

Field Forensic Anthropology: The Excavation of Human Remains under Adverse Conditions

CHARLES P. WARREN
Department of Anthropology
University of Illinois at Chicago Circle, Chicago, Illinois 60680

Abstract

Field Forensic Anthropology: The Excavation of Human Remains under Adverse Conditions. Charles P. Warren, Department of Anthropology, University of Illinois at Chicago Circle, Chicago, Illinois 60680. The recovery of war casualties from former combat zones was an activity routinely performed by U.S. Army search and recovery teams in Southeast Asia. This is an account of one such recovery and its associated hazards as reported by a physical anthropologist who accompanied the team during a recovery in Hue, Republic of Viet Nam.

Introduction

An awareness of the applicability of modern archaeological techniques in the search and recovery of contemporary human remains and as an aid in forensic investigations has been reported recently in the literature (3, 4). These prescribed techniques have an even wider function in the exhumation of the buried remains of battle casualties by military recovery teams.

Planning Military Recovery Procedures—An Example

Early in September, 1974, an American official working in Da Nang, Republic of Viet Nam, received information from local sources in Hue, Republic of Viet Nam, concerning the burial of two Americans in Hue City during Tet, 1968. Hue, the ancient capital of Viet Nam, lies on both sides of the Perfume River, 685 miles north of Saigon and 60 miles south of the 17th parallel, which, at the time of this report, was the line of demarcation between North Viet Nam and South Viet Nam.

Reportedly, fifteen Vietnamese and two Americans were buried in a mass grave inside the walls of the citadel of Hue City. Further investigation of the report revealed that an eye-witness informant was available to point out the exact site and to give an account of the events of the burial. According to the informant, he, a resident of Hue City, returned to his house in the citadel a few days after the withdrawal of the Viet Cong troops, sometime in late February, 1968. He and his neighbors had received orders from the local authorities to help pick up all of the dead bodies which had been left lying around their living areas for burial along the walls of the citadel. The informant stated that he and some of his neighbors recovered the bodies of fifteen Vietnamese and two American soldiers, and all were then buried in a single bomb crater which was located behind the wall of the citadel on Nguyen Thanh Street. The informant further stated that the two American remains had been found at the intersection of Nguyen Thanh and Dinh Cong Trang Streets, about 100 meters from the gravesite. Both Americans reportedly had red hair and white skin. The tall one was

described as wearing green jungle trousers and a tee shirt and had been wounded in the stomach; the smaller one was described as wearing a green jungle shirt and undershorts and had been wounded in the neck. According to the informant, no parts of the bodies were lost after they were wounded, and the informant did not remember having found anything in the pockets of the clothing or having seen any dogtags or nametags.

This information was passed on through channels, and subsequently plans were made to send a team of U.S. Army search and recovery personnel to the site. The personnel of the search and recovery team were all based in southeastern Thailand at the U.S. Army Central Identification Laboratory, and the mission required six military recovery specialists and one civilian physical anthropologist to conduct the proposed search and recovery operation in Hue City. Since there had been recent political unrest and demonstrations in Hue, and since the Viet Cong and North Vietnamese troops had infiltrated the area, the planners of the operation constantly stressed the importance of tight security throughout the entire operation. The local authorities agreed to provide the security forces, composed of police, and these police would be on site prior to the arrival of the Central Identification Laboratory personnel. A complete sweep of the area would be made, and the road next to the site would be blocked off and the traffic redirected. Police would be stationed around the area and at the site itself, and at least three policemen would be left at the site during the night to provide twenty-four-hour security. Each day there was to be another sweep of the area, a blocking of the road, and the posting of police prior to the beginning of any activity by the American personnel. Radio communications would also be established. This plan was acceptable to the American officials in charge of the planning, so the search and recovery mission was activated.

The members of the search and recovery team departed from their base in Thailand and, after plane flights to Saigon and then Da Nang and a helicopter flight to Hue, arrived at the base of operations in Hue City early in the morning of September 16, 1974. Soon after their arrival, the search and recovery team was briefed on the evacuation plan and what to do if there was an attack. The team members were also briefed on how to respond to the members of the press who would most likely be at the site. Because of the danger, the entire city of Hue was declared off-limits to the team personnel and the accompanying American officials, and all activities were thus confined to the hotel for billeting and meals, the base of operations, and the site of the proposed excavation.

The Recovery and Problems Encountered

The remainder of this report will be confined to the anthropological and archaeological aspects of the recovery of human remains in Hue, Republic of Viet Nam, on 16 and 17 September 1974. The site, at Grid Coordinates YD 765 229, inside the citadel of Hue City, was observed to be a mound of grass-covered earth lying between an all-weather road

(Nguyen Thanh Street) and a brick wall which paralleled the road. Similar mounds were apparent along the length of the wall. The excavation and attempted recovery of human remains began at 0915, with indigenous labor moving most of the clay and brick aggregate which was encountered as the digging proceeded. The workmen were instructed to dig two trenches, parallel to one another and flanking the mound. This kept the mound intact until a level three feet below the surface was reached. At this level the workmen were instructed to slowly remove the aggregate from the exposed surfaces of the mound and to gradually work downward, keeping the areas underfoot clear of dirt and rocks as the mound was dismantled. The first remains were uncovered at 1045; a left scapula and several rib fragments were thrown loose by the workmen. At this time the members of the team took over the exhumation; the procedure described above was continued, and several incomplete and fragmentary remains were recovered and bagged. At 1150 the work was stopped for a lunch break.

After a check by the recovery team for booby traps, the work was resumed at 1400, with the systematic excavation of the mound being periodically slowed by the recovery of remains. The indigenous laborers had to be restrained continually, for their prime interest was in digging and completing the job, whereas the recovery team wanted the remains as undamaged as possible. At least three incomplete individuals were recovered by 1515, but the burials had not been systematic, so commingling was inevitable. As could best be reconstructed from the meager evidence, the individuals had been collected and haphazardly tossed into the open grave. The unsystematic distribution of remains made it extremely difficult to ascertain the positioning of the individuals and to complete the subsequent diagramming of the contents of the site.

As the work progressed throughout the afternoon, several bones not associated with the recoveries were sifted from the dirt which had been removed from the top of the mound. These bones were of a different texture from the more deeply buried remains and may have been later intrusions. The results of the work of the afternoon could best be summarized as four commingled recoveries of incomplete and fragmentary remains found in odd positions, plus several bones which may have come from other sources. Work was discontinued at 1630.

The next morning at 0750 the area was again checked for booby traps and mines, and the workmen were then instructed to remove the remaining portions of the mound and to continue to excavate the entire floor of the site down about six inches more to the clay surface which marked the bottom of the pit. During this activity, the first grenade was uncovered at 0840, and it was disposed of by one of the team members, who threw it over the wall behind the gravesite. The second grenade was uncovered at 0850, and the task of ridding the site of this danger was assumed by enlisted personnel of the army of the Republic of Viet Nam. Both grenades were old ordnance and, as a consequence, were very dangerous for the excavators and spectators alike.

At 0915 two remains were uncovered which had heavy ropes tying the leg and ankle bones. This evidence suggested possible atrocities,

and the apparent lack of clothing on or with all of the remains recovered further suggested that the individuals had been stripped and tied, then killed and buried. At 1135 the morning work ended.

The recovery team and the Vietnamese workmen returned to the site at 1400 and resumed the excavation after clearing the area. By this time a pit 4.5 X 3 X 2 meters had been dug, and the bottom of the pit was floored with a yellow clay which had not been penetrated by the original excavation. All remains were removed by 1450, and, after scraping the surface of the pit floor to verify the maximum depth of the original pit, the excavation was declared complete, and the workmen were instructed to refill the pit. This was partially completed by 1630, at which time the recovery team left the site and the remainder of the work to the indigenous workers. An inventory at this time totaled seven fragmentary and incomplete recoveries, extensively commingled, plus an assortment of tentatively nonassociable portions. All recoveries were packaged in bags and boxes marked to reflect the above findings.

Evaluation of Personnel Training and Procedures

This site was an extremely difficult site to excavate and exhume, due to the limitations set by time and the lack of precise information. Furthermore, the procedures for performing this type of task are not described in the field manuals which discuss the handling of human remains in military field situations (1, 2, 5). Consequently, military recovery teams are not trained for this type of recovery, and the success of this particular recovery was due primarily to the ingenuity and perseverance of the recovery team members as they surmounted an unfamiliar task. Obviously, the recovery team was pressed for time, since a similar enterprise under strict archaeological conditions would have occupied at least a week of slow, painstaking excavation.

At this point it might be of interest to discuss the conditions of the soil at the site. These remains were reportedly buried in February, 1968, thus giving a burial span of about five to six years. As previously stressed, the remains were incomplete and fragmentary, and this sparseness of the remains was due to the actual disappearance of the bones as a result of dissolution and absorption by the surrounding soils of high acidity. Given additional time, no bones, and only some of the teeth, would have been found. The recovered remains consisted mainly of skulls and teeth, shafts of the long bones of the arms and legs, fragments of pelvi, and minor scraps of vertebral columns. Hand and foot bones had largely disappeared, as had the proximal and distal ends of the long bones. Under other conditions of burial, e.g., dry, sandy alkaline loam, complete, undissolved skeletons may have been present for recovery.

Bioanthropological and Bioarchaeological Recommendations

As a result of the experiences and insights gained during the two days of work at the site in Hue City, Republic of Viet Nam, the following recommendations were offered:

a. *Provide more accurate detail as to the exact location of the site.* Better intelligence as to the location of the site of the remains being sought is imperative, since this type of recovery, in contrast to surface recoveries of aircraft sites, requires excavation of the alleged burial site to completion, even though doubts may arise as to the accuracy of the location of the site at any point in time during the excavation. It may be added that when the recovered remains were processed in the laboratory in Thailand, all of the individuals were Southeast Asian Mongoloids.

b. *Provide special training for search and recovery teams in the techniques of disinterment of commingled human remains.* In contrast to the removal of burials in temporary military cemeteries—techniques which are described in the appropriate field manuals (1, 2, 5)—this type of disinterment requires special tools and special techniques, and the uses of these special tools and techniques are given as part of the training at all archaeological field schools; such training should be part of the training of military search and recovery teams.

c. *Provide better security at the site.* The tedious task of carefully excavating human remains is difficult under the best of circumstances, but when the team workers are fully aware that they are in danger of ambush or attack, then the levels of concentration and attention to the task at hand are reduced correspondingly. Fortunately, no incidents occurred at this particular site, but this good fortune cannot be attributed to the quality of the security provided at the site.

d. *Provide special training for some members of the recovery team in the handling of ordnance uncovered as sites are being worked.* Mass burials after combat inevitably include inadvertent burials of explosives of a variety of types. Unless specialists from appropriate branches of service are on call during excavations of this type, all work must stop at the site whenever such ordnance is uncovered. The task of the recovery team is to recover remains, not produce them.

e. *Inform the appropriate authorities of the changes in buried bone through time.* Correct decisions as to whether sites should be excavated can best be made if there is a broader dissemination of technical and scientific information regarding the responses of human bone to varying soil conditions (6). There must be a full awareness on the part of the authorities that, under the proper conditions, bones originally buried in a site can disappear completely, and nothing other than the artifacts of the burial will be found at the site. In the recovery of human remains, this should be a normal expectation, and the disappointment at finding fragmentary portions or no remains can be eased by the realization that the result was due to natural causes—rather than the lack of capability of the excavators of the site.

Literature Cited

1. FIELD MANUAL. 1959. Handling of deceased personnel in theaters of operations. FM 10-63. Departments of the Army, the Navy, and the Air Force, Washington, D.C. 128 p.
2. FIELD MANUAL. 1976. Identification of deceased personnel. FM 10-286. Headquarters, Department of the Army, Washington, D.C. 108 p.
3. MORSE, D., D. CRUSOE and H. G. SMITH. 1976. Forensic archaeology. *Journal of Forensic Sciences*. 21 (2) :323-332.
4. MORSE, D., J. STOUTAMIRE and J. DUNCAN. 1976. A unique course in anthropology. *American Journal of Physical Anthropology* 45 (3) :743-747.
5. TECHNICAL MANUAL. 1964. Identification of deceased personnel. TM 10-286. Headquarters, Department of the Army, Washington, D.C. 128 p.
6. WARREN, C. P. 1976. Plants as decomposition vectors of skeletal human remains. *Proceedings of the Indiana Academy of Science* 85 :65 (Abstract).

