The Role of the Anthropologist in the Identification of Migrant Remains in the American Southwest

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ABSTRACT

This article focuses on the role of the forensic anthropologist in the identification of migrant remains in the American Southwest. These migrant cases present a unique set of circumstances that necessitate a regional approach to identification. The Pima County Office of the Medical Examiner (PCOME), located in Tucson, Arizona has developed best practices that facilitate high identification rates of migrant deaths. These best practices have provided a foundation for other agencies that are faced with similar issues; namely, developing specific protocols for migrant deaths, working with nongovernmental humanitarian organizations, and sharing information have maximized identification efforts. In 2012, Texas surpassed Arizona in the number of migrant deaths. The Forensic Anthropology Center at Texas State (FACTS) began identification efforts for migrant remains found in Brooks County, Texas in 2013. Informed by best practices from the PCOME, FACTS has made successful identifications. Descriptions of the processes at both the PCOME and FACTS are described in detail. *Acad Forensic Pathol.* 2016 6(3): 432-438

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ETHICAL APPROVAL

As per Journal Policies, ethical approval was not required for this manuscript

STATEMENT OF HUMAN AND ANIMAL RIGHTS

This article does not contain any studies conducted with animals or on living human subjects

STATEMENT OF INFORMED CONSENT

No identifiable personal data were presented in this manuscript

DISCLOSURES & DECLARATION OF CONFLICTS OF INTEREST

The authors, reviewers, editors, and publication staff do not report any relevant conflicts of interest

FINANCIAL DISCLOSURE

The authors have indicated that they do not have financial relationships to disclose that are relevant to this manuscript

KEYWORDS

Forensic pathology, Forensic anthropology, Migrant deaths, Foreign nationals, Personal identification, Skeletal variability

INFORMATION

ACADEMIC FORENSIC PATHOLOGY: THE OFFICIAL PUBLICATION OF THE NATIONAL ASSOCIATION OF MEDICAL EXAMINERS

©2017 Academic Forensic Pathology International • (ISSN: 1925-3621) • <https://doi.org/10.23907/2016.044>

Submitted for consideration on 30 Jun 2016. Accepted for publication on 18 Aug 2016

INTRODUCTION

The purpose of this article is to provide information on the role of the anthropologist in the identification of migrant remains in the American Southwest. The harsh climates and remote spaces of much of the borderlands in southern Arizona and Texas, combined with rampant undocumented border crossing by foreign nationals, have resulted in thousands of deaths of these would-be migrants and the need for additional postmortem examination beyond the autopsy. Forensic anthropologists are well suited to perform these additional examinations and can extract essential information from the decomposed, mummified, and skeletonized remains that are a result of high temperatures and remote places. In the past 15 years, the U.S. forensic anthropology community has vastly increased its knowledge of the skeletal variability of groups from Mexico and Central America because of these forensic anthropological examinations in Arizona and Texas. The dissemination of this knowledge is important because it is believed that most migrants make it to their destination and thus may become medicolegal cases in jurisdictions far from the borderlands.

This issue of undocumented migration through Mexico into the U.S. is decades old, with the medicolegal agencies in Texas and Arizona, along with California, being responsible for the bulk of the death investigations—to include personal identification—on these foreign nationals. Because of the clandestine nature of these crossings and the resultant deaths the families of the missing are often unsure of the location of crossing, thus leading to the need for a regional approach to mitigate the identification issue. Sharing of data, both descriptions of the dead and descriptions of the missing, among medicolegal jurisdictions within the borderlands is essential to more fully understand the scope of migrant deaths and in helping the families of the dead. The Pima County Office of the Medical Examiner (PCOME) and the Forensic Anthropology Center at Texas State University (FACTS) have taken this first step by partnering with the humanitarian organizations Argentine Forensic Anthropology Team, South Texas Human Rights Center, and the Colibrí

Center for Human Rights with the goal of sharing antemortem and postmortem information in an effort to maximize the number of personal identifications.

DISCUSSION

Arizona: Forensic Anthropology at the Pima County Office of the Medical Examiner

Forensic anthropology has been utilized in medicolegal death investigation in southern Arizona for over 50 years, beginning in 1965 when the late Dr. Walter H. Birkby consulted with the local sheriff's office after the discovery of the skeleton of a young woman in the foothills north of Tucson. By 1978, when the state of Arizona created a county-based medical examiner system, the Pima County Office of the Medical Examiner was established and Dr. Birkby had already consulted on over 100 medicolegal cases, mostly from the counties of Pima and Cochise. The late Dr. Richard C. Froede became the first Chief Medical Examiner for both counties and saw in Dr. Birkby a forensic science colleague who could contribute mightily to medicolegal case resolution given the oft-times harsh and remote conditions of the Sonoran Desert. By the year 2000, the PCOME had already utilized the services of a forensic anthropologist (chiefly Dr. Birkby) on more than 1700 such cases (by the end of 2015, nearly 4000 forensic anthropology examinations on medicolegal cases have been performed by PCOME forensic anthropologists). Thus, there is a long history of utilizing forensic anthropology in medicolegal death investigation in southern Arizona and in doing so, a systematic approach to the examinations has been utilized to hone a very efficient process.

While very few of the first 1700 forensic anthropology consultations were known or believed to be undocumented border crossers (UBCs) from Mexico and Central America, by the summer of 2000 this would dramatically change due to changes in Immigration and Naturalization Service migration policy that made it more difficult for these undocumented migrants to gain access into the U.S. through Texas and California. In essence, the flow of undocumented migrants into the U.S. had been redirected through Arizona.

Because of the long-standing use of forensic anthropology at the PCOME, the staff there was up to the task of investigating the dozens then hundreds more such cases per year.

This substantial increase in the medicolegal death investigations on known or presumed foreign nationals did, however, require the PCOME forensic anthropologists to develop some innovative methods: 1) create the cultural profile, 2) take missing person reports from the families of foreign nationals, 3) share data with other agencies (e.g., consulates and United States Border Patrol [USBP]), 4) collect skeletal data in a systematic manner, 5) share geolocation information by creating accurate maps, 6) use a cultural anthropologist in seeking missing person information and in making comparisons to descriptions of the dead, 7) explain all aspects of the identifications directly to family members or their representatives, 8) develop an Unidentified Release Protocol (URP), 9) immediately utilize the National Missing and Unidentified Person System (NamUs), and 10) help create a Spanish-language version of NamUs to make it possible for non-English speaking family members to use this new publically viewable website.

Texas: Forensic Anthropology at the Forensic Anthropology Center at Texas State

The Forensic Anthropology Center at Texas State is comprised of the Forensic Anthropology Research Facility (FARF), the Osteological Research and Processing Laboratory, and the Grady Early Forensic Anthropology Laboratory. The FARF is a 26-acre decomposition facility that receives approximately 60 donations per year for decomposition studies. The Osteological Research and Processing Laboratory is large skeletal processing laboratory and has separate classrooms for workshops and training. The Grady Early Forensic Anthropology Laboratory houses the Texas State Donated Skeletal Collection and equipment for forensic skeletal analysis and research (e.g., computed tomography machine, white light scanner, histology, osteometric equipment). The FACTS mission is to advance forensic anthropology through world-class education, research, and outreach. In

2013, shortly after Texas surpassed Arizona in migrant deaths, FACTS began assisting with UBC analyses and identifications.

Unlike Arizona, in Texas there is not one centralized medical examiner's office that receives UBC deaths. Texas has 254 counties, 11 of which have medical examiner's offices. For counties with no medical examiner, the Justice of the Peace has jurisdiction to order death inquests and has ultimate jurisdiction over unidentified human remains. Unlike Arizona, Texas has specific laws regarding unidentified decedents requiring an inquest that includes an autopsy and/or forensic anthropological analyses and DNA sample submission to the University of North Texas (UNT). However, some counties have followed this law while others have not. It remains unclear if the counties in question did not know of the law or did not have the resources necessary to follow the law or whether it was (and continues to be) a combination of both.

The two medical examiner's offices and the two private practice forensic pathology offices along the border in Texas have no anthropologists on staff; therefore, any skeletal cases must be outsourced. Many of the skeletal cases are sent to the UNT while others are or have been sent to universities, including Texas State University, Baylor University, and Sam Houston State.

With the rise in undocumented migrant deaths in 2012, much attention was brought upon Brooks County in particular. Brooks County is located in the Rio Grande Valley and contains a USBP checkpoint. In efforts to bypass the checkpoint, many UBCs attempt to go around the checkpoint and many die during this process. In 2012 and prior, all the deaths found in Brooks County were sent to a funeral home for identification efforts. Autopsies were not performed consistently, skeletal remains were not sent for anthropological analysis, and DNA samples were not taken or submitted for Combined DNA Index System (CODIS) entry. If no identification was made by the funeral home, the unidentified individual was buried in a local cemetery (1). In 2013, grass roots efforts by nongovernmental organizations (NGOs) raised awareness of these ongoing

ing practices in Brooks County and ultimately, funds were provided by the state for the county to send remains to a medical examiner's office, compliant with Texas State law.

However, unidentified bodies remained buried in Brooks County. In 2013 and 2014, Drs. Lori Baker and Krista Latham performed voluntary exhumations in Brooks County, exhuming approximately 85 burials. A total of 63 remains (from exhumations and a funeral home in Brooks County), mostly individuals in varying states of decomposition, were brought to FACTS for processing, analysis, DNA submission, and identification efforts – an effort named *Operation Identification*. The second author, MKS, was fortunate to spend time as a researcher at the PCOME at various times throughout a six-year period and therefore had a general familiarity with operating procedures at the PCOME. While efforts by the PCOME could not be exactly duplicated at FACTS, the processes at the PCOME informed practice at FACTS, including 1) the use of the cultural profile as it is never assumed that an exhumed body from Brooks County is a UBC, 2) collaboration with NGOs that collect missing persons reports, 3) collection of systematic skeletal data, 4) working with NGOs to provide families a comprehensive identification report, 5) working with collaborative forensic partners, and 6) the use of NamUs as a tool to facilitate identifications.

Additional challenges faced for UBC identification include that FACTS is not affiliated with a medicolegal agency, analyzes cases for multiple jurisdictions, and for the first three years of operation, all efforts were 100% voluntary.

PCOME: Innovative Methods of Identification for Undocumented Border Crossers

In an effort to define the total number of migrant deaths in southern Arizona, a system of profiling all unidentified remains as being more likely foreign nationals or more likely American citizens was implemented. This profiling was based upon a series of criteria that would come to include location of recovery of remains, personal effects, body features, skeletal

features, and DNA profiles. The abbreviation UBC was coined for those individuals believed to have crossed the U.S. border in an undocumented, clandestine manner.

Because local law enforcement agencies (LEAs) did not make a practice of taking missing persons reports (MPRs) on foreign nationals known or presumed to be missing in southern Arizona, the PCOME developed a systematic approach in taking these MPRs from family members, friends, and others who were reluctant to report the missing to LEAs or to governmental consulates.

In an effort to understand the magnitude of the number of missing migrants who might be deceased in Southern Arizona, the PCOME shared data on the dead and the missing. This sharing of information was essential in adjusting USBP's reporting of the total number of dead migrants and in finding duplicate MPRs that had been taken by the Mexican Consulate.

The PCOME first contacted Dr. Richard Jantz at the University of Tennessee to discuss how to better capture craniometric data from the skeletons of presumed migrants so that Fordisc could become a better tool to use on individuals from this growing group whose skeletal variability was under-represented in the database. In addition to this collection of cranial data, measurements from throughout the infracranial skeleton were also compiled to address the increasingly common finding of small-bodied adults. The analyses of these infracranial data led to a refining of sexual dimorphic sectioning points (1, 2). Two special symposia on migrant deaths have been organized in the past ten years within the Physical Anthropology section of American Academy of Forensic Sciences' annual meeting with the goal of disseminating this skeletal variability to all members of the medicolegal community.

The PCOME partnered with local humanitarian group, Humane Borders, to exchange information on death location and to produce accurate maps of these deaths. This partnership was created by anthropologists at the PCOME and in the Department of Anthropology at the University of Arizona.

Forensic anthropology at the PCOME was expanded to include a cultural anthropologist who would take the lead in examining selected personal effects and in taking UBC MPRs. This latter innovation has served to create the possibility of producing many identifications. Although initially performed under the PCOME, and dubbed the Pima County Missing Migrant Project, this facet of missing person data collection now is accomplished by the Colibri Center for Human Rights. By including the taking of UBC MPRs in their mission statement, The Colibri Center (cofounded by cultural anthropologist Dr. Robin Reineke) essentially serves as the UBC family assistance center for the PCOME.

The PCOME implemented a policy of engaging the families, or their designated representatives, in the identification process. For many families of identified migrants, high-tech tools such as geographic information system or GIS mapping and DNA profiles do not offer the same confidence as more traditional means of identification. Thus, there can exist an opposite to the so-called “CSI Effect” in which some families need a fuller, more tangible explanation for the personal identification of their loved one. While the PCOME may base an identification, in part, on the results of a DNA comparison, an individual family may find more power in the recognition of personal effects through photographs or in a small scar on the decedent’s hand. Forensic anthropologists at the PCOME have aided families by explaining all aspects of the identifications, well beyond those associated with the forensic sciences.

An Unidentified Release Protocol (URP) was developed as a way to ensure that all necessary documentation of postmortem information was compiled and that a biological sample from the decedent was obtained prior to releasing to a mortuary for burial or cremation. This documentation includes a PCOME case number, LEA case number, location of recovery, physical description of the decedent, forensic anthropology examination, description of any personal effects (PE), photographs of decedent and PE, radiographs of decedent, and DNA profile information. Arizona state statutes allow for the indefinite retention of this information on unidentified decedents.

NamUs became a welcomed and logical repository for PCOME URP data and currently houses over 1200 PCOME cases, with likely 1000 of these cases relating to UBCs. The PCOME maintains all original case file data and views NamUs as the appropriate tool to publicize these decedent descriptions to those families looking for a specific missing person. Because photographic images can be a powerful way to connect a missing person to a decedent, PCOME forensic anthropologists have produced many such photos, some after laundering clothing, and published these in NamUs. Many identifications have been made following next of kin contacting the PCOME after viewing information on NamUs or other Internet websites that obtained these descriptions from NamUs.

The PCOME’s cultural anthropologist worked with the Occupational Research Associates, the developer of NamUs, to create an accurate Spanish-language version (accessed through a link on the English version website). It was hoped that for some families, including those who never filed a MPR, having a Spanish language version would make it easier to navigate through the pages of NamUs unidentified persons.

FACTS: Undocumented Border Crossers Identification Methods at an Academic Institution

It is not assumed that any exhumations or remains brought to FACTS from South Texas are UBCs. During the anthropological analysis the biological profile, the clothing, personal effects are all given consideration when using this designation (3), similar to the PCOME.

FACTS works with nongovernmental organizations including the South Texas Human Rights Center (STHRC), Colibrí Center for Human Rights, and the Argentine Forensic Anthropology Team (EAAF). All NGOs collect MPRs for individuals that go missing along the border. The STHRC mostly collects MPRs for Texas; Colibrí, for Arizona, and EAAF collects MPRs across the border. However, sometimes MPRs overlap or are taken out of jurisdiction. Therefore, these NGOs work together to cross-reference MPRs and reconcile cases.

Unlike the PCOME, *Operation Identification* is housed within FACTS, a departmental center within Texas State University. The FACTS mission is to advance forensic science and anthropology through world-class education, research, and service. Thus, in addition to providing anthropological analyses and identification services, standard data are collected on each case and used for research endeavors that focus on understanding the biological variation and growth and development of UBCs as well as the development of new methods and techniques that will benefit the UBC population group. Further, instead of releasing unidentified remains for burial or cremation, all skeletal remains are retained by FACTS pending identification. The retention of remains allows for continued research and development.

Following the lead of PCOME, FACTS works with NGOs not only for comparison with MPR reports but also for DNA comparisons. While FACTS enters all information into NamUs and submits DNA samples to UNT for CODIS inclusion, the problem remains that many families in Latin America are unable to provide a family reference sample (FRS) that fulfills the Federal Bureau of Investigation's CODIS requirements. Therefore, even though DNA samples from unidentified human remains are submitted for CODIS inclusion, the FRS will likely not reside in CODIS. The EAAF collects family reference samples from Latin America. On several occasions, FACTS has submitted additional samples of DNA from unidentified human remains to a private lab for comparison with FRS collected by the EAAF with successful identifications. Further, because foreign genetic databanks cannot be cross-referenced with CODIS due to federal restrictions, short tandem repeat (STR) profiles are requested by the law enforcement agency with jurisdictions over the remains. These STR profiles are then sent to the EAAF and a keyword search is conducted against the foreign genetic databanks. Successful identifications have also been facilitated using this method.

A collaborative partnership was developed between FACTS and the University of Indianapolis Archeology and Forensics Laboratory to help advance casework, which in turn advances identification. Faculty,

Dr. Krista Latham, and graduate students from the University of Indianapolis helped exhume the remains from Brooks County and spend one week each year at FACTS analyzing cases and writing reports with FACTS faculty and graduate students. This collaboration provides professional development and much needed hands-on training for the next generation of forensic anthropologists.

All case information is entered into NamUs. Additionally, Texas State students volunteer to wash, catalog, and photograph all personal effects. These photos are then uploaded to NamUs for public viewing. Personal effects aided in the identification of one individual early on in our endeavors. After remains are processed and analyzed, they are curated pending identification.

FACTS is not affiliated with a medicolegal agency and as such has no jurisdictional authority over the unidentified human remains. Therefore, additional steps must be taken during the identification process through working with the Justices of the Peace. FACTS is not affiliated with one specific jurisdiction and provides forensic anthropological services for multiple jurisdictions along the Texas border and elsewhere in Texas. As Texas has 254 counties, keeping track of jurisdictional authority for each county is a priority.

During the first three years of *Operation Identification*, all efforts were 100% voluntary. Working within FACTS, a laboratory infrastructure was available; however, all labor was voluntary including maceration of human remains, forensic anthropology case reports, washing clothes, photographing clothes, NamUs entry, DNA sample submission, curation of remains, and identification efforts (cross-referencing MPRs with anthropological reports to form identification hypotheses). Because FACTS is a departmental center within a university, many undergraduate and graduate students volunteer. At any given time, there are between 15-20 undergraduate volunteers that clean and process the human remains, wash and photograph clothing, and assist with any additional laboratory duties. Further, graduate students within the anthropology department volunteer their time to assist with

anthropological analysis of remains. All efforts are supervised by the second author, who also volunteers her time to run this project. Because efforts are voluntary, they are not full-time. However, our efforts have always remained steady. In 2015, funds were obtained through a private foundation and from the Texas Governor's Office to hire a 40-hour per week postdoctoral research associate to focus on processing and casework and to hire a 20-hour per week graduate research associate. Since funds were obtained, progress has greatly increased.

CONCLUSION

The PCOME is located in close geographic proximity to the Mexico border, employs two full-time forensic anthropologists, and the majority of cases recovered near the border are brought to the PCOME. This makes the PCOME a centralized location for undocumented migrant deaths while allowing for pathologists and anthropologists to collaborate on identifications. This inadvertent centralization, collaboration, and the lack of specific laws pertaining to unidentified decedents in addition to innovative methods developed by the PCOME—as contrasted to Texas—undoubtedly helps in the successful identification of undocumented migrants. Additionally, the innovative and best-practice methods developed at the PCOME and the shared knowledge of these methods provides a foundation for other agencies, including FACTS, to more efficiently work towards identifications of UBCs.

Although FACTS is located about four hours north of the border and housed within an academic institution, the collaborations with STHRC and local jurisdictional authorities at the local level and Colibrí and EAAF at the regional and international level allow for successful identifications. Further, these collaborations extend across jurisdictions making them both flexible and sustainable. Colibrí, STHRC, EAAF, and FACTS in addition to the Migrant Rights Collective have come together to form the Forensic Border Coalition (FBC). The mission of the FBC is to support families of missing migrants searching for their loved ones and to address problems related to the identification of human remains found near the U.S./Mexico border.

Through the sharing of information and by creating a regional approach to the medicolegal death investigation—including personal identification—of these borderlands cases and by including both governmental, universities, and NGOs, a more complete understanding of the scope of migrant deaths can be achieved.

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