11-25 A.M.

L. T. 6. .

EXAMINATION OF COLLECTIONS

Irving: Punyk complex - related to Denbigh

Polished adzes to cut antler, burin spalls, microblades, small side blades. 3d mil. BC. Overlain by Norton

Side blade retouch indicates very consistent point with sharp tip.

DC: Microblades done by pressure

FB Microblades may have been made by percussion. Maybe "cores" are are carinate scrapers.

Demonstrates use of sharp lateral edge of burin to smooth bone for point,

Lithic Technology 7

DC thinks pressure technique for manufacture of obsidian blades because percussion would produce undulation - does not think percussion would produce obsidian blades like these

PRESSURE CONTROLLSUNIFOR MITY Thinks bulbar ends are too small for percussion on flint specimens, Flatness also indicates pressure.

FB brings out small blades he has made by percussion - tend to substanciate DC s opinions.

J.T.: Very sharp-angle between blade surface and platform comparable only to Egyptian Proto-Dynastic.

Polishing on faces of flakes with burins may result from working in groove on antler and bone.

Anangula material - Alaska, C14 = c. 6000 BC; several thousand artifacts.

Sample Assemblage: transverse burins, large retouched blades, core tablets (from core renewal). I stone vessel or lamp.

Traces of semi-subterranean dwellings. Pyramidal blade cores.

Small island near Umnak, accessible from land c. 6000-7000 BC.

CODY

FB: supply of flint may have been restricted - went from big cores
down to small. Wood hammer or punched blades. Purposeful retouch
on blades. Transverse burins similar to Lower Magdalenian.

JT: looks like particular tools from particular materials - end scrapers from obsidian, other tools from chalcedony, etc.

WI: In Punyuk end scrapers never made from obsidian.

JT: Small cores exactly the same as Upper Capsian in North Africa.

Striking platform prepared with little flakes with hollow bulbs small blades pushed out with pressure or punch.

Keewatin Dist. Points. W. of Hudson's Bay; 1st occupation of barren ground area 6000-7000 BC. Much in Quartzite - similar to George Lake and Aqua-Plano (no further comment noted)

11-25 P.M.

Bordes attempts Irving-type burins. Much chipping by group.

FB not having much luck ("Blocdy hell")

JT makes a reasonable imitation, FB continues with some success.

11-26 A.M.

Byers, Debert, Nova Scotia 9000 BC - 50 (3 dates)

Fluted and non-fluted points, end scrapers with graver spurs, burinlike spalls from "wedges", no microblades, many side scrapers.

No true blades - some chance similarities - no blade cores.

- DC: Flutes made by percussion but much finishing by pressure.
- FB: "Wedge" is beautiful pièce esquillée; this with "multiple perforators" (gravers in Paleo-Indian typology) similar to Early Magdalenian.

One steeply retouched blade, one long foliate point with some polishing...similar to Solutrean ("could be Solutrean").

One large point with flat face left on one side and flute on other.

American cultures combine features of many European cultures.

Well used pièce esquillée will fracture in columnar fracture.

DB: "These (p.e.) are Witthoft's exhausted cores"

## Bull Brook:

Points quite different from Debert - much multiple flacing.

Pièce esquillée also present; small scrapers with graver on corner, few on base. Retouched broad flat flakes.

FB sees several blades in flake material.

Wide and multiple flutes from beveled base.

- DB: Points in range of Clovis and some similar to Lindenmeier without long ears.

  Long, thick blade-like flake with thin and shattered bulb looks like punch technique.
- FB: Definition of blade any kind of flake more than twice as long as wide in direction of blow.

Many big flakes detached by wood billet as indicated by ground or abraded platform (flakes of bifacial retouch).

Piece esquillée pounded to split antler (or bone for marrow).

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11-25 P.M.

Beyers (again): Red Paint Culture

Archaic. Slate chipped by percussion, while agate and quartzite chipped by pressure. No evidence of heat treatment.

Repeated remarks up to this point of similarity of well-retouched Paleo-Indian end scrapers to Spanish Solutrean.

Coe: Williamson

Mardaway: Early level - nice scraper on typical levallois flake. Perhaps heat treating late in sequence. Russell Cave.

JE: How do you distinguish between basal thinning and fluting?

DC: Basal preparation necessary for fluting; basal thinning is direct removal of basal material.

Pine Tree Site: Many retouched blades. Magdalenian I type borer, fluted points, Solutrean-like scraper.

On some Cumberland points difficult to tell whether fluting done before or after marginal flaking.

Daltons from Stanfield-Worley - these are really stemmed points. Flint Ridge oyates: very well controlled percussion. 11-26 A.M.

Jelinek: Large red Ochre points - percussion

Hopewell points mostly resharpened on one edge as cutting tools. Cahokia spalls undoubtedly drills.

Hopewell cores and blades show evidence of heat treatment.

C. I. Williams: Blades from Clovis at Blackwater; retouch looks very much like Upper Paleolithic in European sense. Punch technique seems predominant.

Two good examples of pointe á face plane, another possibility.

Number of techniques probably used, punch certainly used, bulbs abraded and polished on 2 specimens.

- FB: Wherever cortex platform used have smaller bulb.
- H. M. Wormington: Lindenmeier
- DC: Distinction between hinge and step-fracture. Hinge curls under.

  Point supported on tip while flute removed. Special preparation for support of tip.

Flaking techniques of Plane horizon differ from Folsom.

Overall retouch on small end scrapers similar to Spanish Solut.

Blacks Fork Material with levallois-like flaking, also bifacial point, etc.

Ohio: Sawmill site - Flat retouch mostly percussion, a few finished with pressure.

Nebo hill point and associated gouge.

El Jobo (Venezuela) Rocker-shaped elongated limaces, one good flat limace. Bifacial points quite heavy. PS thinks Kharga similar.

El Inga: Obsidian microblades. "double burin" might be confused with small blade core. Several burin spalls. Blades appear to be made by percussion (direct?)

## 11-26 P.M.

H. Irwin: Hell Gap 9000-7000 BC

Large levallois-like flakes with grinding on platform. Blades made by percussion on ridge (on striking platform?),

Distinction between knives and "blanks" (preforms).

Large end scrapers rare in western Paleo-Indian.

- FB: Big flat bifacial ovates are stages of manufacture of finished artifacts. Blades struck from flat levallois-like blade core.
- DC: Some evidence of heat treatment.

  Alberta style points.

Long percussion preform on tabular material (c. 11") flakes
widely separated without using succeeding ridges
What technique of production of blades? Could be punch or wood
billet, not stone-struck.

HI and FB do not find hammerstones either at these sites or in France
JE: You say all bifaces are either blanks or finished products;
some judgement that if no fine pressure finishing it is a blank.

- FB: When I called something a scraper I do not have the idea of scraping; I think of a flake with a retouched edge.
- JE: Concerned that all bifaces will be called blanks. Wants more descriptive terminology of bifaces.
- III: Edge-grinding may be a clue here
- CIW: Do find grooved fine-grained stones
- DB: Ethnographic specimens of biface ovate knives.
- DC: A little evidence of heat treatment (in Hell Gap material).
- J. B. Wheat: Paleo-Indian Van Horn Site, Big Bend, Texas Series
  of occupations up to ceramic
- 300 end scrapers from this site; out of 16000 specimens from other sites no end scrapers have occurred, therefore end scrapers in this area appear to be an indication of Paleo-Indian (Folsom).

  Some Archaic, etc.
- Tan-yellow chert w/Blue-Black flecks that occasionally turns up on
  Llano appears frequent at Hell Gap.

Magnificent agate Eden point from Claypool site.

CODY

CODA

- FB: Does not like term "graver" for Paleo-Indian tools, prefers

  "borers" or something similar (I think "graver" is associated

  with burin for FB)
- RD: Lind Coulee estimated "couple thousand years earlier than Cl4
  Points are smaller than I expected. One point of heat-treated
  material.
- RD: Marmes Rock Shelter 10750 BP 3 ft above bedrock \_\_\_\_\_

  Small stemmed points. (Side-notched varieties just precede Mazama pumice:)
- JE? Accompany lanceolates and large bifacial ovates of basalt which are finished tools.

  DC compares Hell Gap and Lind Coulee and thinks very different flaking; angular on H. G. and more collateral on L. C.
  - ← J. Epstein: San Isidro and Cueva de la Zona, N. Mexico

    Big crude tools without points under heavy gravel in cave

    One point (from San Isidro?) of heat treated material

CIW

Central Mexico

11-28 A.M.

Various complexes: San Juan, 7-6000 BC; Hidalgo 6-5000 BC;

Tecolote 5-3500 BC (Includes Coxcatlan and Gypsum, also few with forked stem and obsidian burins)

Large obsidian cores prepared with hamnerstone.

(More talk about handedness - either an abnormally large number of left handed in earlier New World Cultures or some factor other than those considered by DC is responsible for angle of pressure flaking). Back HANDED of PRESSURE TWARD THE FINGERS

CODY

Valsequillo - remains associated with Mastodon, Mammoth, Horse, .

Camel, etc.

Earliest horizon (preceding Lerma point) contains crude flake points - some with trimmed stem, others with tip trimmed on ctherwise unaltered flakes.

- P. Smith Nile Valley collections
- JT: Late Aterian has Micro-Levallois
- DC: On heat treatment of some specimens. Could natural weathering account for some of the effects attributed to heat? Does not think these effects due to solar action.

  Steep striking platform on microblade cores probably indicates percussion with small soft-hammer

  Late Sebilian "micro-limace".

  Concluding statements.