

4004 — 752	221 — 828	PUEBLO BONITO
3993 — 758	13 — 834	JPB 105 — 859
4012 — 758	231 — 835	(good section)
4089 — 798	79 — 843	
3992 — 800	4 — 845	900's
3995 — 828	6 — 845	
4003 — 927	78 — 848	FLAGSTAFF AREA
Estimated building 800 ± 40	1 — 857	SITE N.A. 1680
and 950 ± 20		F 892-919—990 ±
PUEBLO BONITO	FLAGSTAFF	SITE N.A. 862
Pithouse in Wash	SUNSET CRATER AREA ⁸	F 206-310 — 914
JPB 11 — 770 ± 10	SITE N.A. 1959	SITE N.A. 192B
13 — 777 ± 10	F 2361 — 784	F 745 — 925
800's	SITE N.A. 1531	SITE N.A. 1625C
BENNETT'S PEAK	F 2613 — 834	F 1343 — 930 ± 4
(NW New Mexico)	2612 — 846	SITE N.A. 408
MBP 77 — 675 + X	SITE N.A. 1925B	F 731 — 976
200 — 794 +	F 2444 — 833	SITE N.A. 1531
62 — 795	2450 — 859	F 3062 ⁹ — 964 ±
160 — 796 +	SITE N.A. 1920B	Provisional
	F 1680 — 860	

- 1 Other MLK numbers of this date are 73, 75, 78, 84, 85, 127, 128, 129, 130, 131, 133, 135, 62, 169, 166, 175, 55, 62, 178, and 179.
- 2 Other numbers of this date are 164, 165, 167, and 171.
- 3 Other numbers of this date are 265, 88, 51, 137, 138, 139, 140, and 173.
- 4 Other numbers of this date are 9, 17, 35, 36, 39, and 224.
- 5 Other numbers of this date are 202, 203, 204, 212, 214, and 47.
- 6 Other numbers of this date are 21, 49, and 44; dating provisional; charcoal "planks."
- 7 All sites in this group and most specimens show extensive loss of outer rings. Dates listed apply to last ring present on specimen.
- 8 Outer rings generally present; approximate original outside if three.
- 9 This date appears on a number of charcoal pieces but has been held several years for more satisfactory identification; if this is correct it means a second occupation of Site N.A. 1531.

ARCHAEOLOGICAL BACKGROUND OF DATES IN EARLY ARIZONA CHRONOLOGY

BY E. H. MORRIS

The following statements are made without having seen the dates which have been presented by Dr. Douglass in the preceding paper. A list of the sections from cave sites is before me and from previous correspondence I know that the outstanding timber from Obelisk Cave laid on its last ring in 477 A. D. while some from Broken Flute were cut near the middle of the latter half of the 600's, but there my information ends. It will be of interest to learn to what extent impressions based on strictly archaeological evidence, which, it must be admitted, is not as yet thoroughly digested, conform to chronological fact.

MUMMY CAVE

All Mummy Cave cists observed were used during BM III, but some of them may have been built during BM II. Long BM II occupation of Mummy Cave indicated by voluminous mass of ashy rubbish composing initial element of refuse talus which thus far has yielded no sherds whatever. Mummy Cave and its neighbor, Cave I (del Muerto), continued to be frequented during later culture horizons, hence, because of mixture, it

would be difficult satisfactorily to delimit BM III culture from materials found in them.

BROKEN FLUTE, OBELISK AND OTHER CAVES IN RED ROCK VALLEY

Broken Flute, Obelisk, and Caves 1, 2, 6, 7 and 8 are situated along the ramifications of Black Horse Creek which drains eastward from the divide connecting the Lukachukai and Carriso mountains. In that district the caves were seldom resorted to, at least as dwelling places, by later aborigines, hence present as clean a cross section of BM III culture as could well be expected. To this pattern culture of the period in del Muerto would seem to conform in every known particular.

From the first, Obelisk Cave impressed me as very early. House type, oval to vaguely circular, dug down somewhat into cave floor. Flat roof supported by four posts forming a rectangle set in from periphery. Sides of spaced slanting poles, their butts set back from edge of excavation to leave bench most of the way around. Poles covered with reeds or juniper bark laid horizontally, lashed in place and covered with thick outer shell of vegetable reinforced mud. Fire pit at S center. Nature of entrances not evident. Slab storage cists, some very large, nearby but not contiguous. Burials at center of cave, some wet, rest looted by later aborigines. In pits, bark lined, skulls undeformed. Blankets of both fur- and feather-string. Profusion of coiled baskets, twined bags, sandals and aprons with both dyed and painted patterns. Braided garters (?) sashes, etc. No pottery in graves. Mortars and trough metates in houses, metates most plentiful. In both houses and refuse, unfired vegetable reinforced mud bowls. Clay figurines present. Two distinct wares among true pottery: (1) plain gray; sand tempered usually coarse and not well smoothed; bowls, squash pots and globular vessels with low necks. (2) light mustard brown to pale light orange, fine grained, rather soft, highly polished over a slightly wavy or dimpled surface. No decorated or plain red sherds observed. Bow and arrow present. Excellent workmanship in wood, bone and mountain sheep horn.

While some of the chambers in Broken Flute and Caves 1, 2, 6, 7 and 8 may be as early as those in Obelisk, I believe most of them to be appreciably later. Single room dwellings up to 25 feet in greatest diameter, constructed after method previously described, rectangular with rounded corners, oval, or vaguely circular, the universal type. A low bench characteristic but not always present. Sometimes consists of pit bank, slab faced; more frequently of earth tamped in after walls and adobe floor had been completed. Follows varying proportions of the arc but never crosses the south or away-from-cliff side. Radial floor ridges from S center fire pit to periphery usually present. Commonly interior slab bins occur where ridges join side walls. Where not destroyed by erosion there is evidence of narrow lateral entrance. Smoke hole also served as entrance. Reached from inside by runged ladder identical to those known from Pueblo III. Storage cists, some of almost room size of slabs or mud and stones variously compounded between and behind dwellings, not frequently contiguous. Burials at extremities of cave or in talus slopes in front. Nearly all removed by erosion. Mortars common, but trough metate predominant grinding device. Both fur- and feather-string blankets. Coiled basketry prevalent, also twined bags but of small size and twined sandals ranging from slightly concave to round toed. Aprons, garters, etc., still made. Beans in addition to maize and squash a third staple food crop. In refuse and burned houses vegetable reinforced mud vessels, often basket molded,

prevalent. Usually of shallow bowl shape, but few have indrawn tops. Clay figurines conspicuous. Among true pottery four distinct wares. (1) plain gray with sand temper grading from fine to very coarse, finish from heavily pebbled to reasonably smooth. Forms: squash pots (very plentiful) from depressed spherical to elongated, bowls, globular pots with short necks, tapering, straight, swelled or recurved, bottles up to 15 inches diameter with relatively narrow necks. Small muffin-shaped vessels with orifice in top and lateral hollow spout rare but characteristic. Small pierced lugs occasionally present on squash pots and small bottles. No handles whatever on large vessels. (2) Light mustard brown, fine grained, sand tempered, rather soft, highly polished over dimpled surface. Forms, bowls and squash pots. (3) Rock tempered decorated. Bowls only. Light gray, hard, some pebbled, the majority rather smoothly finished but not polished. Pigment with one observed exception mineral. Sparse patterns carried over directly from basketry and other textiles. (4) Red ware tempered with fine sand. Fairly hard, heavily slipped, usually both inside and out. Well polished over surface sometimes dimpled, but usually true and uniform. Forms; bowls, squash pots and globular jars having break of curve 1 inch or more from rim and rising more abruptly thence to margin. Opposite small slenderly pierced lugs usually present on squash pots and jars. No observed instance of decoration. One specimen suggests a possible fifth category—a polychrome squash pot with pierced lugs. Grayish round, broad line dark red pattern outlined with black. Not to be confused with P 1 polychrome from north of the San Juan (Alkali Ridge and upper La Plata country).

Apparently bow and arrow had completely superseded atlatl. Beads and ornaments plentiful. Good work in bone and craftsmanship in wood excellent.

Detailed study of the field record and material objects from Obelisk, Broken Flute and the other caves of the district—an undertaking with which I am at present engaged—may reveal greater and more significant changes than are now apparent in BM III culture during the two centuries, more or less, from 475 A. D. and the latter 600's. In the light of the present, however, the culture in question seems to have remained surprisingly static during that interval. There would appear to have been a slight increase in size and somewhat greater stability in house construction; the addition of two types of pottery, rock tempered decorated and polished red, with a considerable amplification of the range of vessel forms; otherwise little change. Yet it must be borne in mind that Obelisk Cave, which affords the present basis for a contrast of "early" with "late" is but a single site and small at that. Future findings may reveal that cultural change was more rapid or more slow than it now appears to have been. I regard 750 A. D. as a workable terminal date for BM III. As to when the period may have begun we shall have no true lead until beam dates have been secured from a site in the nuclear area of unquestionable BM II identity: