

THE DUTIES OF A FORENSIC ANTHROPOLOGIST, PHASE 1

In a world where information is rapidly disseminated through the media and is permanently stored on the Internet, an expert witness has to be especially cautious with every action he takes. A lawyer only needs to find one problematic element in the testimony of a witness to plant a seed of doubt in the mind of a juror, which could undermine or even discredit the testimony given. Because of the delicacy of judicial cases, every aspect of the life of a forensic anthropologist expert witness is placed under a microscope and judged accordingly. A forensic anthropologist must be constantly aware of the methods she uses, the information she receives, the ethics involved, her experiences and her professionalism.

*"The **judgment** of a forensic anthropologist is highly suspect in court, prone to cognitive bias, a flawed evidence base, and poor scene practices."*

Science and technology are constantly changing and advancing, and the methods used in forensic anthropology follow the same pattern. To keep up with changes in their field, a forensic anthropologist must read scientific journals, such as the American Journal of Physical Anthropology, the Journal of Forensic Sciences, and the International Journal of Osteoarcheology, to name a few. Methods are sometimes improved and their relevance is sometimes questioned. Another way to stay informed is to attend meetings or conferences related to forensics held by committees or boards. When learning about new techniques and whether they will be applicable in their case work, a forensic anthropologist must be able to determine which theories should be discarded and which are trustworthy scientific data. Sometimes the scientific jargon may be difficult to simplify, or more research is needed to understand just one topic.

In addition to knowing the most recent methods, a forensic anthropologist must determine which techniques should be applied to each individual case. This can be done by understanding the reliability and validity of a method. Practicality must also be considered. Christensen, Passalacqua and Bartelink (2014) define reliability as the "repeatability and consistency of observations." A method is more reliable if it is highly repeatable and has low or zero inter-observer error. Validity refers to results compared to the real world. Dirkmaat (2012) states that "validity and reliability are probabilistic," meaning that a method cannot always be 100% correct. During testimony, if these definitions are not clearly explained by the forensic anthropologist, the judge or jury could misinterpret the results, which

could lead to an improper ruling. Deciding what methods are appropriate or necessary is a call that the forensic anthropologist must make. In the case of the Marchioness Disaster of 1989, the forensic scientist made the decision to cut off the hands of the victims in order to make fingerprints, when dental records would have been available shortly (Clarke, 2001). This was problematic because it was not necessary for most of the remains, and it resulted in a strong reaction. All points of view are taken into account when deciding which methods should or should not be used.

The methods that a forensic anthropologist uses in a U.S.-based case must comply with the standards of the Federal Rules of Evidence (1975) or the Daubert Standard, a set of guidelines resulting from a 1993 Supreme Court case ("Daubert Standard"). If a method does not meet these guidelines, it is because it has not been tested, contains errors, or is generally not accepted by other forensic anthropologists. Another aspect of the methods forensic anthropologists must consider is practicality. Is the method expensive? How long will the results take? How big does the sample have to be? The limitations for each method must be taken into account when determining its use.

The information a forensic anthropologist receives with a case can also determine the methods used. Similarly, when police employ a forensic anthropologist, giving him details of the crime may inadvertently cause the forensic anthropologist to have a cognitive bias. This can affect the methods he uses, as well as the result of an examination. Nakhaeizadeh, Dror and Morgan (2013) report that time constraints, motivation, preexisting beliefs and expectations can be to blame for cognitive bias. In a high-profile case there may be pressure from the police, the media, and even families to make a positive identification. A Daily Mail press article referenced a skull and a collection of remains found near a highway and classified them as men in the title (Parry and Joseph, 2013). However, the article states that the remains were only found the day before and it is unlikely that a forensic anthropologist would have been able to observe the remains, much less give a full examination before the article was published. This was problematic because now the forensic anthropologist examining these remains may be more likely to assess the characteristics used in determining the sex as being more male than they would otherwise be. A forensic anthropologist must try to avoid such cases and work with a clean slate each time.

Another way an investigation can be altered is through poor scene practices. Although they do not always directly involve the forensic anthropologist, they can still lead to false and erroneous

conclusions. Tests that are poorly handled can become inadmissible, which can greatly affect the outcome of a case. Thus, the forensic anthropologist must keep up with new methods, and must also keep up with scene practices and procedures when dealing with human remains. Failure to do so may have dire results, such as what occurred to the hundreds of unidentified military personnel in the attack on the USS Oklahoma on December 7, 1942. In 1950, the remains of 388 soldiers were reburied after forensic anthropologists mixed the remains, and forced the military to "give up" efforts to identify them (Liewer, 2015). If those anthropologists had been properly trained and had used good scene practices, perhaps the families could have buried their loved ones long ago. Other poor scene practices that may occur are accidents with remains, contamination and lack of registration. After discovering what turned out to be the remains of King Richard III, someone used a pickaxe and struck the remains, breaking the skull of the missing late king (Richard III: King in the Car Park, 2013). If this type of poor scene practice were done in a forensic case, the credibility of the forensic anthropologist would be questioned and could make or break a case.

The ethics of a forensic anthropologist can also undermine how credible he is. No matter where he is employed in the world, a forensic anthropologist maintains a set of standards, such as the Code of Ethics and Conduct of the American Board of Forensic Anthropology that must be signed each year for those on the board unless expelled (American Board of Forensic Anthropology, Inc., 2015). Ethics extend to the personal life of a forensic anthropologist, who is subject to much scrutiny in her professional life by lawyers as well as judges. If a forensic anthropologist has a criminal record, even as a minor, this could be used against him in a courtroom. If notes are taken during an examination, all of those notes are subject to testing, so there should be nothing but work-related topics discussed in the notebook. Language and how a forensic anthropologist dresses are also subject to trial (Burns, 2013). If a forensic anthropologist has a social media account, he must take extreme precautions with photos he posts or are 'tagged' on, as well as in what he says. If he publishes something inappropriate or politically incorrect, this can be used against a forensic anthropologist to discredit him. A Dutch forensic anthropologist showed parts of the bodies of the victims of the MH-17 accident at a conference for medical students and was later dismissed because he used the photos at a public conference (France-Press, 2015). Although he was trying to be helpful in teaching people about the process, he inadvertently put the families of those victims in great distress. Sometimes there are ethical questions that deal with family wishes or religious beliefs, which can affect the case, and if a forensic anthropologist goes against such things, she can receive scrutiny.

When they are on the witness stand, lawyers can be aggressive, and if a forensic anthropologist 'loses his calm' they may question her integrity. For example, in the case of Oscar Pistorius, prosecutor Gerrie Nel, also known as "The Pit Bull," cross-examined forensic geologist Roger Dixon for 5 days in court (Smith, 2014). During this exchange, Nel accused Dixon of being irresponsible and enraged Dixon (Smith, 2014). Showing emotions such as anger or frustration to a judge or jury undermines professionalism.

Ethics also apply in the form of who the employer is. The problem may not be as persistent in the field of forensic anthropology, but Sam Mardsen reports that "expert witnesses will provide evidence in defense of paying clients even if they have been told they are guilty" (2014). If a client is willing to pay the researcher more if a result that she like is reached, the witness could deliberately manipulate the information, or could revert to a cognitive bias.

Testifying can be harrowing for someone who does not have adequate experience or training, and this can add to the judgment a forensic anthropologist receives when on the witness stand. A first-time expert witness might have a difficult time establishing that she is in a position to testify, because it is impossible to be credentialed by the American Board of Forensic Anthropologists unless one has worked on at least three forensic cases during three years of professional work after earning a Ph.D. (ABFA, Inc., 2015). In the United Kingdom, the Royal Anthropological Institute has different levels of accreditation and different types of examinations. This can create a problem for an anthropologist working in different countries because the legal systems are often very different, so a comprehensive understanding of the laws of those countries is needed. The beginning of a forensic anthropologist's witness statement must list all the credentials, qualifications and experience that the person has in order to justify that he is reliable and credible as an expert witness.

When one swears to testify in a court in the United States, one has to put one's right hand on the Bible and swear to "tell the truth, the whole truth, and nothing but the truth." However, in the case of a forensic anthropologist the truth is relative to each person's examination of a set of remains because many of the methods are subjective. Claire Heald wrote that when testifying, "the expert is the only witness called to give an opinion, instead of facts" (2005). White and Folkens claim that "we all see, but observe different things based on the context of our knowledge, beliefs, values and goals" (2005). Different opinions can explain why two forensic anthropologists can examine the same set of remains

and come to two different interpretations that can lead to two different results for the same case. In that situation, it is up to the jury to analyze the evidence presented and to make a decision based on that analysis.

The analysis of a forensic anthropologist's testimony must be clearly explained so that the judge and jury understand exactly what is meant. The court's opinion and evaluation of science and the evidence given might be different from that of the scientific community (Christensen, Passalacqua & Bartelink, 2014). The use of scientific jargon can be lost on people, so testimony has to be described in lay terms. This can be difficult to do because methods will always have error rates, but explaining the types of errors correctly can help explain why these rates exist. There is practitioner error, instrument error, statistical error, and technique error (Christensen, Passalacqua and Bartelink, 2014). Some of these errors are inherent and inevitable, but that is why a test must be repeatable. A jury has to deal with the burden of proof, which means that it has to be sure beyond a reasonable doubt to convict a defendant. The forensic anthropologist has to convince the jury of his findings. He should not sell the report, but simply give enough evidence to support what he is claiming. Preparing to testify in court is no walk in the park either. According to Andrew Moll, a public defender in California, for every four hours on the stand, an expert should spend eight hours preparing (Gewin, 2015). Care given to pretrial preparation is "the key to good testimony from expert witnesses" (Galloway, Wedel and Zephro, 2014). A forensic anthropologist should be able to defend any position she takes in case she is challenged while on the stand (White and Folkens, 2005). This can be done by meeting with the lawyer and reviewing all aspects of the testimony, including interrogations, court exhibits and possible misconceptions (Galloway, Wedel and Zephro, 2014).

Sometimes, a forensic anthropologist will not have the answer to a question and should simply answer "I don't know." It is better not to give an answer than to expound outside one's experience (White, Black and Folkens, 2012). Roger Dixon, the forensic geologist who testified on behalf of Oscar Pistorius's defense, gave evidence on pathology, ballistics, fiber analysis, blood splash analysis, and audio analysis (Smith, 2014; Dixon, 2014). When asked about his training in the fields that extended beyond his, he admitted that he had little or no training in them (Smith, 2014). Much of the time, a forensic anthropologist cannot comment on the cause of death, nor the date of death, once the remains have been completely skeletonized (Roberts, 2013). In the United Kingdom, only the coroner can determine the cause of death.

The forensic anthropologist as an expert witness plays an important role in forensic cases, but has limits that must be strictly followed. The evidence base that the forensic anthropologist uses in his examinations should be solid, well tested and peer reviewed. If methods do not follow these rules, they could be excluded from the courts. Cognitive bias can be ignored if the forensic anthropologist is able to separate the case from herself. As such, there would be no underlying or unconscious motives that would detract from the case. Best scene practices and ongoing training will keep a forensic anthropologist at the top of his field, in addition to proving his skills. All expert witnesses must follow a code of ethics, but for anthropologists, the set of guidelines is stricter because they deal with human remains. Every aspect of a forensic anthropologist's life can be placed under a microscope so that caution and conscience are her allies. When testifying in court, the forensic anthropologist should be clear, concise and confident. He should never go beyond his capabilities, and he must remain professional on the witness stand. Anything a forensic anthropologist thinks or does is susceptible to judgment by the courts, by the media and by the police. If one is always aware of this, perhaps that judgment will be a little less intense.