

PLAINS ANTHROPOLOGIST
1976 VOL. 21, No. 74, pp. 301-310

TWO MUMMIES FROM THE PITCHFORK
ROCK SHELTER IN NORTHWESTERN WYOMING

by
George W. Gill

ABSTRACT

A protohistoric rock shelter burial from the Pitchfork Site in northwestern Wyoming produced two partially mummified skeletons of young adult male American Indians. Preserved clothing, buffalo robes, trade goods and additional cultural items were present. Equally well preserved is the twisted and braided scalp hair of one mummy, and other bodily tissues sufficiently preserved to reveal forms of cultural modification and ornamentation. Osteological analysis of the specimens reveals patterns of physical characteristics typical of Late Prehistoric and protohistoric populations of the northwestern Plains.

of the wide ranging assortment of associated cultural materials is not yet complete, however, and must await the attention of a qualified specialist in historic trade items. Thus, the comments made herein with regard to the European trade goods and certain of the other associated cultural materials, will be primarily descriptive.

THE BURIAL

INTRODUCTION

A small field archaeology crew from the University of Wyoming working under my direction excavated a small rock shelter three miles east of Sunshine Reservoir near Pitchfork, Wyoming, on August 5, 1973. Two partially mummified adult male skeletons were recovered from the small rock ledge, as well as numerous cultural items of American Indian and European origin.

At least a single cranium was known to be located in the rock shelter, from previous exploration of the region by Mr. Gregory South. Mr. South, while climbing the cliff face adjacent to the ledge, discovered a partially exposed skull (Fig. 1). He then notified our department of the discovery and led our field party to the location.

The Pitchfork Burial is of particular interest because of the remarkable state of preservation of the specimens, as well as that of the associated perishable cultural material.

Osteological analysis of the two specimens is complete; therefore, metric data is presented here, in full, and a few pertinent observations on both discrete and continuous non-metric traits discussed. The basic information relating to excavation and practices of burial is also presented. Complete analysis

The Pitchfork Site consists of the small rock shelter which contained the cultural and osteological materials described here. Survey of the surrounding vicinity produced no additional materials. The site is located on a sandstone cliff face a short distance from the access road leading to Sunshine Reservoir from the north. The site, which is three miles east of the reservoir, is within full view of the road. The relatively inaccessible nature of the rock crevice, several feet above the base of the vertical rock face, is undoubtedly all that protected the site from prior human disturbance. A 10 foot ladder was necessary for support of our own excavation effort.



Fig. 1 Pitchfork Burial before excavation, showing the skull of Specimen 1A (HR019)

The low mountains in the vicinity of the site are formed largely of a tan sandstone and sandy shales known geologically as the Mesa Verde formation. These mountains constitute the eastern foothills of the great Absaroka Mountain Range, with Needles Mountain and Frank's Peak to the west, Washakie Needles to the south, and the Big Horn Basin to the east and northeast.

The burial clearly revealed primary placement of two, fully articulated young adult males, fully clothed and wrapped in buffalo robes at the time of deposition. Figure 2 shows the close proximity and basic orientation of the two individuals within the burial. The total length of the burial—from the skull of Specimen 1A to the feet (and associated artifacts) of Specimen 1B was 10 feet. Depth of deposit ranged from less than two inches in some places to open exposure in others, suggesting that the burial was originally a surface deposit. The thin, partial covering of soil gave every indication of aeolian deposition.

Prior disturbance in the center of the grave, probably from scavengers, resulted in loss of the arms, legs and left innominate of Specimen 1A (Fig. 2), and the skull of Specimen 1B (Figs. 2 and 3). Inspection of

the area at the base of the cliff, beneath the rock ledge and on down the hillside below, failed to produce any trace of the missing bones.

were oriented along an east west axis with heads to the east. They had been placed in an on the back position with the legs flexed. At least one individual (1B) clearly exhibited the flexed legs, tilted to the right side. The other (1A) is assumed to have been placed in similar fashion because of his very close proximity to Specimen 1B (precluding the likelihood of extended legs). The arms of the 1B individual were placed along the sides, hands across the abdomen, and feet pulled in close to the pelvis. Original position of the arms of the other skeleton could not be determined due to the severe prior disturbance to that part of the grave.

At the time of burial Specimen 1A was wearing a red British or Canadian military coat with a black or dark blue lining, woven metallic trim, and plain brass buttons (Figs. 4 and 5). No remaining traces of clothing from the lower part of the body were found. Prior to interment he was wrapped in a double-layered buffalo robe which was apparently rather small and light weight — probably from cow or calf hide. The robe was secured around his

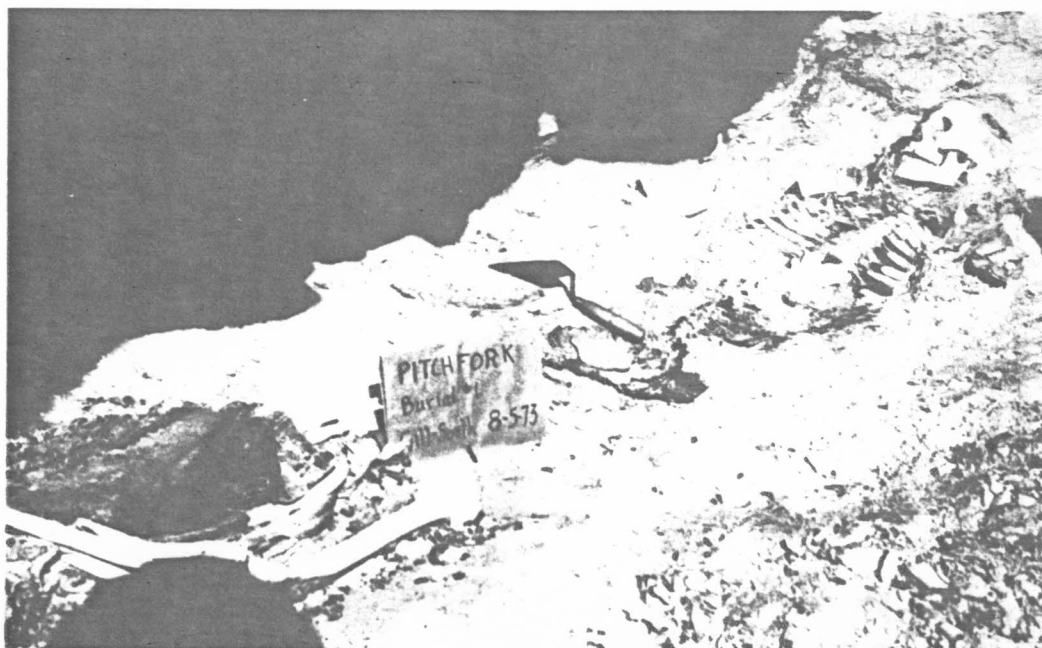


Fig 2 Pitchfork Burial after exposure: Specimen 1A, upper right; Specimen 1B, lower left.

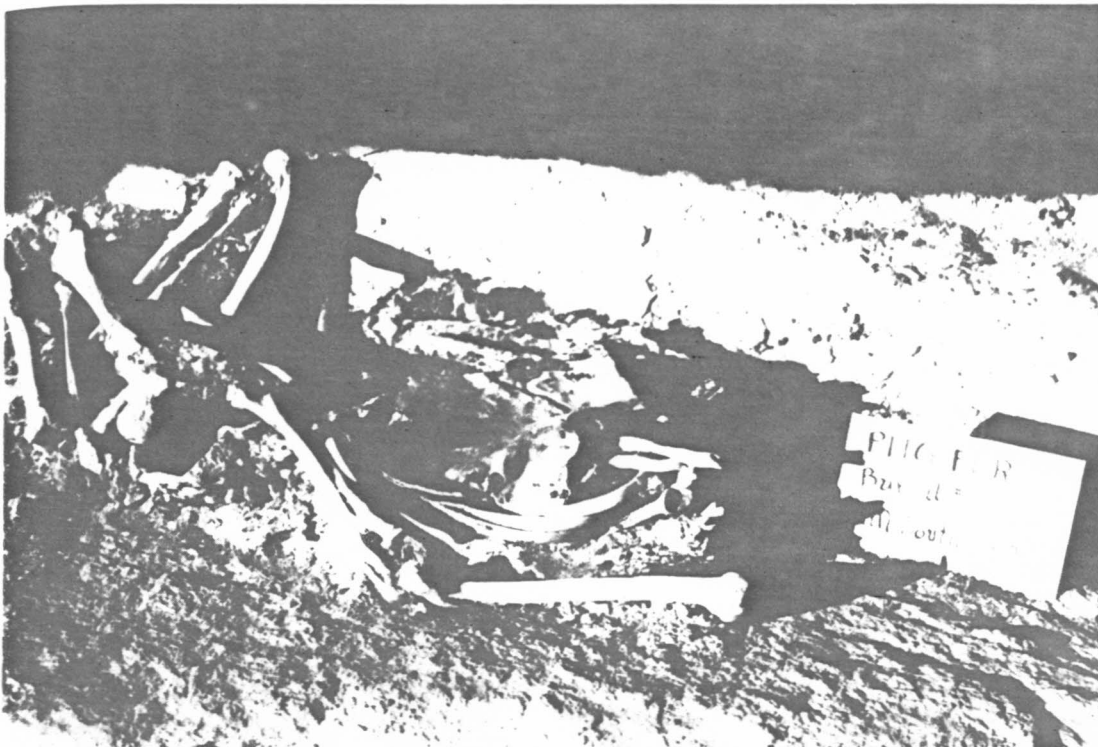


Fig. 3. Specimen 1B (HR020) partially covered with buffalo robe.

body by at least one broad leather strap.

Specimen 1B at the time of burial was wearing a black breech cloth of a particularly heavy weave, and a well tailored buckskin or calf skin garment over the upper body. This garment appears to have possessed a well-sewn hood or head piece of some sort. One fragment of the garment, which shows rather well the careful sinew stitching, is shown in Figure 5. He was wrapped in a large two-layered buffalo robe similar to the one worn by the 1A individual, except that the inner layer is much heavier and has a heavier mat of bison hair. The robe was secured by two large leather straps, in similar fashion to the one covering the 1A mummy. The hair side of the robe was placed inward against the body, in both cases, and the outer layer of both robes possesses no hair on either side, and consists of thinner hide, in smaller pieces sewn together.

Three full folds of the two-layered robe were apparently placed over the chest and abdomen of the 1B individual, probably since the large robe was bigger than necessary to

wrap the body. Beneath the body, however, the single two-ply layer of the robe was all that was present. The excess, in other words, was not wrapped around the corpse, but was folded back and forth over the top of the body as it lay in burial position.

Body ornamentation is well evidenced, particularly in the case of the 1A mummy. As may be seen from Figure 6 the right ear of this individual is pierced by two brass or copper earrings, the larger one perforates the lower part of the helix just above the earlobe, and the smaller one perforates the upper portion of the helix. The left ear of this mummy was more exposed and was not preserved, so its precise adornment is not known. However, a small ring (Fig. 5) quite similar to the upper one of the right ear was found in the soil just below the position of the ear, suggesting that it may have been adorned in similar fashion.

A fingernail from Specimen 1B exists, intact, and is still attached to the distal phalanx by dessicated tissue. The nail is of medium length and gives no indication of having been trimmed, filed, or otherwise

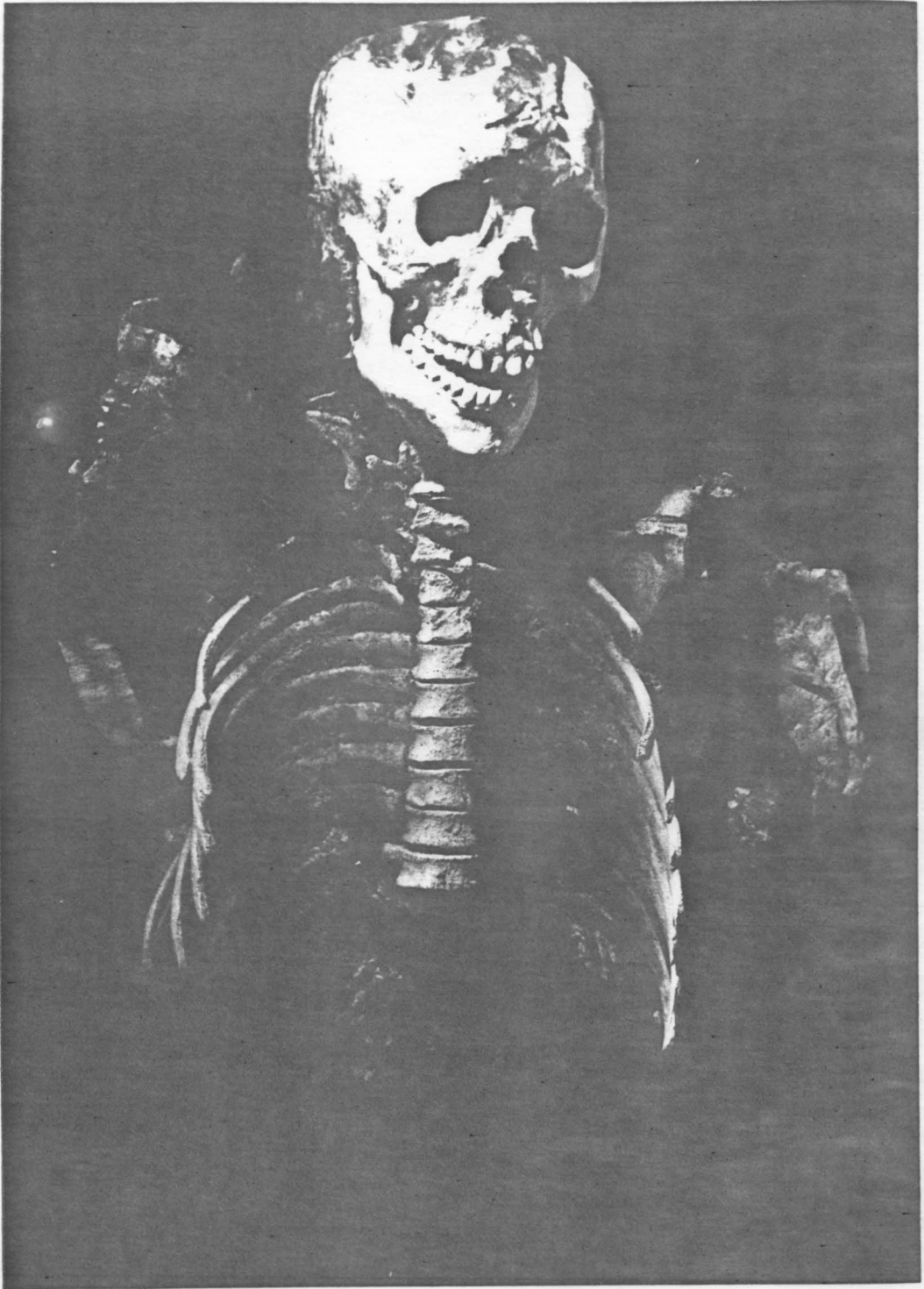


Fig. 4. Specimen 1A (HR019) with the collar of a military coat in place over the right shoulder.

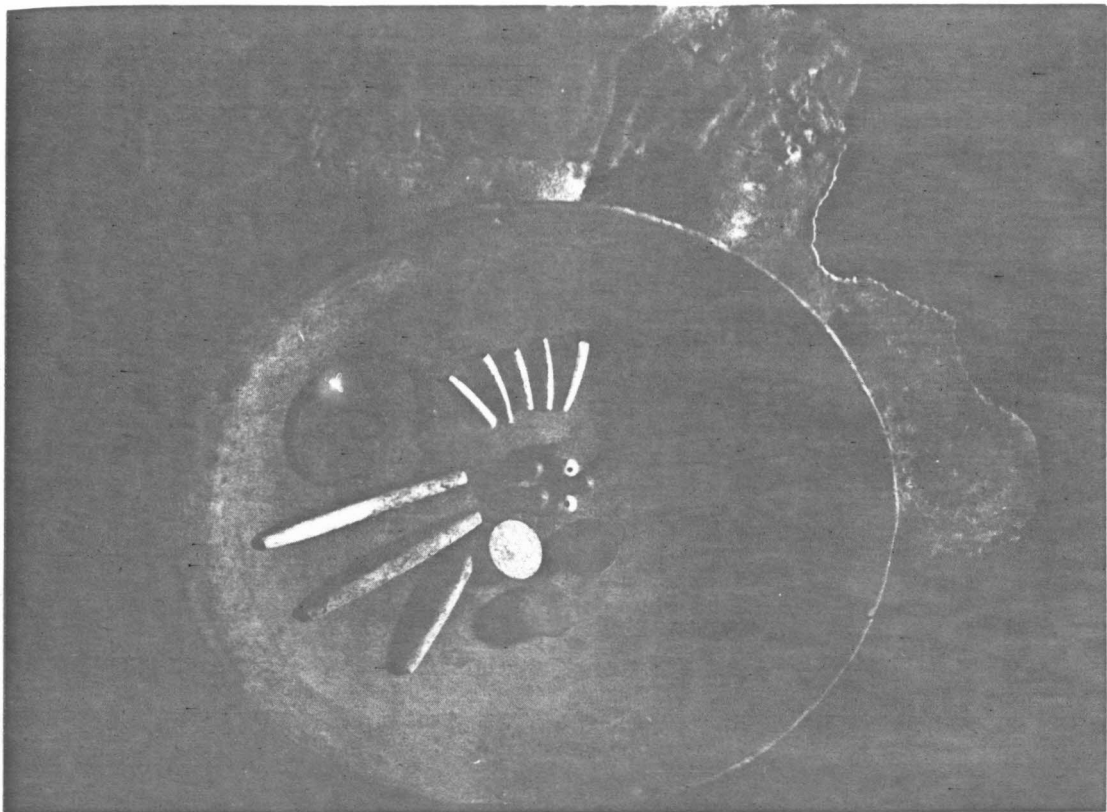


Fig. 5. A fragment of stitched clothing and a carved wooden bowl found with Specimen 1B (HR020). Inside the bowl are *Dentalium* shells, tubular bone pieces, an iron bracelet, a brass or copper earring, an assortment of glass beads, and brass coat buttons, all associated with Specimen 1A (HR019).

groomed. The edge is chipped and somewhat irregular.

The hair arrangement of Specimen 1A can also be partially discerned from Figure 6. It consists of two small braids, one on either side of the head, which were brought together beneath the rest of the head hair (which was allowed to fall free) and tied together, thus securing it in basic "pony-tail" fashion. The two braids near their upper ends are not braids at all but actually constitute double-strand twists. The bottom half of the twist, however, does constitute a true braid. It is a three strand braid with one strand consisting of the twisted lock of hair and the other two being thin strips of leather. These "reinforced" and braided ends of the two twisted locks of hair thus allow for a very secure knot when the ends are tied together.

The only other metal ornament found with the 1A individual (besides the four brass

buttons with the military coat and the three earrings) was an iron bracelet (Fig. 5). Its position within the grave indicates that it was probably worn on the left arm.

A necklace of beads, bone and shell was apparently worn by the 1A individual at the time of burial. *Dentalium* shells, tubular bone pieces, and some of the large glass trade beads from the necklace are shown in Figure 5. Precise arrangement of these necklace pieces is not known since they were found scattered over the neck and chest region. In addition to the five *Dentalium* shells and the three tubular bone pieces, seven large blue glass beads and six white ones (half of which are shown in Fig. 5) were found, as well as three large purple beads which are less regular in shape (and are not shown in Fig. 5). A number of smaller glass beads were found scattered throughout the fill dirt surrounding both burials. A few were found still strung

together along threads of twisted sinew. These beads appear to have adorned clothing. The small beads were found in five colors. White beads were the most numerous, in both cases, with 485 found associated with Specimen 1B and 175 with the 1A skeleton. Blue ones were also quite common, with 123 associated with Specimen 1B and 90 with 1A. Red beads with white centers were found with both mummies, 53 with 1B and 24 with 1A. Black was the only other common color, 33 occurring with Specimen 1B and 10 with 1A. A single small purple bead was found associated with the 1A individual.

Nineteen examples of beads still strung on their sinew threads were recovered. Most of these consist of a lone bead or two, but eight of them contain strings of between four and 23 beads. All are either of a solid color, or consist of one color alternating with white.

Even though the 1B mummy possessed the greater number of small beads, the 1A specimen appears to have had more overall body ornamentation. Even though it must be

kept in mind that the disturbance to the head region of the 1B individual could have removed evidence of this kind. At any rate, in addition to the small glass beads found with Specimen 1B, and enumerated above, only five large blue beads were found, along with a single *Dentalium* shell and one iron ring. The iron ring is small and thin and appears to have been an earring fashioned perhaps from a nail.

The only utilitarian item found within the burial was a carved wooden bowl with a perforation along one edge (Fig. 5) which probably served for carrying or hanging. It was associated with the 1B mummy and was lying next to the feet.

THE SPECIMENS

As mentioned earlier in this report, portions are missing from both of the Pitchfork mummies. Specimen 1A (HR019) is missing all limb bones. Not even a carpal or distal phalanx was recovered, indicating that the limbs were removed at a time when the

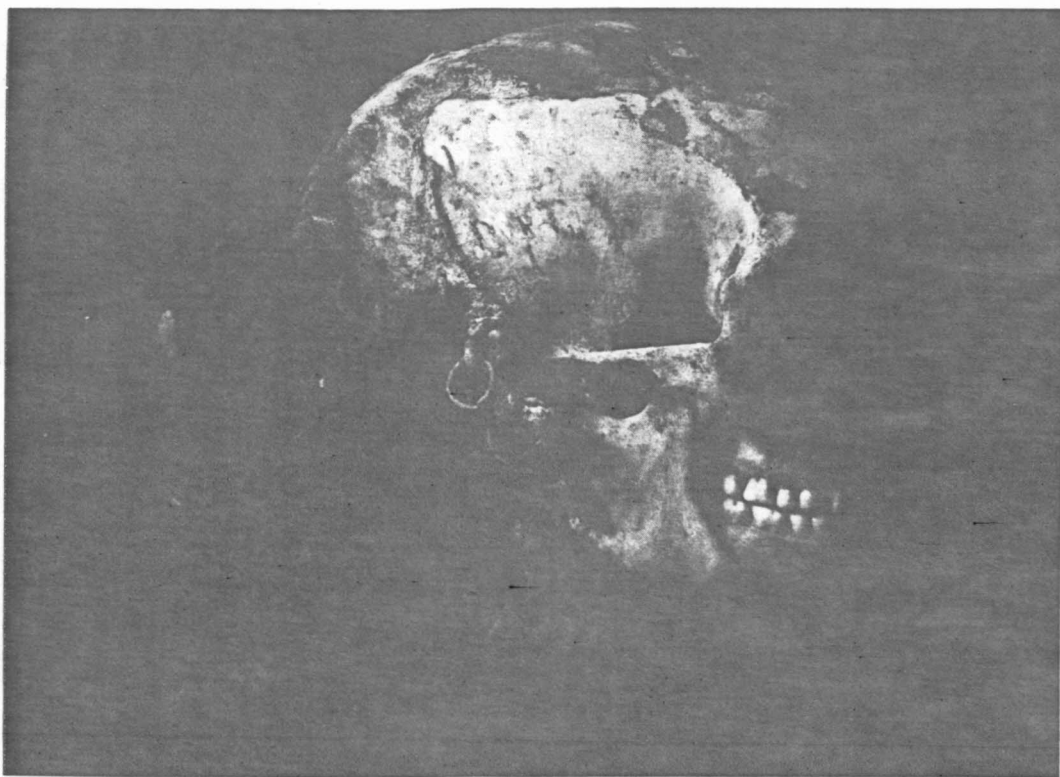


Fig. 6 Right, lateral view of the skull of Specimen 1A (HR019).

hands and feet were still securely attached to the arms and legs. The axial skeleton, on the other hand, is nearly complete. The skull, mandible, and all vertebrae were found in full articulation, and all ribs were present, and nearly complete, except for three of the small floating ribs. The pelvis was broken and scattered but is nearly complete. Both scapulae are present and held in position by the dessicated flesh of the back and shoulders which is almost completely preserved. The right clavicle is present and the left is missing. As may be seen in Figure 6 the skin and hair from the back of the head and neck is preserved quite well, as is the entire right ear and some of the nasal cartilage.

Mummification is even more complete in the case of Specimen 1B (HR020), and preservation of the post-cranial skeleton much more complete. As mentioned earlier the skull is missing, as are all the vertebrae of the neck (and the first two thoracics). All other vertebrae are complete, and so are the ribs and bones of the shoulder girdle. The pelvis is minus the left innominate, and both patellae are absent. The mandible and a piece of the hyoid bone were found which gives some indication of the stage of decomposition when the skull and neck vertebrae were removed from the burial. All long bones are present, and part of the left hand, which is held in articulation by mummified soft tissue. The right hand and wrist are missing, as are nearly all bones of the ankles and feet.

The age of the 1A individual has been established between 27 and 35 years based upon epiphyseal fusion, tooth wear and development of the cranial sutures (Hrdlička 1952, Krogman 1962). A more precise age estimate, of approximately 25 years, was possible for the 1B specimen because of the nature of the epiphyseal union evidenced on the clavicles (McKern and Stewart 1957), as well as the stage of dental attrition (Hrdlička 1952).

Sex determination was made utilizing both metric and non metric criteria, and all evidences point quite clearly to maleness for both specimens. Features of the innominate bones are strongly male, especially the sciatic notches. Femoral head diameters for Specimen 1B are 53 mm, and the mandibles of both are square and robust. The cranial architecture and facial traits of Specimen 1A also

support the male assessment.

The American Indian racial affinities of the two specimens are very clear. The cranial morphology and teeth of the 1A individual are diagnostic, and so are certain features of the proximal femora of Specimen 1B, as well as the form of the mandibular teeth.

Living stature could not be determined for Specimen 1A since all long bones are missing. Stature calculations for Specimen 1B indicate a rather tall individual which is not unusual for this area of the Plains. Formulae for male Central Mexican Indians (Genovés 1967), Mongoloids (Trotter and Gleser 1958), and male Whites (Trotter and Gleser 1958) were all applied, and judging from the degree of internal consistency found for each (utilizing the various long bones), the Trotter and Gleser male Mongoloid formula appears to be most applicable. The adult living stature, then, was 178.7 ± 3.18 cm., or approximately 5 feet 10 1/2 inches in height.

Metric data on both specimens are listed in Table 1. Standard anthropometric techniques were used in collecting the information provided in the table, but if further information is desired, regarding specific definitions or techniques, one may consult Gill (1971).

The metric analysis reveals a pattern of traits rather typical of Late Prehistoric and protohistoric populations in Wyoming. The large, low-vaulted cranium (even lower than expected among historic Sioux) fits very well within the range of variation found among late aboriginal populations of the northwestern Plains (Gill 1974:103). The orbital index of 83.3 is likewise very near the mean for Late Prehistoric males in Wyoming (which is 82.7). The traits in which the 1A specimen varies most significantly from his contemporaries in the northwestern Plains are in the slightly narrower than average facial widths (nasal aperture as well as bizygomatic breadth). These slight deviations from the average are in the direction of means found among neighboring populations to the east such as the Dakota Sioux (Neumann 1952). The close genetic contact between these adjacent regions of the Great Plains during Late Prehistoric times has been mentioned previously (Gill 1974). Observations on certain continuous non metric traits show the same pattern. Of the few discrete non-metric traits which could be accurately recorded, none

TABLE 1 Measurements and Indices*

Measurements	Sp1A	Sp1B
CRANIAL		
Cranial length	192	—
Cranial breadth	148	—
Basion-bregma	(124)	—
Endobasion-nasion	99	—
Endobasion-alveolar prosthion	(100)	—
Minimum frontal breadth	97	—
Biauricular breadth	127	—
Auricular height	116	—
FACIAL:		
Nasion-alveolar prosthion	76	—
Nasion-gnathion	124	—
Bizygomatic breadth	137	—
Nasal height	58	—
Nasal breadth	28	—
L. orbital height	35	—
L. orbital breadth	42	—
Biorbital breadth	100	—
Interorbital breadth	24	—
Cheek height	28	—
Palatal length	62	—
Palatal breadth	67	—
Palatal depth	15	—
Porion-nasion	97	—
Porion-subnasale	96	—
Porion-prosthion	103	—
Porion-gnathion	123	—
MANDIBULAR:		
Symphyseal height	35	40
Bigonial diameter	100	112
Bicondylar diameter	118	(132)
Ascending ramus breadth	38	39
Ascending ramus height	63	70
Corpal length	87	84
Gonial angle	30°	28°
POST-CRANIAL:		
Maximum lengths	Specimen 1B only	
	Left	Right
Femur	500	491
Tibia	410	411
Fibula	394	394
Humerus	360	—
Radius	—	274
Ulna	—	286
Clavicle	—	167

Indices:

Specimen 1A only

CRANIO-FACIAL:

Cranial index	77.1	mesocranic
Cranial module	(154.7)	
Cranial length-height	(64.6)	chamaecranic
Upper facial index	55.5	leptene
Total facial index	90.5	leptoprosopic
Nasal index	48.3	mesorrhine
Orbital index	83.3	mesoconch

* Measurements in this table are presented in millimeters unless otherwise designated.

() Indicate an estimated measurement, or an index derived from an estimated measurement. Estimates were considered to be within this ± 1 millimeter.

were particularly revealing in terms of analysis of population affinity.

No evidence for cause of death was found on either specimen and pathological conditions were few. Specimen 1A, in fact, shows no apparent sign of disease, other than two small caries on mandibular molar teeth. The mandible of Specimen 1B, on the other hand, reveals dental abscesses which had resulted in the loss of both lower, second premolars. Abnormal loss of bone in a few vertebral centra may also have resulted from the infection.

CONCLUSIONS

With the excavation and analysis of the Pitchfork mummies, and the variety of cultural materials found with them, considerable insight has been gained regarding practices of burial among the native peoples of northwestern Wyoming during protohistoric times. Not only was the usual information gained regarding grave type, and orientation and form of burial, but also a few important specifics concerning preparation of the dead. Something more is now known about the clothing worn, how the bodies were prepared for burial (buffalo robe wrap, leather strap bindings etc.) and the perishable goods placed with them.

From the Pitchfork Burial certain details have also been learned about body ornamentation, to include hair styles, as well as a few

things about the tailoring of buffalo robes and clothing. Common artifacts and trade items, both perishable and non-perishable, were recovered and have been examined. Some of these, once a more specific analysis is accomplished, may even provide the chance for determining possible trade routes, a more precise chronological placement of the burial, and perhaps even tribal identity of the skeletons.

ACKNOWLEDGEMENTS

I certainly wish to extend a special thanks to Mr. Gregory South for not only bringing the Pitchfork Burial to the attention of our department, but also for personally leading our field party to the site location. Only through his enlightened point of view and conscientious attitude has this wealth of important material been made available for scientific study. Thanks should also be extended to the other crew members: my former student, Mr. Douglas William Owsley, University of Tennessee, who prepared most of the detailed notes at the site, and Mr. and Mrs. Robert Elmer (and the entire Elmer family in Casper, Wyoming) who helped equip, feed and transport our field party. I also wish to extend thanks to Mr. James Nottage, Laramie, Wyoming who assisted with identification of trade materials, and to Dr. George C. Frison, head of our department and Wyoming State Archaeologist, who offered

valuable assistance in identification and interpretation of cultural materials. Acknowledgement should also go to our department photographer, Mr. Robert Swain, for preparation of Figures 4-6.

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Dept. of Anthropology
University of Wyoming
Laramie, Wyoming, 82071
January 1976