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Jamie C. Bazen

University of Tennessee, Knoxville, jbazen@vols.utk.edu

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Addressing the Challenges of Identifying Skeletal Remains of Migrants at the United States-Mexico Border

Jamie Bazen

Faculty Advisor: Dr. Amy Mundorff

Introduction

Deaths at the United States-Mexico border are on the rise, and many migrant remains go unidentified. The United States' government's Prevention through Deterrence has not discouraged migration, it has only made it more dangerous. Since 2000, at least 2649 people have died in the Sonoran desert in an attempt to reach the United States. The government does not have a plan in place to recover these remains, so they are often reported by migrants. The goal of this project is to evaluate current anthropological methods used to aid in the identification of border crossers in hopes of making the process easier. Forensic anthropology is the application of anthropological method and theory to the medico-legal field. Forensic anthropologists assist in identifying human skeletal remains by building a biological profile, which, depending on the skeletal elements present for analysis, may consist of age, sex, ancestry and stature estimations. Any unique skeletal features, evidence of trauma, or pathological conditions are also recorded. These data provide the analyst with an idea of the individual's life history recorded in their bones. Forensic anthropologists can make significant contributions to the identification of presumptive migrant remains found at the United States-Mexico border, particularly if the remains are decomposed or skeletonized. Identification of migrants is important for humanitarian reasons, such as information for families and humanizing immigrants.

Background

In recent years, the United States has seen an influx of immigrants from Latin America, particularly Mexico, Honduras and El Salvador. Fleeing violence, limited economic opportunities and oftentimes a corrupt government, people from these countries come to the

United States with the hope of building a better life or to earn money to send back to their families so they can survive back home. The journey across the United States- Mexico border is dangerous, and migrants die en route, but the situation is desperate enough that even the threat of death is not slowing attempts to cross (de Leon 2015). Moreover, even after death, the harsh desert environment takes a toll on victims' remains.

The goal of this project is to explore techniques employed in identifying the skeletal remains of border crossers to determine whether or not these techniques are adequate.

Research Questions

1. Do current anthropological methods suffice for developing a biological profile from skeletal remains of presumptive migrants recovered along the US-Mexico border?
2. Does context and material culture contribute to the identification of skeletal remains recovered along the US-Mexico border?

Materials and Methods

I have collected information regarding the process of identification of skeletal remains of migrants at the United States- Mexico border using existing anthropological literature. I have taken note of the ways that these techniques differ from those normally utilized to identify missing persons.

Discussion and Results

As forensic anthropologist for the Pima County Office of the Medical Examiner (PCOME), Bruce Anderson often responds to found remains of presumptive border crossers

because of the office's proximity to the US-Mexico border. The importance of identifying these remains is to provide information to their families and because identifications can help our understanding of migrants' motives for risking illegal and often dangerous entry into the United States (Anderson 2008). Over time it is possible that this will influence United States immigration policy by humanizing the unnamed mass of immigrants.

In the 1990's, individuals were more likely to cross at the California border (Hinkes 2008). The Border Patrol Search Trauma and Rescue initiative began in 1998, and included a search and rescue element, a prevention element, and an identification element. Between 1993 and 2004 over 500 migrant deaths were recorded in San Diego County, most of them males aged 20-29. Common causes of death include dehydration, exposure, and motor vehicle accidents. The San Diego County Office of the Medical Examiner uses personal effects, like distinctive belt buckles and other types of material culture to make identifications. As of 2008, twenty-one migrants remained unidentified in San Diego County.

There is an even greater volume of casework regarding border crossers in Imperial County, CA than in San Diego County. As Imperial County is mainly desert, migrants turn to waterways as a safer way to enter the United States. Migrants attempt to float into the US on New River, which is polluted with diseases, or drown in the aqueduct known as the All American Canal. Border patrol will not help drowning migrants, further increasing their chances of death.

Arizona has seen a rise in illegal border crossings during recent years. United States efforts to increase border security, such as Operation Gatekeeper, have pushed migrants from California to Arizona, putting the PCOME on the front lines of the crisis. According to Anderson (2008), securing United States borders has been a priority since 9/11 because border crossers

could be potential terrorists, gang members, drug dealers, or any other type of criminal. In reality, most border crossers identified by the Pima County Office of the Medical Examiner come from impoverished, crime-stricken areas of Mexico and other Latin American countries. Their ancestry is an admixture of European and Native American (Anderson et al. 2008). They are usually shorter in stature with poor dental health (Anderson et al. 2008). Mirroring the statistics from California in the 1990s, the Arizona border crossers are also typically males between 21 and 30 years old. Currently, 75% of the individuals at the PCOME are unidentified.

The distinction between presumptive border crossers and United States citizens is important to the identification process. The National Crime Information Center (NCIC) is a computerized database of missing persons used by law enforcement to make identifications in the United States. However, if remains belong to a missing migrant, identification is more problematic because missing migrants are not recorded in the NCIC database. In these instances, the PCOME needs to work with the Mexican consulate in cases that involve Mexican citizens.

Deaths along the Arizona border often result from heat related illnesses because the desert can be above 110 degrees Fahrenheit. The extreme heat accelerates decomposition, further complicating identifications. A positive identification is usually established one of two ways. Either family members are able to visually identify the decedent, or a forensic investigator must do a point-by-point comparison of antemortem and postmortem records. Methods of comparison include radiographs, fingerprints, DNA, and dental records. However, these documents frequently are not available, and therefore a positive identification can be difficult to establish. Visual identification can also be difficult to establish because of extreme decomposition or because families are unable to come to the United States, or are unwilling to do so for fear of consequences. In such circumstances presumptive or putative identification can still be

established when enough specific consistencies are found between the decedent and the missing person.

Anderson et al. (2008) discuss building a cultural profile to assist anthropologists in identifying the remains of border crossers. A cultural profile consists of the geographic context of the recovery, personal effects, dental health and cultural accouterments, which sets the identification of the remains of migrants apart from the identification of other missing persons. For example, remains found in areas that are known pathways into the United States or those carrying personal effects like packets for good luck, identification cards, or religious cards like the Virgen de Guadalupe. The remains may also exhibit distinguishing cultural accouterments, such as unique dental work and culturally specific tattoos.

Nonmetric traits, which are traits exhibited skeletally, are assessed as an indicator of ancestry to identify migrant remains. These traits are observed and recorded as present, absent, or degree present- they are not measured. Hefner (2004) determined that certain nonmetric traits are more useful than others in determining ancestry. Using features such as malar tubercle and nasal spine prominence, Hefner (2004) attempted to classify Hispanics as their own group, while Rhine (1990) included Hispanics in the Caucasoid group, because they express traits of both Europeans and Amerindians. Along with these complications in determining group affiliation, the term Hispanic is also problematic. Hispanic is an umbrella term that refers to Spanish-speaking people who are not from Spain, as they are considered European. Hispanic individuals vary dramatically in their expressed traits and ancestral history, but the term Hispanic is used in this paper to garner political understanding.

Spradley and colleagues' research revealed that Hispanics from Mexico are morphologically distinctive from other groups of Hispanics (Spradley et al. 2008). They argue

for a standard population analysis. Nonmetric traits associated with European ancestry include sharp nasal sill, long nasal spine, narrow nasal aperture, visibly wide oval window, long posterior occipital shelf, receding molars, pinched nasal root, elongated vault shape, narrow frontal process of the zygomatic, and rounded subtrochanteric region of the femur. Nonmetric traits associated with Amerindian ancestry include blunt nasal sill, small nasal spine, moderately wide nasal aperture, oval window is not visible and porous opening is pinched, nasal root is broader, and anterior malar projection. A combination of these two groups' traits is found in Southwest Hispanics.

Birkby et al. (2008) developed a list of nonmetric traits that are the most effective in identifying individuals as Southwestern Hispanics in hopes of reducing inter-observer error. Their trait list includes nasal growth, wide frontal process of the zygomatic, shoveled anterior teeth, anterior malar projection, short posterior occipital shelf, less elaborate nasal sill, oval window visualization between zero and partial, enamel extensions on molars, and a sharp medial crest. The trait lists compiled here will assist anthropologists with ancestry assessment as they attempt to identify the remains of border crossers.

Hughes et al. (2013) examined patterns of variation among individuals of Mexican ancestry and found that the proportion of Amerindian ancestry increases from north to south, while the proportion of European ancestry increased from south to north. Using craniometric data from a contemporary collection at the PCOME, they further examined whether regional clustering exists. Differences in the regional groups' craniometric data were statistically significant, indicating that metrics may be used to narrow down the region of origin.

Spradley et al. (2008) discuss the difficulties associated with using metrics for the identification of Hispanics. Although Hispanics have become the largest minority in the US, the

skeletal data is not present to reflect this. Hispanic crania are more gracile than other groups', and are therefore often incorrectly sexed as female when os coxae are not present. Hispanics exhibit a differing degree of Native American, European, and African traits, which makes ancestry estimation difficult.

Spradley et al.'s (2008) study uses FDB Hispanics, those positively identified Hispanics from border crossing fatalities that have been entered into the Forensic Data Bank, as a control. A sample from the PCOME is used to determine sex using craniometric data. Sexing criteria for American whites cannot be applied to Hispanics because although it correctly sexes all females, it is not reliable for males (Spradley et al. 2008). Population specific formulae are needed to provide mean stature estimations for Hispanics. As the death toll in the Sonoran desert rises, anthropologists will need to develop new practices in order to correctly identify the remains of migrants.

Craniometrics and morphological studies have shown that there is a need for population specific formulae for individuals of Hispanic ancestry. Much variation exists within the population, and although the above studies have scratched the surface of the research that needs to be done, the identification of border crossers would be made easier if more patterns could be found in morphology and craniometrics.

Dental restorations may be another feature useful for individualizing Hispanic ancestry. Teeth are often the best preserved skeletal remains and certain dental features could help identify Hispanic ancestry. Using traits outlined by Turner, George (2015) compared the dentition of known Mexicans to known Southwestern Hispanics and unidentified border crossers (UBC). The results indicate that the Mexican and UBC samples are more similar to one another than they are to the Southwest Hispanic sample, which is consistent with the idea that most border crossers are

Mexican nationals. Overall, dental nonmetric traits are useful in the identification of Hispanics from particular regions and therefore in the identification of border crossers (George 2015).

Taphonomy, which is the post-mortem fate of human remains, may influence recoverability and subsequently identification of skeletal remains (Beck et al.2014). Recreating the taphonomic conditions of the desert, Beck et al. (2014) used pig carcasses to simulate the condition of decomposing remains from the Sonoran desert and better understand taphonomic influences on post mortem interval. The authors were able to show how animal scavenging affected human remains in the desert, from which scavengers fed on the remains, to which animals were responsible for the wide dispersal (~25 meters) of remains from the site of death. Moreover, they found that personal effects, often relied on for identification, may be moved far away from the body or disappear all together as scavengers attempt to access the carcass as food. This research is necessary so that anthropologists will know what to expect when recovering remains from the Sonoran desert, and is part of the Undocumented Migration Project.

The issue of identifying migrant remains is not unique to the United-States. Migration is taking place *en masse* throughout the Mediterranean, where over 1500 immigrants died crossing the ocean fleeing persecution (Introna et al. 2012). In a similar approach to that taken in the United States, investigators use personal effects and clothing to make identifications, as dental records are not available and DNA is not an option for a number of reasons.

Mediterranean Missing (2016), a yearlong research project investigating the Mediterranean refugee crisis, documented its effects on families of the missing. The report detailed severe emotional distress and a deep sense of loss felt by the families of the missing. Obsessive thoughts, isolation and an inability to remarry are other repercussions suffered by family members of missing (Mediterranean Missing 2016). During interviews conducted during

this research, family members expressed feelings of discomfort with the ambiguity over the fate of their relatives, acknowledging that it would be better to know, even if that meant learning that their loved one had died. Ultimately, the goal of the Mediterranean Missing report is to effect policy changes in response to missing migrants.

While interviewing family members of the missing is an integral aspect of identifying victims, it is a process that can be difficult for both the interviewees and the interviewers (Mladina 2016). Mladina (2016) uses the term “flashbulb memory” to talk about traumatic memory. These are memories that are vivid, do not dull over time, and are remembered as a multi-sensory experience. When one remembers the trauma, one relives it. It can be hard for someone to talk about these memories, since they are not stored verbally and it is difficult to describe smells and emotions to other people. Traumatized individuals are used to avoiding these thoughts, which can hinder an interviewee’s ability to express their memories in full detail. While some family members may have already considered the possibility that their loved one might be dead, special care must be taken during the interview process, as viewing images of their loved one’s personal effects or remains may be re-traumatizing. Other organizations have recognized and addressed these challenges. For example, The Office of the Prosecutor of the International Criminal Court has psychological experts present during family interviews (Mladina 2016).

Family members of the disappeared experience a particular type of psychological trauma (Mladina 2016) and divergent attitudes about the fate of the missing are a point of contention among families (Mediterranean Missing 2016). Some believe their missing relative is dead, as they may have received information from smugglers, while others refuse to believe their relative is deceased without seeing the body. Other individuals feel that accepting that their missing

relative is dead is akin to actually killing them, resulting in feelings of guilt. These reactions are similar to what had been reported by families of migrants from Latin America. Many give up hope and do not participate in religious holidays or other normal activities (Mediterranean Missing 2016). In response, Tunisia developed the Commission of Inquiry to investigate the missing, but to date no information has emerged (Mediterranean Missing 2016).

Allowing family members to take part in the missing person identification process empowers family members. In the case of those migrating across the Sonoran desert, many family members are eager to help the identification process. However, without a centralized repository information flowing between families of the missing and agencies involved in the identification process is unreliable. Moreover, family members may be afraid to report their loved one as missing for myriad reasons including United States policies, threats from drug cartels of corrupt police departments (Mediterranean Missing 2016). To facilitate easier exchange of information the PCOME opened up collaborations with consulates from Mexico, Honduras, Ecuador, El Salvador, and Guatemala. This cooperation emphasizes a shared humanity and desire to move despite the volatile context.

Along with family participation and inter-country cooperation, Reineke and Anderson (2016) believe the missing individuals and their situation must be recognized to facilitate action and change. To do this, they detail the experience of “Diego” and the process of identifying his remains. By putting a name to a story, migrants are humanized in the public. Diego died attempting to reach South Carolina to reunite with his brothers from Mexico. In 2008, Diego’s brother called the Medical Examiner’s office to report Diego missing. He described his brother’s clothing, which matched those recently found with remains. Also with the remains was a card with the Apostle James on it. Diego’s brother explained that this was the patron saint of their

hometown in Mexico. The biological profile of the remains was also consistent with the information the family had provided about Diego, complete with evidence of knee surgery. Skeletal evidence and cultural markers were used in conjunction to identify Diego.

Jason de Leon (2015) further humanizes immigrants by providing detailed stories of attempts to cross the border. De Leon met Memo and Lucho at a migrant shelter in Nogales, Mexico where they were staying after recently being deported- and while they prepared to cross again. Over a period of years both men would cross back and forth to work in the United States to send money home to support their families. Prior to his most recent deportation, Lucho lived in Arizona where he had a secure job and a family. After 9/11, border security became tighter and crossing into the United States became more difficult. Despite the challenges and danger, Lucho continues to try to return to his family in the US. More recent border patrol regulations relegates migrants caught trying to cross the border, to be sent back to different points in Mexico in hopes of deterring further attempts to cross.

Conclusion

Both de Leon (2015) and Reineke and Anderson (2016) argue that the high number of migrant deaths at the US-Mexico border constitutes a disaster. They further argue that the disaster has been engineered by social and political forces in both the United States and the countries from which individuals are migrating. The death toll at the United States-Mexico border is rising and without policy change it will likely continue to do so. The current methods employed by anthropologists to identify remains recovered along the US-Mexico border are complicated and hindered by the unique circumstances presented by the desert environment and the difficulties presented by working with US and foreign governments. It is clear, however, that

context and material culture are integral to their identification as skeletal remains are often incomplete.

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