	ton, N.Y., through W. A. Ritchie.			
			Origent #2 site Saffalk Country NV		2000	

ton, N.Y., through W. A. Ritchie. Orient #2 site, Suffolk County, N.Y. M-494 Charcoal from a fire kindled on the floor of a large burial pit of the Orient culture. This eastern Long Island culture, showing transitional features from late Archaic into early Woodland, is one of the northeastern cultures which participated in a complex, early mortuary ceremonialism. Collected by Roy Latham, Orient, N.Y., and submitted through W. A. Ritchie.

Stony Brook site, Suffolk County, N.Y. Charcoal from sec. W. 5 N. 15, from a M-587 dry sand stratum, 22 to 26 in. deep in midden. Orient culture habitation site. Collected and submitted by W. A. Ritchie. 2900 ± 250

 2900 ± 250

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12,336 ± 700

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Description	Sample No	. Age (yr)	Description	Sample No.	Age (yr
Charcoal from pit 6, covering portions of sections E. 45 N. 30, 35, and 40, and E. 40 N. 30, 35, and 40. Collected from the lower level of a 5-ft deep pit. Orien culture habitation site. Collected by Jame	l 1 t	2930 ± 250	Testing was difficult because of the very small amount of carbon remaining in these bones. Believe this date should be disregarded. Submitted by R. P. Bullen. <i>Clarksville site (44Mc14), Mecklen-</i>		850 ± 250
V. Wright, submitted by W. A. Ritchie. Sugar Loaf Hill, Suffolk County, N.Y Charcoal taken from a depth of 2 to 21/2 ft, in direct association with grave goods, from a burial pit of the Orient cul- ure. Collected and submitted by W. A Ritchie.) - ·	3000 ± 300	burg County, Va. John H. Kerr (formerly the Buggs Island) Reservoir. Charcoal sample from a late Middle Woodland hearth area bordering on the transitional Late Woodland horizon. Excavated by Carl F. Miller and submitted by Frank H. H. Roberts, Jr., director, River Basin		
Athol, Mass. Poplar log from a road cut through a bog $\frac{3}{4}$ mi west of Pleasan Street along new Massachusetts Route No. 2. The cut showed 6 ft 3 in. of humi ied and fibrous peat overlying 2 ft 11 in of gyttja which in turn lay directly on un weathered stratified sand. The log was im bedded in gyttja 7 ft 8 in. below the bog surface and 1 ft 6 in. above the stratified and. Pollen analysis of the profile by Margaret Bryan Davis showed the log to be associated with a zone in which spruce bollen percentages are low and deciduous cree and pine percentages are high. In the next overlying zone black spruce attains a	t 	10,700 ± 800	Surveys, Bureau of American Ethnology. Poverty Point Site, La. Minute frag- ments of charcoal collected by flotation method from the large ash bed that lay beneath the conical mound "B." Sample dates Poverty Point cultural phase and probably H. N. Fisk's stage C ₁ channel positions of the Mississippi River system. Other portions of this sample were sub- mitted to other laboratories: Lamont 272, 2700 \pm 100 yr; Humble 66, 3150 \pm 120 yr; Schatzman A, 2685 \pm 210 yr; Schatzman B, 2339 \pm 200 (10). Submitted by James A. Ford. The sample contained root frag- ments.		2850 ± 25
maximum; in the underlying zone white or red spruce, or both, was dominant (Equals sample W-361, dated at 10,800 = 250 yr, 8). Submitted by Margaret Bryan Davis, Harvard University. IV. Southeastern United States	e ±		Calvert County, Md. Charcoal from site 18 An 18. Excavation sample No. 6 from 36 to 42 in. below base line. Sub- mitted by T. L. Ford, Archaeological So- ciety of Maryland. Russell Cave, Jackson County, Ala. (site 1 Ja 181). Collected by Carl F.		1630 ± 40 2030 ± 25
Chattahoochee River, Fla. Submitted by R. P. Bullen. Charcoal from Fort Walton zone at site J-5 in a natural levee of the river. Arche bological considerations suggest that the site is middle Fort Walton period in time	e M-392 - e	550 ± 200	Miller, Smithsonian Institution. Charcoal from a stratum 8.0 to 8.5 ft below the present surface of the cave floor. At this depth the charcoal appears in small pockets and is associated with lithic tools, flint chips, and animal bones.	M-589	8240 ± 40
The dates seem very satisfactory. Charcoal from fiber-tempered pottery zone at site J-5 in a natural levee of the river. The zone is $5\frac{1}{2}$ ft below that from which sample M- 392 (above) was taken Since the sherds included 3 St. Johns In cised, 15 St. Johns Plain, and 186 fiber tempered, it is believed that the date rep resents the end of the Orange period in Florida. The date, while earlier than an	e 1 - - 1	3150 ± 250	Should equate with Middle Archaic. Charcoal from a stratum of unctuous clay which lay at a depth of 12 to 13 ft beneath the present surface of the cave floor. The Lamont Laboratory has dated a similar specimen at 8160 ± 300 yr (11). This marks the beginning of the Archaic and the end of the Paleo Indian; in other words, the transitional blending of the two cultures.		8560 ± 40
ticipated, is reasonable. Charcoal from site Ja-63 located beside an old channel (?) in bottomlands o river; 862 out of 907 decorated sherds an Kolomoki Complicated Stamped. Balanc include Blakely Complicated Stamped and a few Weeden Island types. The date while early, is not as early as those o samples M-49 and M-50 from the Kolo moki site itself $(1, p. 667)$. These date	f e d f f s	1600 ± 250	 Charcoal from a hearth area 5.5 ft from present surface. At this depth we are below the pottery-bearing levels, which we term the end of the Archaic. Bones from various animals, bone tools, and stone artifacts occur quite plentifully in this zone of occupation. V. Western and southwestern United Stat Grand Canyon, Ariz. Wood of a split. 	es M-563	6300 ± 35 3530 ± 30
suggest that the Kolomoki "culture" o southwestern Georgia started relativel early. St. Johns River, Fla. Animal bone from layer V at the Bluffton shell midde: site. The sample was taken from well be low the base of a plain, fiber-tempered zone and hence must be late, preceramic Archaic in date. Since the date is much later than that indicated for plain fiber tempered in coastal Georgia and also late than that indicated for terminal fiber-term	y n d c, h r	2700 ± 500	twig figurine from a dry cave in the Red- wall formation on south face of Grand Canyon. The figurine was in a buried cache with others approximately 10 in below the surface of the cave floor. Or the basis of distributional evidence it had been estimated that the figurines were older than A.D. 600. Collected by Dougla W. Schwartz, University of Kentucky, ir August 1955. Sandoval County, N.M. Charcoal from a series of hearths whose lithic artifact fit into a Cochise-like culture. The area		
pered in northwest Florida (see sampl M-394 above), it seems to be incorrect			of concentrated hearths was 1000 yd eas		

	Sample No.	Age (yr)	Description	Sample No.	Age (yr)
and west. Submitted by F. C. Hibben			State Museum Survey). Submitted	by	
University of New Mexico. Information			Emil W. Haury.	ad M 461	2600 ± 250
rom F. C. Hibben and George A. Ago ino, Syracuse University. Earlier report			Scattered fragmented charcoal from D-1 at a depth of approximately 3		2000 ± 230
on three similar hearths are M-248			under valley sediments; associated w		
M-250 and $M-251$ (1, p. 670).	,		Chiricahua stage cultural material.		
Charcoal from a stone-lined hearth 10	6 M- 249	3330 ± 300	Fragmented solid charcoal from ma	rix M-462	1140 ± 300
ft beneath the present surface. A basal	t		of pit 3, bed C-2, distributed betw		
metate was found in the hearth. This lo	-		cremations. May be derived from crei		
cality is 150 yards south of the site o	f		tory fires brought to this location with		
sample M-248 and in the same arroyo.	M 959	2180 ± 250	ashes. Small sample; run may not be v accurate.	ery	
Charcoal taken from a peripheral sur face hearth located $\frac{1}{2}$ mi to the north		2100 ± 230	Charcoal highly fragmented, distribu	ted M-5 40	2400 ± 200
and west of the concentrated site area			through matrix of bed D-1; two field sa		2100 = 200
The hearth was 4 yd across but produced			ples from a 3-m area combined (Univ		
no cultural material.			Arizona Carbon-14 Age Determinat		
Charcoal from a surface location in the		2600 ± 300	Laboratory Nos. 21 and 22).		
concentrated site area. This hearth wa			Fragmented charcoal of pine and		2530 ± 250
more than 12 yd in diameter. It was o			from hearth in bed D-1 at a depth of 2		
an eroded hillside within 125 yd of th			m under valley sediments; associated v Chiricahua stage cultural material. (U:		
site of sample M-250 and on the sam slope. A large number of tear-drop blade			of Arizona Carbon-14 Age Determinat		
was found at this location.	~		Laboratory No. 19).		
Charcoal from a deeply buried lens is	n M- 254	2900 ± 250	Ten Sleep, Wyo. Charcoal sample fi	om M- 433	1725 ± 200
same arroyo as M-248 and M-249. Thi			single occupation level of cave about		
hearth is 19 ft below the present surface			mi south of Ten Sleep. Associated v		
No artifacts were found in it.			large complex of Late Middle period p		
Stewart Rock Shelter, Clark County	-		ishable and nonperishable artifacts,		
<i>Nev.</i> Rectangle 2-B, 3-C. Mixed woo species. Charcoal taken from fire hearths			cluding atlatls, foreshafted atlatl da fire drills, basketry, hafted knives, scr	•	
as indicated by concentrated charcoal de			ers, projectile points, and other items.	[_] .	
posits associated with cultural material			date probably reflects a period near		
Submitted by Dick Shutler, Jr., Universit			end of the Late Middle occupation		
of Arizona.			fits the previously projected chronol	ogy	
Feature No. 1. Depth 54 in. Hearth 4 in		3870 ± 250	for this manifestation. Submitted		
thick, 15 in. in diameter. Thermally frac	:-		George Frison and William Mulloy, U	ni-	
tured rock present in hearth.	M 376	4050 ± 300	versity of Wyoming. James Allen site near Laramie, W	M 304	7900 ± 40
Feature No. 2. Depth 78 in. Hearth 5 in thick, 12 in. in diameter, resting on th		$+0.00 \pm 0.00$	Burned Bison occidentalis bone from		7500 ± 40
original ground surface of the shelter.	0		batoir site on the north side of Boul	-	
Santa Fe County, N.M. Charcoal from	n M-5 11	2230 ± 250	Ridge, 16 mi south of Laramie. Ass		
a firehearth exposed at the base of a 20-	t		ated with a number of Bison occident		
alluvial terrace of Rio Tesuque. Assoc			individuals, projectile points which h		
ated human artifacts indicated occupatio			been variously called Browns Va		
by preceramic Basket Makers estimated t date between 1500 and 2500 yr ago. Th			points, Oblique Yumas, and so forth, a complex of stone tools including pla		
top few inches of terrace contain potter			convex scrapers, ovoid and pirife		
dating around A.D. 1200. These date			knives, choppers, retouched flakes,		
make possible the computation of the ac			other items. Represents one of the h		
cumulation rate of sediments comprisin			erto unfixed complexes of the Early	per-	
the 20-ft terrace in this locality. Sub			iod. Submitted by William Mulloy, U	Ini-	
	A7		·. · · · ·	J111-	
			versity of Wyoming.		4650 - 20
Mexico, and J. P. Miller, Harvard Uni			Falcon Reservoir, Starr County, 7	ex. M-129	4650 ± 30
Mexico, and J. P. Miller, Harvard University.	-	700 ± 250	Falcon Reservoir, Starr County, 7 Site 41-78B9-4. A composite sample	ex. M-129 of	4650 ± 30
Mexico, and J. P. Miller, Harvard University. Snaketown site, Gila River Indian Res	- M -324	700 ± 250	Falcon Reservoir, Starr County, 7	fex. M-129 of was	4650 ± 30
Mexico, and J. P. Miller, Harvard University. Snaketown site, Gila River Indian Reservation, Pinal County, Ariz. Cordage an	i- i- M -324 d	700 ± 250	Falcon Reservoir, Starr County, 7 Site 41-78B9-4. A composite sample hundreds of minute pieces of charcoal	fex. M-129 of was trix	4650 ± 30
Mexico, and J. P. Miller, Harvard University. Snaketown site, Gila River Indian Reservation, Pinal County, Ariz. Cordage an textile found in a pottery vessel, carbor	- M -324 d	700 ± 250	Falcon Reservoir, Starr County, 7 Site 41-78B9-4. A composite sample hundreds of minute pieces of charcoal taken from the hard, brown, adobe ma of the lowest occupation zone (zone This zone was 4 to 7 in. thick at a de	fex. M-129 of was trix I). pth	4650 ± 30
Mexico, and J. P. Miller, Harvard University. Snaketown site, Gila River Indian Reservation, Pinal County, Ariz. Cordage an textile found in a pottery vessel, carbor ized during the burning of a house. Fiel number: 6G: House #8, in Vessel #4	- M -324 d - d 4 4	700 ± 250	Falcon Reservoir, Starr County, 7 Site 41-78B9-4. A composite sample hundreds of minute pieces of charcoal taken from the hard, brown, adobe ma of the lowest occupation zone (zone This zone was 4 to 7 in. thick at a de of 8 to 9 ft below the surface. It was	<i>ex.</i> M-129 of trix I). pth pri-	4650 ± 30
Mexico, and J. P. Miller, Harvard University. Snaketown site, Gila River Indian Reservation, Pinal County, Ariz. Cordage an textile found in a pottery vessel, carbor ized during the burning of a house. Fiel number: 6G: House #8, in Vessel #4 (12). Collected by staff of Gila Puebl	- M -324 d d- d 4 4	7 00 ± 250	Falcon Reservoir, Starr County, 7 Site 41-78B9-4. A composite sample hundreds of minute pieces of charcoal taken from the hard, brown, adobe ma of the lowest occupation zone (zone This zone was 4 to 7 in. thick at a de of 8 to 9 ft below the surface. It was marily a workshop area. Associated of	<i>ex.</i> M-129 of trix I). pth pri- leer	4650 ± 30
Mexico, and J. P. Miller, Harvard University. Snaketown site, Gila River Indian Re- ervation, Pinal County, Ariz. Cordage an textile found in a pottery vessel, carbor ized during the burning of a house. Fiel number: 6G: House #8, in Vessel #4 (12). Collected by staff of Gila Puebl about 1935. Considered to be of Sacato	- M -324 d d- d 4 4	7 00 ± 250	Falcon Reservoir, Starr County, 7 Site 41-78B9-4. A composite sample hundreds of minute pieces of charcoal taken from the hard, brown, adobe ma of the lowest occupation zone (zone This zone was 4 to 7 in. thick at a de of 8 to 9 ft below the surface. It was marily a workshop area. Associated of bone fragments were partly mineralized	<i>ex.</i> M-129 of was trix I). pth pri- leer zed.	4650 ± 30
Mexico, and J. P. Miller, Harvard University. Snaketown site, Gila River Indian Reservation, Pinal County, Ariz. Cordage an textile found in a pottery vessel, carbor ized during the burning of a house. Fiel number: 6G: House #8, in Vessel #4 (12). Collected by staff of Gila Puebl about 1935. Considered to be of Sacato phase of Sedentary period.	- M -324 d d 4 o n		Falcon Reservoir, Starr County, 7 Site 41-78B9-4. A composite sample hundreds of minute pieces of charcoal taken from the hard, brown, adobe ma of the lowest occupation zone (zone This zone was 4 to 7 in. thick at a de of 8 to 9 ft below the surface. It was marily a workshop area. Associated o bone fragments were partly minerali: Projectile points are large, thinned b	<i>ex.</i> M-129 of was trix I). pth pri- leer zed. ase,	4650 ± 30
Mexico, and J. P. Miller, Harvard University. Snaketown site, Gila River Indian Reservation, Pinal County, Ariz. Cordage an textile found in a pottery vessel, carbor ized during the burning of a house. Fiel number: 6G: House #8, in Vessel #4 (12). Collected by staff of Gila Puebl about 1935. Considered to be of Sacato phase of Sedentary period. Cave near Kingman, Mohave County	- M-324 d d- d 4 o n <i>,</i> M-381	7 00 ± 250 650 ± 200	Falcon Reservoir, Starr County, 7 Site 41-78B9-4. A composite sample hundreds of minute pieces of charcoal taken from the hard, brown, adobe ma of the lowest occupation zone (zone This zone was 4 to 7 in. thick at a de of 8 to 9 ft below the surface. It was marily a workshop area. Associated o bone fragments were partly minerali: Projectile points are large, thinned b elongate, triangular forms and all of rat	<i>ex.</i> M-129 of was trix I). pth pri- leer zed. ase, her	4650 ± 30
Mexico, and J. P. Miller, Harvard University. Snaketown site, Gila River Indian Reservation, Pinal County, Ariz. Cordage an textile found in a pottery vessel, carbor ized during the burning of a house. Fiel number: 6G: House #8, in Vessel #4 (12). Collected by staff of Gila Puebl about 1935. Considered to be of Sacato phase of Sedentary period. Cave near Kingman, Mohave County Ariz. Food cache of "mescal" from pot	- M -324 d d 4 o n , M -381		Falcon Reservoir, Starr County, 7 Site 41-78B9-4. A composite sample hundreds of minute pieces of charcoal taken from the hard, brown, adobe ma of the lowest occupation zone (zone This zone was 4 to 7 in. thick at a de of 8 to 9 ft below the surface. It was marily a workshop area. Associated o bone fragments were partly minerali: Projectile points are large, thinned b	<i>ex.</i> M-129 of was trix I). pth pri- leer zed. ase, her itu-	4650 ± 30
Mexico, and J. P. Miller, Harvard University. Snaketown site, Gila River Indian Reservation, Pinal County, Ariz. Cordage an textile found in a pottery vessel, carbor ized during the burning of a house. Fiel number: 6G: House #8, in Vessel #4 (12). Collected by staff of Gila Puebl about 1935. Considered to be of Sacato phase of Sedentary period. Cave near Kingman, Mohave County Ariz. Food cache of "mescal" from pottery vessel with lid hermetically seale	- M -324 d d 4 o n y, M -381		Falcon Reservoir, Starr County, 7 Site 41-78B9-4. A composite sample hundreds of minute pieces of charcoal taken from the hard, brown, adobe ma of the lowest occupation zone (zone This zone was 4 to 7 in. thick at a de of 8 to 9 ft below the surface. It was marily a workshop area. Associated o bone fragments were partly minerali. Projectile points are large, thinned b elongate, triangular forms and all of rat uniform size and shape. The site is s	<i>ex.</i> M-129 of was trix I). pth pri- leer zed. ase, her itu- yd	4650 ± 30
Mexico, and J. P. Miller, Harvard University. Snaketown site, Gila River Indian Reservation, Pinal County, Ariz. Cordage an textile found in a pottery vessel, carbor ized during the burning of a house. Fiel number: 6G: House #8, in Vessel #4 (12). Collected by staff of Gila Puebl about 1935. Considered to be of Sacato phase of Sedentary period. Cave near Kingman, Mohave County Ariz. Food cache of "mescal" from pottery vessel with lid hermetically seale with lac. Collected by an amateur arched	- M -324 d d 4 o n v, M -381 c-		Falcon Reservoir, Starr County, T Site 41-78B9-4. A composite sample hundreds of minute pieces of charcoal taken from the hard, brown, adobe ma of the lowest occupation zone (zone This zone was 4 to 7 in. thick at a de of 8 to 9 ft below the surface. It was marily a workshop area. Associated of bone fragments were partly minerally Projectile points are large, thinned b elongate, triangular forms and all of rat uniform size and shape. The site is s ated along a major arroyo some 300 from its confluence with the Rio Gra River. A date for this carbon should s	<i>ex.</i> M-129 of was trix I). pth pri- leer zed. ase, her itu- yd nde ug-	4650 ± 30
Mexico, and J. P. Miller, Harvard University. Snaketown site, Gila River Indian Reservation, Pinal County, Ariz. Cordage an textile found in a pottery vessel, carbor ized during the burning of a house. Fiel number: 6G: House #8, in Vessel #4 (12). Collected by staff of Gila Puebl about 1935. Considered to be of Sacato phase of Sedentary period. Cave near Kingman, Mohave County Ariz. Food cache of "mescal" from pottery vessel with lid hermetically seale with lac. Collected by an amateur archeologist in 1938 and deposited in the Museum of Northern Arizona, catalogu	- M-324 d d 4 4 5 7 , M-381 c- d c- e e		Falcon Reservoir, Starr County, T Site 41-78B9-4. A composite sample hundreds of minute pieces of charcoal taken from the hard, brown, adobe ma of the lowest occupation zone (zone This zone was 4 to 7 in. thick at a de of 8 to 9 ft below the surface. It was marily a workshop area. Associated of bone fragments were partly minerally Projectile points are large, thinned b elongate, triangular forms and all of rat uniform size and shape. The site is s ated along a major arroyo some 300 from its confluence with the Rio Gra River. A date for this carbon should s gest a rate of deposition for this particu	<i>Tex.</i> M-129 of was trix I). pth pri- leer zed. ase, her itu- yd nde ug- ular	4650 ± 30
Mexico, and J. P. Miller, Harvard University. Snaketown site, Gila River Indian Reservation, Pinal County, Ariz. Cordage an textile found in a pottery vessel, carbor ized during the burning of a house. Fiel number: 6G: House #8, in Vessel #4 (12). Collected by staff of Gila Puebl about 1935. Considered to be of Sacato phase of Sedentary period. Cave near Kingman, Mohave County Ariz. Food cache of "mescal" from pointery vessel with lid hermetically seale with lac. Collected by an amateur arche ologist in 1938 and deposited in th Museum of Northern Arizona, catalogu number 1019/L. (13). The vessel is approximate.	- M-324 d d 4 4 , M-381 d e e		Falcon Reservoir, Starr County, T Site 41-78B9-4. A composite sample hundreds of minute pieces of charcoal taken from the hard, brown, adobe ma of the lowest occupation zone (zone This zone was 4 to 7 in. thick at a de of 8 to 9 ft below the surface. It was marily a workshop area. Associated of bone fragments were partly mineralin Projectile points are large, thinned b elongate, triangular forms and all of rat uniform size and shape. The site is s ated along a major arroyo some 300 from its confluence with the Rio Gra River. A date for this carbon should gest a rate of deposition for this partice Rio Grande terrace as well as a time-s	<i>Tex.</i> M-129 of was trix I). pth pri- leer zed. ase, her itu- yd nde ug- ular pan	4650 ± 30
Mexico, and J. P. Miller, Harvard University. Snaketown site, Gila River Indian Reservation, Pinal County, Ariz. Cordage an textile found in a pottery vessel, carbor ized during the burning of a house. Fiel number: 6G: House #8, in Vessel #4 (12). Collected by staff of Gila Puebl about 1935. Considered to be of Sacato phase of Sedentary period. Cave near Kingman, Mohave County Ariz. Food cache of "mescal" from pointery vessel with lid hermetically seale with lac. Collected by an amateur archer ologist in 1938 and deposited in the Museum of Northern Arizona, catalogu number 1019/L. (13). The vessel is apparently of the ware known as Pyramin	- M -324 d d 4 o n , M -381 e e e		Falcon Reservoir, Starr County, 7 Site 41-78B9-4. A composite sample hundreds of minute pieces of charcoal taken from the hard, brown, adobe ma of the lowest occupation zone (zone This zone was 4 to 7 in. thick at a de of 8 to 9 ft below the surface. It was marily a workshop area. Associated o bone fragments were partly minerali: Projectile points are large, thinned b elongate, triangular forms and all of rat uniform size and shape. The site is s ated along a major arroyo some 300 from its confluence with the Rio Gra River. A date for this carbon should s gest a rate of deposition for this partico Rio Grande terrace as well as a time-s for the cultural materials. Artifacts	<i>ex.</i> M-129 of was trix I). pth pri- leer zed. ase, her itu- yd nde .ug- ular pan are	4650 ± 30
Mexico, and J. P. Miller, Harvard University. Snaketown site, Gila River Indian Reservation, Pinal County, Ariz. Cordage an textile found in a pottery vessel, carbor ized during the burning of a house. Fiel number: 6G: House #8, in Vessel #4 (12). Collected by staff of Gila Puebl about 1935. Considered to be of Sacato phase of Sedentary period. Cave near Kingman, Mohave County Ariz. Food cache of "mescal" from pottery vessel with lid hermetically seale with lac. Collected by an amateur archeologist in 1938 and deposited in the Museum of Northern Arizona, catalogu number 1019/L. (13). The vessel is ap parently of the ware known as Pyramic Gray and was found in the geographica	- M-324 d d 4 o o n , M-381 d d e e e e i d		Falcon Reservoir, Starr County, T Site 41-78B9-4. A composite sample hundreds of minute pieces of charcoal taken from the hard, brown, adobe ma of the lowest occupation zone (zone This zone was 4 to 7 in. thick at a de of 8 to 9 ft below the surface. It was marily a workshop area. Associated bone fragments were partly minerali: Projectile points are large, thinned b elongate, triangular forms and all of rat uniform size and shape. The site is s ated along a major arroyo some 300 from its confluence with the Rio Gra River. A date for this carbon should s gest a rate of deposition for this partice Rio Grande terrace as well as a time-s for the cultural materials. Artifacts similar in zone I to those found in nea	Cex. M-129 of was trix I). pth pri- leer zed. ase, her itu- yd nde ug- ular pan are rby	4650 ± 30
ervation, Pinal County, Ariz. Cordage an textile found in a pottery vessel, carbor ized during the burning of a house. Fiel number: 6G: House #8, in Vessel #4 (12). Collected by staff of Gila Puebl about 1935. Considered to be of Sacato phase of Sedentary period. <i>Cave near Kingman, Mohave County</i> Ariz. Food cache of "mescal" from pot tery vessel with lid hermetically seale with lac. Collected by an amateur arche ologist in 1938 and deposited in th Museum of Northern Arizona, catalogu number 1019/L. (13). The vessel is ap parently of the ware known as Pyrami Gray and was found in the geographicz region of the Cerbat Branch of the Pata	- M-324 d d 4 o o n , M-381 d d e e e e i d		Falcon Reservoir, Starr County, 7 Site 41-78B9-4. A composite sample hundreds of minute pieces of charcoal taken from the hard, brown, adobe ma of the lowest occupation zone (zone This zone was 4 to 7 in. thick at a de of 8 to 9 ft below the surface. It was marily a workshop area. Associated of bone fragments were partly minerali. Projectile points are large, thinned b elongate, triangular forms and all of rat uniform size and shape. The site is s ated along a major arroyo some 300 from its confluence with the Rio Gra River. A date for this carbon should s gest a rate of deposition for this partice Rio Grande terrace as well as a time-s for the cultural materials. Artifacts similar in zone I to those found in nea surface sites. A cultural complex here	<i>ex.</i> M-129 of was trix I). pth pri- leer zed. ase, her itu- yd nde ug- ular pan are rby ap-	4650 ± 30
Mexico, and J. P. Miller, Harvard University. Snaketown site, Gila River Indian Reservation, Pinal County, Ariz. Cordage an textile found in a pottery vessel, carbor ized during the burning of a house. Fiel number: 6G: House #8, in Vessel #4 (12). Collected by staff of Gila Puebl about 1935. Considered to be of Sacato phase of Sedentary period. Cave near Kingman, Mohave County Ariz. Food cache of "mescal" from pottery vessel with lid hermetically seale with lac. Collected by an amateur archeologist in 1938 and deposited in th Museum of Northern Arizona, catalogu number 1019/L. (13). The vessel is apparently of the ware known as Pyramic Gray and was found in the geographica region of the Cerbat Branch of the Patayan Root.	- M -324 d d 4 o n , M -381 d e e e d		Falcon Reservoir, Starr County, T Site 41-78B9-4. A composite sample hundreds of minute pieces of charcoal taken from the hard, brown, adobe ma of the lowest occupation zone (zone This zone was 4 to 7 in. thick at a de of 8 to 9 ft below the surface. It was marily a workshop area. Associated bone fragments were partly minerali: Projectile points are large, thinned b elongate, triangular forms and all of rat uniform size and shape. The site is s ated along a major arroyo some 300 from its confluence with the Rio Gra River. A date for this carbon should s gest a rate of deposition for this partice Rio Grande terrace as well as a time-s for the cultural materials. Artifacts similar in zone I to those found in nea	<i>ex.</i> M-129 of was trix I). pth pri- leer zed. ase, her itu- yd nde ug- pan are rby ap- one	4650 ± 30
Mexico, and J. P. Miller, Harvard University. Snaketown site, Gila River Indian Reservation, Pinal County, Ariz. Cordage an textile found in a pottery vessel, carbor ized during the burning of a house. Fiel number: 6G: House #8, in Vessel #4 (12). Collected by staff of Gila Puebl about 1935. Considered to be of Sacato phase of Sedentary period. Cave near Kingman, Mohave County Ariz. Food cache of "mescal" from pointery vessel with lid hermetically seale with lac. Collected by an amateur archeologist in 1938 and deposited in the Museum of Northern Arizona, catalogu number 1019/L. (13). The vessel is apparently of the ware known as Pyramia Gray and was found in the geographica region of the Cerbat Branch of the Pata	- M -324 d d 4 o n y, M -381 d - e e d 1 - t		Falcon Reservoir, Starr County, T Site 41-78B9-4. A composite sample hundreds of minute pieces of charcoal taken from the hard, brown, adobe ma of the lowest occupation zone (zone This zone was 4 to 7 in. thick at a de of 8 to 9 ft below the surface. It was marily a workshop area. Associated o bone fragments were partly minerali. Projectile points are large, thinned b elongate, triangular forms and all of rat uniform size and shape. The site is s ated along a major arroyo some 300 from its confluence with the Rio Gra River. A date for this carbon should s gest a rate of deposition for this partice Rio Grande terrace as well as a time-s for the cultural materials. Artifacts similar in zone I to those found in nea surface sites. A cultural complex here pears to extend from the time of the z	<i>ex.</i> M-129 of was trix I). pth pri- leer zed. ase, her itu- yd nde ug- pan are rby ap- one mes	4650 ± 30

Description	Sample No.	Age (yr)	Description Sample I	Jo. Age (yr)
1951 by Donald D. Hartle and submitte by Robert L. Stephenson, River Basin Su- veys, Smithsonian Institution. <i>Temecula, Calif.</i> Carbon from a fire	d r-	< 250	VI. Mexico and Guatemala Portales Cave, southwest Tamaulipas, Mexico. Collected by D. Kelley and sub- mitted by R. S. MacNeish, National Mu-	
place on the floor of Ramada 1, at a dept of 30 in. in a Luiseno site of the Shosh nean Culture. Located on a bench above the Temecula River, 1 mi south of Teme cula. Submitted by B. E. McCown, Sa Diego, Calif. Winnemucca caves, Pershing Count Nev. The two dates below are but a sma part of the radiocarbon dating being dor in the Winnemucca caves of Lake Lahove tan. Other dates have been made by La mont, and while the Michigan measure measured by Lamont, they do supplement them. Submitted by Phil C. Orr, Wester Speleological Institute, Santa Barbar Calif. Crypt Cave. Twisted bird skin robe from	h p e- n 11 ne a- e- as at m M-436	< 250 1510 ± 200	seum of Canada. Vegetable materials from level 3, square M-497 S10 of cave Tm c 248. These were associ- ated with Ocampo culture artifacts as well as gourds, squash (pepo), common beans, and some sort of small lima-like bean. They were definitely above level 7 from an adjacent square dated as 8200 ± 450 yr (M-498) and under materials in a nearby pit from above level 3 dated as 3945 ± 334 yr by the University of Chicago. Ocampo remains from excavations in the cave (Tm c 247) nearby have been dated as 5230 ± 350 yr (M-504) and 4580 ± 350 yr (M-503). Comparable material from the Sierra de Tamaulipas (M-487) is 4445 yr old, and Falcon Dam of Texas (M-129) is 4665 yr old. This is only	5650 ± 350
Indian burial, Nevada State Museum N P3a/127. This is a well preserved mummy with perishable buckskin and basketr from a cave on the upper dendritic lev of ancient Lake Lahontan. A coiled bask superimposed over the grave was dated b Lamont at 2400 yr (L-289DD) (14 under circumstances which suggest a r interment of the older basket. No confli- of radiocarbon dates is seen. Submitted b Phil C. Orr. Chimney Cave. Cedar bark matting fro- burial, Nevada State Museum No. P3b 198. An excellent female mummy flexee	y, y, el bt yy e- ct yy m M-437	2040 ± 2 50	slightly older than expected. Vegetable materials from level 7, square M-498 S10E10 of Tm c 248. These were associ- ated with Infiernillo artifacts as well as gourds, squash, and some sort of bean (maybe wild). These were under M-497. These are of the same culture as that of M-500 from a nearby cave dated as 8540 ± 450 . This is older than expected but in light of its cross-dating and agree- ment with stratigraphy, as well as the fact that there was nothing underneath it that could contaminate it, one has to accept it as valid.	8200 ± 450
face on side, wrapped in cedar bark rok and animal skins, untanned hair remove Pubic apron of untanned fringed ski with cordage about the waist. Burial of this body disturbed an older one (No. 3 and was later covered with cactus brough in by rats, representing a second cactu level for the Winnemucca caves. The ea liest cactus level is associated with extin- horse bones from nearby Crypt Cave. <i>Lower Columbia River, Ore.</i> A larg midden accumulation near The Dalle	be d. in of in in is r- ct		Diablo Cave, Sierra de Tamaulipas, M-499 Mexico. This dates carbon from floor X, layer 5 of square S10E5 of Tm c 81. Asso- ciated with floor X were stone tools of the Lerma phase. In cave Tm c 174 Lerma remains were below a sterile layer below vegetable materials dated (M-487) as 4445 yr ago and typologically it seems older than Infiernillo phase in southwest Tamaulipas dated as 8200 and 8540 yr. The date is acceptable. Collected and	9270 ± 500
Test trenching has revealed stratigraph which analysis has shown to have cultur- significance. The lower stratum (A) has been disturbed by, presumably, fluvial of near-fluvial action and by pit house build- ing. It contains the remnants of spl cedar structures and a culture which a pears to have coastal affinities. Stratum is overlying A, contains a heavy accumul- tion of artifacts which are Plateau in the cultural character. Projectile points ar stone carvings are typical of the late periods. Collected by Warren Caldwel submitted by Douglas Osborne, Univer- sity of Washington.	ny al as or d- lit p- B, a- ir ir ir st l; r-	1000 ± 000	submitted by R. S. MacNeish. Ojo de Aqua Cave, southwest Tamauli- M-500 pas, Mexico. This carbon from the lowest hearth area of square S30E5 in level 11 at a depth of 5.3 ft below the surface of cave Tm c 274. The cultural materials are Infiernillo phase (like M-498) though they are directly under Flacco remains dated as 3945 yr old by the University of Chicago. It is also under Palmillas re- mains (M-506 and M-568) which under- lie San Lorenzo vegetable stuffs (M-501). The date is older than expected but, in light of other dates and stratigraphy, is acceptable. Collected by D. Kelley and submitted by R. S. MacNeish.	8540 ± 450
Split cedar plank, from a structure in trusive into the oldest levels of the mour (in test trench 3—#44), stratum A. Charcoal sample from test trench (#32). From same level as the prece ing, but not from one of the older, undit turbed pockets of original midden (which have not yielded a datable sample). Wood post, charred, from test trench (#40), stratum B. Charcoal from test trench 2 (#15	ad 2 M-409 d- is- ch 3 M-407	1090 ± 200 1070 ± 200 560 ± 200 900 ± 200	Vegetable material from level 1, 0.9 ft M-501 below the surface in square N15W5 of cave Tm c 274 and from a layer overlying carbon of M-500. The artifacts are of the latest prehistoric phase of the area, called the San Lorenzo phase, and more or less related to the mixed specimen from the Sierra de Tamaulipas (C-207) dated as 651 years old (5, p. 129). It was as ex- pected. Collected and submitted by R. S.	520 ± 200
same stratum as preceding. 9 MAY 1958			MacNeish.	1103

rant and R. S. MacNeish. Partial provided in the state of southwest platform. Charcoal from hostor of phase I stage of north- $M.529$ (260 ± 3 the dest of host host of the dest is accept- ble. Collected by Peter Grant and R. MacNeish and submitted by R. S. facNeish. Charcoal and vegetable material (the M.504, wo samples were combined) from level M.567 (4730 ± 300) (Charcoal from phase I platform. Charcoal from lower margin opost- M.5. MacNeish and and it. Vegetable material from top of level 4, M.505 as a fai hito level I A and 4B. Level A contained she as pecimens une from the upper portion and should ave been deposited by the Mesa de vest of the statigraphy in date is acceptable ate or the super portion and should ave been deposited by the Mesa de vest of Nexset platform. Charcoal from the butters of the La vest of Nexset platform. Charcoal from the butters of the La vest able deform the puper portion and should ave ter marks are state areating the grant and agricultural products, this fuertarials from level 3, occu- tor fuertarials from level 3, occu- the charter with elves I the meand the fuertarial form the subset of the carely free statile of the Arcoopolis. Charcoal from the subset of the Areopolis excava- tion. Construction timber, probably a represents a maximum ate for Mesa de Guaje and a minimum re cultural and agricultural apoge of the stratigraphy, the date is acceptable the stratigraphy, the date is acceptable the stratigraphy, the date is a	Description	Sample No.	Age (yr)	Description	Sample No	. Age (yr
47. The associated artifacts were of the heampo phase (see M-497 and K-503, M-504, H-505 M-506, M-506, M-506 Hom heard profile (ED). The date is acceptation is intermed by R-520 M-506, M-506 M-507 M-506 Hom heard are specified of P. R. S. MacNeish. Zapotes period of Olmec culture, P. Response of the stratigraphy and other attacks from level 8, occur. M-503 M-504, H- date is acceptation. The States of California. The States of California. R. S. MacNeish. MacNeish and submitted by R. S. Galacted by P. Grant and R. MacNeish and submitted by R. S. Glarcoial and submitted by R. S. Glarcoial or of squares S20E5 of Tm c 247. Associated with Guerra phase manarrials from top of level 4, M-505 (2400 ± 2) complex A corcupation 9 of squares S20E5 of Tm c 247. Level 4 was a thick layer in the back of the case, often divided by a state attrivay. The date is acceptation. Charcool from hear I platform in M-532 (260 ± 3) (M-57)	<i>lexico</i> . Vegetable materials from leve	el	5230 ± 350	B.C.), justifying suspicions of the early	у	
nd the sample was under M-503, M-504, f-505, M-506, M-567, and M-568 from he same profile (E5). The date is accept- bit neurans of the stratigraphy and other rates for this culture. Collected by P. rata and R. MacNeish. and submitted y. K. MacNeish and submitted y. Clatrocal from level 4, M-507, y. Collected and submitted y. Clatrocal from level 4, M-507, y. Collected and submitted y. Clatrocal from level 4, And 48, Level A contained head submitted y. S. MacNeish and and rif. Y. S. MacNeish and and rif. Y. S. MacNeish and submitted y. Clatrocal from level 4, And 48, Level A contained head submitted y. Clatrocal from base I y attrace west of minestone subp avaing mear northeast entrywy. Interpreted as cyl- dence of early post-complex A activity by persple other than the builders of the Lar y persple other than the builders of the Lar y and fulf dusting whalke a le scale reave an on the bottom of a reneyh. M-538 y. Clatrocal from base I y strates west of more serve ano mithele ski leng: and y. S. Submitted by X. MacNeish. The fulf of Guera rates, This really disting whalke I form reave an on the base and what in the ster strate of the M-504, S. Submitted by X. MacNeish. really disting whalke I form reave an on the stratigraphy in the ster stratigraphic strate trywy. Clatter of the M-504, S. Submitted by X. MacNeish. reave an t	47. The associated artifacts were of th	e				
4505, M-506, M-507, and M-568 from he same profile (S5). The data is a comp- tarnt and R. S. MacNeish.pottery analysis of the La Venta ster, with Middle Tree Zapotes. Submitted by Rob- et F. Heizer, University of California. Charcoal from phase I faits of onrith. M-532 actional from phase I stage of north. M-532 actional from phase I faits of north. M-532 actional from phase I faits of north. M-533 actional from phase I faits of north. M-534 and contemporaneous with phase I faits and contemporaneou				• • • • • • • • • • • •		
ble in terms of the straigraphy and other atters for this culture. Collected by P. P. S. MacNeiah. Mexico. In terms of its straigraphy the date is too particultural products, this form the upper portion burd in the straigraphy, the date is too parts were combined. If rom top of level 4, M-505 mindle data submitted by R. S. Sacciated much sand and the straigraphy, the date is too parts. Collacted form the upper portion and should ave been dependent of the straigraphy the date is carely the contained straigned form the upper portion and should ave been dependent of the straigraphy the date is carely the contained straigned form the upper portion and should ave been deposited by the date is careliter and many agricultural products, this contained and minimum of Guerra terms of its straigraphic bases. However, the two parts were not take to the there was no middle ash lens, sherds appearentie. When the form the upper portion and should ave been deposited by the exa to the straigraphic bases and many agricultural apoge of users to fit very nicely. Collected and submitted by R. S. MacNeiah. La Venta Stein of Guerra refuse. This tere was no middle ash lens, sherds appearentie, the state of the date is careliter and the date of the carely (perhaps the initial) construction timber, probably a roof M-430 time area. It seems to fit very nicely. Collected and minimum of Guerra trains, the date is careliter and exceeted in the super corns to the retas of the Mesa de tare and respecimens the form the level A. So the site is a scorelited to other the take specimens the fourtain and submitted by R. S. MacNeiah. La Venta, Tabaseo, Mexico. Samples	1-505, M-506, M-567, and M-568 from	n		pottery analysis of the La Venta site, with	'n	
ates for this culture. Collected by P. P. Frant and R. MacNeish and submitted by Res Grant and R. McSoli S. Collected and submitted by Res Grant and R. McNeish and submitted by Res Grant and R. McNeish and submitted by R. S. facNeish. Charcoal from phase I platform. Charcoal from these I platform in McSo2 (2600 ± 3) and Contemporaneous with phase I floors and low surface of northwest platform. Charcoal from these I platform in McSo2 (2600 ± 3) and contemporaneous with phase I floors and submitted by R. S. facNeish. Charcoal from these I platform in McSo2 (2600 ± 3) and contemporaneous with phase I floors and submitted by R. S. facNeish. Contact of the McSo3 (2600 ± 3) and contemporaneous with phase I floors and submitted by R. S. facNeish. Contact of the McSo3 (2600 ± 3) and contemporaneous with phase I platform in McSo2 (2600 ± 3) and contemporaneous with phase I floors and submitted by R. S. facNeish. Contact on the set of large of north-set platform. Charcoal from leveled base sands under McSo3 (2600 ± 3) and contemporaneous with phase I floors and set of the Cave of the date is no the set of large of north-set platform. Charcoal from leveled base sands under McSo3 (2600 ± 3) and contemporaneous with phase I floors and set of morth-set platform. Charcoal from leveled base sands under McSo3 (2600 ± 3) and contemporaneous with phase I floors and and trip way agricultural products and platform. Charcoal from leveled base sands under McSo3 (2600 ± 3) and contemporaneous with phase I floors and the set and and minimum or e 247. Level 4 was at thick layer in the same precensation. McSo3 (2100 ± 3) and conternation and the floors in the cast stand water of Rin Adve and the same floor more marking in the initial products, the terms of its straidgraphic base is a maximum at the form set of the McSo3 (2500 ± 3) and conternation and the set and granter and the marking in the minibility erpresents a maximum at the form set tores is the related to other the mark the marking in the misso is a seco					-	
y R. S. MacNeish. Charcoal from level 8, occu-M-503 450 ± 350 to 500 surface of north-M-529 2860 ± 3 to 5, of square \$2585 of Tm c 47. Scheckle M-504, accuration 4 M-504, the date is acceptable material (the M-504, accuration 7 of square \$2025 of Tm c 47. Scheckle M-502 to 500 to 10 of square \$2025 of Tm c 47. Scheckle M-502 to 500 to 10 of square \$2025 of Tm c 47. Scheckle M-504 the date is to carry. Collected and submitted by R. S. faceNeish. Contained much sand and the Collected and submitted by R. S. faceNeish. Contained much sand and the Collected and submitted by R. S. faceNeish and many agricultural products, this Guerran in 48 was precentante. When the tail to or card from the very of square \$2025 of Tm c 47. Scheckle M-503 to 10 of square \$2025 of Tm c 47. Scheckle M-504 to 10 to 10 its was precentante. When the tail from top of level 4, M-505 3650 ± 250 ura for early mover, the two parts were not said many agricultural products, this Guerran in 48 was precentante. When the trut much signific Guerra in the state and many agricultural products, this Guerra in the state speciment at the north to the tait in uta spected M-506 and M-503 it eers was no middle ash lens, sherds a park the speciments the relating from the upper portion and should was the form a concentration for the speciment is in the totic of Tm c 247. University of Michigan. The four the fourt of the M-536 tart of t	ates for this culture. Collected by F).		Charcoal from phase I floors at north	- M-535	3110 ± 30
ation 5, of square 82585 of Tm c 247. sociated with Ocampo tools. In terms 1 M-497 and M-504, the date is accept- ble. Collected by Peter Grant and R. . MacNeish and submitted by R. S. faceNeish. Charcoal and vegetable material (the M-504, occupation 7 of square 82025 of Tm c 247. 1470 ± 200 1470 ± 200 14	y R. S. MacNeish.			Charcoal from phase I stage of north	- M -529	2860 ± 30
$I M-497$ and M-504, the date is accept- ble. Collected by Peter Crant and R. MacNeish.Charcoal from artificial fill underlying M-534 2670 ± 3 $I MacNeish.$ AcNeish.Charcoal from pase I platform in M-532 2650 ± 3 $I A contained S20E5 of Tm ctrials, including Bat Cace type corn. Intrials, including Bat Cace type corn. Intrials including Bat Cace type corn. Intrials.Charcoal from plase I platform in M-532typing on plase IV surface west of north-cast entryway.Charcoal from burned area on phase IV M-533the couption 9 of lost square S20E5 ofthe cace, often divided by ano of ash into level 4A and 4B. LevelA contained sherds of the Mess de Guajethese and many agricultural products,in le Guerra in 18 was preceramic. Whenere was no middle ash lens, sherds ap-eared in its upper portion bat not in itswere, the two parts were notana expected, and I expect that it in-udes quite a bit of Guerra fuse. Thisis associated with Palmillas remains,te carls, rearming whet form set a maximumate for Mess a de Cuaje and a minimumor Guerra. In terms of its stratigraphicsoiton between M-506 and minimumr Guerra. In terms of its stratigraphicis associated with Palmillas remains,te carls the stratigraphic bit of Guerra Paramise,it associated with Palmillas remains,te carls the stratigraphic bit of Guerra sta maximumate for Mess of the yery nicely. Collected andthimited by R. S. MacNeish.Charcoal from artificial fill und$	ation 5, of square S25E5 of Tm c 247		4580 ± 350	Charcoal from bottom of phase II pit 68	3 M- 530	2760 ± 30
. MacNeish and submitted by R. S. facNeish and vegetable material (the M-504, so samples were combined) from level M-567 (4730 ± 300) for local ($M-567$) (4730 ± 300) ($A-2$. Charcoal from phase I platform in M-532 (260 ± 3 mound A-2. Charcoal from leveled base sands under M-531 (260 ± 3 mound A-2. Charcoal from leveled base sands under M-532 (260 ± 3 mound A-2. Charcoal from lower margin of post- M-532 (2400 ± 2 complex A occupation winkollown sands by ring on phase IV surface west of north-cast entryway. Charcoal from base IV surface west of north-cast entryway. Therpreted as evidence of early post-complex A activity by					g M- 534	2670 ± 30
Charcoal and vegetable material (the M-504, o scamples were combined) from level M-567 4730 \pm 300 \pm 300 \pm 2560 \pm 3 lying and contemporaneous with phase I platform in mound A-2. Charcoal from leveled base sands under-M-531 2560 \pm 3 lying and contemporaneous with phase I platform in mound A-2. Charcoal from leveled base sands under-M-531 2500 \pm 2400 \pm 2 complex A occupation of post-M-528 2400 \pm 2 local complex A occupation with phase I platform in mound A-2. Charcoal from leveled base sands under-M-531 2560 \pm 3 lying and contemporaneous with phase I platform in mound A-2. Charcoal from level and submitted by R. S. facNeish. Contained much sand and irt. Vegetable material from top of level 4, M-505 3650 \pm 250 in c 247. Level 4 was a thick layer in the back of the cave, often divided by a no of ash inc ave, often divided by a no of ash inc ave, often divided by a no of ash inc ave, often divided by a hase and many agricultural products, hile Guerra in 4B was preceramic. When there was no middle ash lens, sherds ap- eared in its upper portion but not in its were; however, the two parts were not eadily distinguishable. These specimens ume from the upper portion and should ava been deposited by the Mesa de uage phase. However, the date is acalter and expected, and I expect that it in- udes quite a bit of Guerra refuse. This reality probably represents an aximum ate for Mesa de Guaje and a minimum or Guerra. It seems to the very nicely. Collected and toin 11, of square S20E5 of Tm c 247. : is associated with Palmillas remains, the clusaic remains in Mexico. In terms it the stratigraphy, the date is acceptable tat comparatively it seems slightly earliers it an expected. Collected and submitted the Clustor cinemis from Level. Associa. Mexico. Samples					s	
wo samples were combined) from level M-567 4730 \pm 300 cocupation 7 of square S20E5 of Tm c 47, associated with Guerra phase ma- trials, including Bat Cave type corn. In model ease and submitted by R. S. facNeish. Contained much sand and it. Vegetable material from top of level 4, M-505 3650 \pm 250 coupation 9 or 10 of square S20E5 of 3640 \pm 250 ceupation 9 or 10 of square S20E5 of 3640 \pm 250 ceupation 9 or 10 of square S20E5 of 3640 \pm 250 ceupation 9 or 10 of square S20E5 of 3640 \pm 250 ceupation 1 level 4A and 4B. Level A contained bereads of the Mesa de Guaje hase and many agricultural products, hase and many agricultural products, the beak of the desa de Guaje hase and many agricultural products, thase and many agricultural products, the from the upper portion but not in its the from the upper portion and should ave been deposited by the Mesa de toring function the sat stratigraphic soition between M-506 and M-503 it the cartarial strom level 3, occu- tation 11, of square S20E5 of Tm c 247. ti sassociated with Palmillas remains, the cartarial strom level 3, occu- te carea, 1t seems to be related to other it careating tobably represents a maximum ate for Mesa de Guaje and a minimum the Guertarials from level 3, occu- tic area, It seems to be related to other the cartarials from level 3, occu- the carea, It seems to be related to other the cartarial shifty earlier the cartarial agricul		e M-504,			n M-5 32	2650 ± 300
47, associated with Guerra phase marrials, including Bat Cave type corn. In trms of the stratigraphy, the date is too arry. Collected and submitted by R. S. facNeish. Cule tot as a dand it.platform in mound A-2. Charcoal from lower margin of post-M-528 2400 \pm 2 2400 \pm 2 complex A occupation windblown sands lying on phase IV surface west of north- east entryway. Charcoal from lower are the sharing near northeast entryway. Interpreted as evi- dence of carly post-complex A activity by people other than the builders of the La Venta site. Charcoal from the bottom of a trench M-536 cut into north apron of the Great Pyra- mid. Should give the date of the early (perhaps the initial) construction of the peramid. Chimaltenango Department, Guate- M-292 24,000 \pm 3 mudal, Natural charcoal from within and under voleanic ash deposit at the head- waters of Rio MacNeish. La Venta a dargicultural apogee of te areal. It seems to be related to other the charaisa from level 3, occu- MS. MacNeish.2400 \pm 2 2400 \pm 2 2400 \pm 2 3650 \pm 25077. S. MacNeish. La Venta Tabaszo, Mexico. S. MacNeish.780 \pm 2 2 4780 \pm 2 2 478. S. MacNeish. La Venta, Tabaszo, Mexico. S. MacNeish.780 \pm 2 2 4780 \pm 2 2 478. S. MacNeish. La Venta, Tabaszo, Mexico. S. MacNeish.780 \pm 2 2 4780 \pm 2 2 4 478. S. MacNeish. La Venta, Tabaszo, Mexico. S. MacNeish.780 \pm 2 2 4 478. S. MacNeish. La Venta, Tabaszo, Mexico. S. MacNeish.780 \pm 2 2 4 479. S. MacNeish. La Venta, Tabaszo, Mexico. S. MacNeish.780 \pm 2 2 4 479.	vo samples were combined) from leve	1 M-567	4730 ± 300			2560 ± 30
rms of the stratigraphy, the date is too arly. Collected and submitted by R. S. facNeish. Contained much sand and irt. Vegetable material from top of level 4, M-505 Vegetable material from top of level 4, M-505 A contained sherds of the Mesa de Guaje hase and many agricultural products, hale Guaris nut By exp protion but not in its wer; however, the two parts were not adily distinguishable. These specimens the spected, and I expect that it in- udes quite a bit of Guerra refuse. This reality probably represents a maximum ate for Mesa de Guaje and in stratigraphic berse to fit very nicely. Collected and bumited by R. S. MacNeish. Vegetable materials from level 3, occu- M-568 I to enstrating app, the date is acceptable at comparatively it seems slightly earlier in expected. Collected and submitted to comparatively it seems slightly earlier in expected. Collected and submitted to comparatively it seems slightly earlier in expected. Collected and submitted tra expected. Collected and s				platform in mound A-2.		2400 + 25
facNeish. Contained much sand and irt.east entryway. Charcoal from burned area on phase IV M-533 Sufface west of limestone slab paving near northeast entryway. Charcoal from burned area on phase IV M-533 sufface west of limestone slab paving near northeast entryway. Laterpreted as evi- dence of early post-complex A activity by people other than the builders of the La Venta site. 2130 ± 3 Acontained Mesa de Guaje an so fash into level 4A and 4B. Level A contained sherds of the Mesa de Guaje areard in its upper portion but not in its wer; howery, the two parts were not acadily distinguishable. These specimens ume from the upper portion and should ave been deposited by the Mesa de uaje phase. However, the two parts were not reality probably represents a maximum ate for Mesa de Guaje and a minimum or Guerra refuse. This to reality probably represents a maximum ate for Mesa de Guaje and a minimum or Guerra. In terms of its stratigraphic is associated with Paimllas remains, ne cultural and agricultural apogee of te area. It seems to be related to other te class. Mexico. In terms of the stratigraphy, the date is acceptable the stratigraphy, the date is acceptable the cultural and agricultural apogee of te area. It seems to be related to other te classion.2130 \pm 3The cutural and agricultural apogee of te area. It seems to be related to other te classion.2130 \pm 3The text Classice remains, the extraingraphy, the date is acceptable at comparatively it seems slightly earlier ta comparativ	rms of the stratigraphy, the date is too	D		complex A occupation windblown sand	s	2400 ± 230
Vegetable material from top of level 4, M-505 scupation 9 or 10 of square S20E5 of m c 247. Level 4 was a thick layer in ne back of the cave, often divided by a ns of ash into level 4 A and 4B. Level A contained sherds of the Mesa de Guaje Acontained sherds of the Mesa de Guaje eared in its upper portion but not in its wer; however, the two parts were not eared in its upper portion but not in its wer; however, the two parts were not adily distinguishable. These specimens uue from the upper portion and should ave been deposited by the Mesa de uuje phase. However, the date is carlier stan expected, and I expect that it in- udes quite a bit of Guerra refuse. This to relity probably represents a maximum ate for Mesa de Guaje and a minimum or Guerra. In terms of its straigraphic is associated with Pamillas remains, te cultural and agricultural apogee of te area. It seems to be related to other te Classic remains in Mexico. In terms i the straigraphy, the date is acceptable tu comparatively it seems so be related to other te Classic remains in Mexico. In terms i the straigraphy, the date is acceptable tu comparatively it seems so. be related to other te Classic. remains in Mexico. In terms i the straigraphy, the date is acceptable tu comparatively it seems so. be related to other te Classic. remains in Mexico. In terms i the straigraphy, the date is acceptable tu comparatively it seems sightly earlier tan expected. Collected and submitted y, R. S. MacNeish.sofit de straigned with a mexico. Samplessurface were of a difference of early post-complex A activity by people other than the builders of the La Venta site. Charcoal from the bottom of a trench M-536 the initial construction of the provid. Collected and submitted waters of Patawal charcoal from within and uunder volcanic ash deposit at the head- waters				east entryway.		
accupation 9 or 10 of square S20E5 of m c 247. Level 4 was a thick layer in be back of the cave, often divided by a ns of ash into level 4A and 4B. Levelnortheast entryway. Interpreted as evi- dence of early post-complex A activity by people other than the builders of the La Venta site.A contained sherds of the Mesa de Guaje hase and many agricultural products, hile Guerra in 4B was preceramic. When eared in its upper portion but not in its wer, however, the two parts were not adily distinguishable. These specimens ume from the upper portion and should ave been deposited by the Mesa de uuge phase. However, the date is earlier an expected, and I expect that it in- udes quite a bit of Guerra refuse. This reality probably represents a maximum ate for Mesa de Guaje and a minimum or Guerra. In terms of its stratigraphic osition between M-506 and M-503 it re area. It seems to be related to other the clausic remains in Mexico. In terms it he stratigraphy, the date is acceptable at comparatively it seems singhty earlier ta e expected. Collected and submitted yR. S. MacNeish.3440 \pm 250 ation 11, of square S20E5 of Tm c 247. is associated with Palmillas remains, it es arsacitared with Palmillas remains, it es tratigraphy, the date is acceptable at comparatively it seems is in Mexico. In terms if the stratigraphy, the date is acceptable at comparatively it seems slightly earlier ta comparatively it seems is lightly earlier ta comparatively it seems is lightly earlier ta comparatively it seems is lightly earlier ta comparatively it seems. the stratigraphy, the date is acceptable the clause, Mexico. Samplesnortheast entryway. Interpreted a sevi- dence of early post-250 midle level.Statu 5250 di S a sevi- construction timber, probably a roof M-430 to fachred wood against a smoke-stain		M-505	3650 + 250			2130 ± 300
ne back of the cave, often divided by a no of ash into level 4A and 4B. Levelpeople other than the builders of the La Venta site.A contained sherds of the Mesa de date in its upper portion but not in its ower; however, the two parts were not acadily distinguishable. These specimens ume from the upper portion and should ave been deposited by the Mesa de to ave been devale a bit of Guerra refuse. This to avera fully probably represents a maximum ate for Mesa de Guaje and a minimum to figure S2065 of Tm c 247. is associated with Palmillas remains, the cultural and agricultural apogee of te classic remains in Mexico. In terms the to comparity by its earlier ta comparity by the date is acceptable the classic remains in Mexico. In terms the stratigraphy. the date is acceptable the classic remains in Mexico. In terms the totagraphic bit of the classic is 15 mi southeast of to comparity by its earlier ta comparity by its earlier ta comparity by its earlier ta comparity by its earlier the to the scenes to the comparity by its earlier to avera ta classic remains	ccupation 9 or 10 of square S20E5 o	f		northeast entryway. Interpreted as evi	-	
ns of ash into level 4A and 4B. LevelVenta site.A contained sherds of the Mesa de GuajeCharcoal from the bottom of a trench M-536 2530 ± 3 A contained sherds of the Mesa de GuajeCharcoal from the bottom of a trench M-536 2530 ± 3 hile Guerra in 4B was preceramic. Whencuit no north apron of the Great Pyra-mid.hile Guerra in 4B was preceramic. When(perhaps the initial) construction of the 2530 ± 3 hile Guerra in 4B was preceramic. When(perhaps the initial) construction of the 2530 ± 3 were vas no middle ash lens, sherds ap-(perhaps the initial) construction of the 2530 ± 3 adily distinguishable. These specimens(perhaps the initial) construction of the 2530 ± 3 and the upper portion but not in its(perhaps the initial) construction of the 2530 ± 3 were is however, the two parts were not(perhaps the initial) construction of the early 2530 ± 3 and the upper portion but not in its(perhaps the initial) construction of the early $24,000 \pm 3$ audity distinguishable. These specimensmala. Natural charcoal from within andunder volcanic ash deposit at the head-au expected, and I expect that it in-Submitted by L. C.Submitted by L. C.uate for Mesa de Guaje and a minimumof Michigan.La Quemada, near Zacatecas, Mexico.reality probably represents a maximumof a room in the cast side of the Acropolis.the stratigraphicof a room in the cast side of the Acropolis.Raire and early in a room of the Acropolis excava-tostion between M-506 of the carlyof charred wood aga						
hase and many agricultural products, hile Guerra in 4B was preceramic. When there was no middle ash lens, sherds ap- eared in its upper portion but not in its wer; however, the two parts were not adily distinguishable. These specimens mue from the upper portion and should ave been deposited by the Mesa de vuaje phase. However, the date is carlier tan expected, and I expect that it in- udes quite a bit of Guerra refuse. This reality probably represents a maximum ate for Mesa de Guaje and a minimum ate for Mesa de Guaje and a M-503 it berms to fit very nicely. Collected and thimited by R. S. MacNeish. e cultural and agricultural apoge of te calasic remains in Mexico. In terms i the stratigraphy, the date is acceptable ut comparatively it seems slightly earlier tan expected. Collected and submitted yR. S. MacNeish. La Venta, Tabasco, Mexico. Samples La Venta, Tabasco, Mexico.	ns of ash into level 4A and 4B. Leve	1			M 586	2520 + 20
here was no middle ash lens, sherds ap- eared in its upper portion but not in its ower; however, the two parts were not acadily distinguishable. These specimens ume from the upper portion and should ave been deposited by the Mesa de vuaje phase. However, the date is earlier tan expected, and I expect that it in- udes quite a bit of Guerra refuse. This tereality probably represents a maximum are for Mesa de Guaje and a minimum or Guerra. In terms of its stratigraphic osition between M-506 and M-503 it emist to fit very nicely. Collected and thimited by R. S. MacNeish.(perhaps the initial) construction of the pyramid. Chimaltenango Department, Guate- M-292 24,000 ± 3 mala. Natural charcoal from within and under volcanic ash deposit at the head- waters of Rio Madre Vieja, about 12 km west of Patzun. Submitted by L. C. Stuart, University of Michigan. La Vents, Tabasco, Mexico.Or Guerra. In terms of its stratigraphic osition between M-506 and M-503 it emis to fit very nicely. Collected and the initial promains, is associated with Palmillas remains, te calasic remains in Mexico. In terms it de tratigraphy, the date is acceptable at comparatively it seems slightly earlier tan expected. Collected and submitted yR. S. MacNeish.1720 ± 200 to fit form upper western M-432 to fit. Construction timber from upper western M-432 toon. Construction timber from upper western M-432 ter calasic comparatively it seems slightly earlier tan expected. Collected and submitted yR. S. MacNeish.Mexico. SamplesLa Venta, Tabasco, Mexico. SamplesKexico, Samples<				cut into north apron of the Great Pyra	-	2330 ± 30
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	R. S. MacNeish.			Miscellaneous wood fragments from	M- 192a	9540 ± 55
				Wood fragment W283 from middle level.		9300 ± 40
niversity of California excavations from level.	niversity of California excavations from	1			M -193	3200 ± 25
ne rectangular "Ceremonial Court" Complex A), which lies just north of VII. Pacific and Far East.				VII. Pacific and Far East.		
the Great Pyramid (15). Complex A was Able Site, Kapyong, Korea. Charcoal M-303 1700 ± 2 sample from a charred log representing						1700 ± 25
not cultural) phases, which were as-	not cultural) phases, which were as	-		the roof structure of a protohistoric pit-	-	
gned the numerals I (earliest) to IV dwelling in central Korea. Other material found includes stone tools and ornaments,						
mples are interpreted as indicating that as well as pottery made both by coiling	mples are interpreted as indicating that	t		as well as pottery made both by coiling	r S	
omplex A was constructed and used dur- g the period from approximately 2755 and on the potters' wheel. The latter pot- tery appears quite like ware of the Han						

Description Sample No.	Age (yr)	Description	Sample No.	Age (yr)
Dynasty of China and probably belongs		Charcoal from a fireplace under the	an- M-538	< 200
to the Lolang era in Korea. This sample		cient house floor at South Point, Haw	vaii	
dates a house of what must have been		Island, site H 1, square L 11, at 14 to	17	
frontier-living peasants who still used		in. below the top of the cultural depo		
Neolithic tools as well as imported bowls.		We believe the probable age of this fi	re-	
Scraps of rusted iron tell that this ma-		place to be at least 400 yr, and suspe		
terial was known and used as well. The		as with M-479, contamination throu	gh	
material found is very much like that from		sea-water or rootlets.		
house pits of similar age in northern		Yap Island. University of Californ	nia	
Japan. Submitted by Howard A. Mac-		expedition of 1956, E. W. Gifford a		
Cord, U.S. Army Engineers.		D. S. Gifford, University of Californ	ia,	
Hawaiian Islands. Charcoal samples		Berkeley.		
collected in 1955 by Bernice P. Bishop		Charcoal from grave of Rugog, Noah	of M-626	200 ± 200
Museum parties under the direction of K.		Yapese mythology, Teb village, Tor	nil	
P. Emory, and submitted by him.		municipality. University of Californ	nia	
Charcoal from bluff shelter, Haeleele, M-477	520 ± 200	Museum of Anthropology (UCMA) N	lo.	
Kauai Island, site K 1, square E 32, at		11-32906.		
the very bottom of a cultural deposit ex-		Charcoal from depth of 24 to 30 in.	at M-629	200 ± 200
tending from 3 to 42 in. below the surface.		site of Penin, Kanif village, Dalipebin	au	
Charcoal from large lava-tube shelter M-478	300 ± 200	municipality. Cultural refuse extended	to	
named Makalai, South Point, Hawaii Is-		a depth of 30 in. UCMA No. 11-32781.		
land, site H 2, square S 9, at 48 in. depth		Charcoal from depth of 30 to 42 in.	at M-631	320 ± 200
in a cultural deposit extending from 3 to		house site of Boldanig, Malaj villa	ge,	
53 in. below the surface.		Kanifay municipality. Cultural refuse of	ex-	
Charcoal from a ground oven appar- M-479	200 ± 200	tended to a depth of 90 in. UCMA N	os.	
ently under an ancient house floor buried		11-32794, 32806, 32818, 32830, 32842.		
by a sand dune at South Point, Hawaii		Charcoal from depth of 18 to 24 in.	at M-632	250 + 400,
Island, site H 1, square J 5. The house		site of Pemrang, Giror village, Galim	an	-250
floor must date not later than A.D. 1800,		municipality. Cultural refuse extended	to	
for no post-European period artifacts		a depth of 90 in. UCMA No. 11-32894.		
were found in it.		Charcoal from depth of 24 to 30	in. M-633	100 + 200,
Charcoal from a bluff shelter, Nihoa M-480	520 ± 200	at same site as M-632. UCMA Nos. 1	1-	-100
Island, 150 mi northwest of Kauai Island,		32862, 32871, 32878, 32886, 32895.		
site 60, at 14 to 18 in. below the floor,		Charcoal from depth of 48 to 72		1780 ± 250
being sterile above and below this fire-		at same site as M-632. UCMA Nos. 1	1-	
place. Collected by H. Ivan Rainwater.		32863 to 32866, 32874, 32881, 32887.		

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