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INTRODUCTION

Introduction: Celebrating Fifty Years of Awareness, Change, and Progress in Forensic Anthropology

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ABSTRACT: This article examines the origins and history of forensic anthropology. It pays particularly close attention to trends and developments in the discipline during the approximately 50-year period from the founding of the Anthropology Section of the American Academy of Forensic Sciences (AAFS) in 1972 to the present. It highlights how narratives of the founding and expansion of North American forensic anthropology should be extended to include more notable foreign anatomists and anthropologists as well as theorists and practitioners of color. It explores how relationships between academic institutions and museums, such as the Smithsonian, led to partnerships with law enforcement agencies and more widespread professionalization, which continues to this day. Concerns surrounding professionalization contributed to the founding of the AAFS Anthropology Section and the American Board of Forensic Anthropology. This article considers the Anthropology Section's founding and purpose and how the section has changed over time. It also discusses the expansion of educational programs and training, taphonomic research facilities, anthropological work in medical examiner's and coroner's offices, and military, mass fatality, humanitarian, and human rights work in forensic anthropology. The article concludes by reflecting on the impact of the *Daubert* ruling and whether it has appreciably affected and altered forensic anthropology in the United States.

KEYWORDS: forensic anthropology; history; American Academy of Forensic Sciences

Introduction

In February 2022, the Anthropology Section celebrated its fiftieth anniversary as an officially recognized section of the American Academy of Forensic Sciences (AAFS). This special issue was the result of a symposium honoring that achievement. The aim of the articles included here is to explore the origins of the discipline, consider how it has grown and changed over the past 50 years, and discuss some general trends in its various aspects, such as shifts in its membership, the expansion of outdoor decomposition facilities, the continued inclusion of forensic anthropologists in the medicolegal system, and its efforts to reach a more diverse group of scholars. The assorted group of contributing authors offers up various visions related to where forensic anthropology has been, where it is now, and where it may go in the future.

Forensic anthropology is the application of anthropological method and theory to medicolegal matters, particularly as they relate to the recovery and analysis of human skeletal material (Christensen et al. 2019). As such, it assesses various aspects of human remains contained within the physical environment as they relate to the legal system (Boyd & Boyd 2018). Moreover, focusing on the identification of skeletonized, badly decomposed, burned, and otherwise unidentifiable human remains may also be applied to human rights, humanitarian, warfare, mass fatality, and mass disaster contexts (Klepinger 2006). Though sometimes criticized as atheoretical (see Adovasio 2012), Boyd and Boyd (2018) have proposed that forensic anthropology is grounded in three forms of interacting theory: foundational theory—in this case, Darwin's theory of evolution by means of natural selection—which grounds the discipline; interpretative theory, which validates explanations generated via research to interpret specific events and forensic anthropological analyses; and methodological theory, which undergirds our reasoning for why forensic anthropologists utilize certain protocols and analyses in both the field and the laboratory.

Early Forensic Anthropology

Early practitioners of what would become forensic anthropology were primarily anatomists or medical professionals who used their knowledge of human skeletal anatomy to solve perplexing crimes (Bartelink et al. 2020; Bolhofner &

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Seidel 2019). These include well-known anatomists such as Oliver Wendel Holmes and his Harvard colleague Jeffries Wyman, who used their anatomical knowledge to contribute to the identification of murder victim George Parkman in 1849. The anatomical and odontological team in the Parkman case determined the dismembered and calcined remains found in Harvard chemist John Webster's laboratory and privy belonged to a single individual, most likely a 50- to 60-year-old White male who was around 5′10′′ tall, had been deceased for the approximate amount of time Parkman had been missing, and had been inexpertly disarticulated by someone with limited anatomical knowledge; the remains also displayed no signs of anatomical preparation, indicating it was not a dismembered medical school cadaver (Snow 1982). The Parkman case displays several hallmarks of contemporary forensic anthropology cases in that it assessed human versus non-human remains, commingling, the postmortem interval, the biological profile, idiosyncratic features of the decedent (Parkman's dentures and the unique shape of his jaw), postmortem alteration of the body, and cause and manner of death (Snow 1982).

Another Harvard anatomist, Parkman Professor of Anatomy Thomas Dwight (1843–1911), extensively researched the human skeleton and is credited with initiating interest in issues directly related to forensic anthropology. Dwight penned a prize-winning essay, *The Identification of the Human Skeleton: A Medicolegal Study* in 1878, and published widely on subjects, such as the estimation of age at death, stature, and biological sex, that have become hallmarks of modern forensic anthropological analysis (Ubelaker 2006). Dwight's early contributions to the field were deemed significant enough that Stewart (1979) dubbed him the "Father of Forensic Anthropology in the United States."

The anthropologist and Field Museum Assistant Curator George Dorsey (1868–1931) is often credited as the first American with a degree in anthropology to serve as an expert witness during the second Luetgert trial in 1897 (Snow 1982). Adolf Luetgert stood accused of killing his wife Louisa and dissolving her body in a vat of potash in his sausage factory. Dorsey testified that he compared four small fragments of bone—a metacarpal, a pedal phalanx, pedal sesamoid, and a rib head—recovered from one of the factory's vats to various zoological specimens in the Field Museum's collections to ensure the remains were indeed those of a human female (Stewart 1978). The defense argued that the small fragments were from the animals used to make sausage, but they damaged the credibility of this claim when their expert witness mistook the remains of a dog's leg for that of a monkey (Stewart 1978).

While the above contributions are important when assessing the origins of the discipline, the reality is that discussions of forensic anthropology in the United States tend to focus on the success and influence of early American anatomists and anthropologists, who were overwhelmingly White and male. However, as Passalacqua and Clever discuss in this special issue, the field owes a significant debt to the contributions of British anatomists. Passalacqua and colleagues pay special attention to Miriam Louise Tildesley, a little-known female British anatomist, who made significant contributions to the standardization of anthropometric and osteometric data collection. Moreover, as Go et al. note, there are pioneers of color in forensic anthropology who have not received the attention or respect they deserve. To begin to rectify this, in this special issue, Go et al. discuss the significant forensic contributions immigrants and people of color, such as Caroline Stewart Bond Day, W. Montague Cobb, and Mahmoud El-Najjar, have made to forensic anthropology. Go et al. also highlight the contributions of Japanese anthropologists who assisted with wartime identifications of American servicepeople as well as global forensic pioneers of color, such as Joseph Auguste Anténor Firmin in France, Nicolás León Calderón in Mexico, and Sixto de los Angeles in the Philippines, whose work is often not as well acknowledged in the forensic anthropological literature (though for a more global perspective on forensic anthropology, see Blau and Ubelaker 2016; Ubelaker 2018; Ubelaker et al. 2019).

Consulting Work and the Beginnings of Professionalization in Forensic Anthropology

Forensic anthropologists can also currently be found as full-time state and federal government laboratory employees. The associations between anthropologists and governmental laboratories that led to full-time employment for forensic anthropologists first appeared in the late 1930s. While Snow (1982) is dismissive of the contributions of Hooton, Todd, and Hrdlička when it came to their involvement in forensic anthropology, Ubelaker (2006) notes that Hrdlička's expertise in skeletal analysis and trauma came to the attention of his Washington, DC neighbors, the Federal Bureau of Investigation (FBI). The FBI initiated a consulting collaboration between the FBI and the Smithsonian that was carried on by Hrdlička's successors, T. Dale Stewart (1901–1997), J. Lawrence (1915–1986), and Douglas Ubelaker (Ubelaker 2006).

Hrdlička's 1939 revised edition of his textbook *Practical Anthropometry*, which included forensic-related content, was published the same year that Wilton Krogman (1903–1987) published "A Guide to the Identification of Skeletal Material" in the *FBI Law Enforcement Bulletin*, a paper that has been credited with ushering in the professional period in forensic anthropology (Stewart 1979; Ubelaker 2006). In 1962, Krogman published an expanded version of this work as *The Human Skeleton in Forensic Medicine*. Krogman, like many forensic anthropologists, worked at a university and

consulted with law enforcement part-time. However, the links created between professional medical and law enforcement agencies by individuals like Krogman and Hrdlička demonstrated the utility and importance of professional forensic anthropological work and paved the way for dedicated military and law enforcement forensic anthropology laboratories. Snow (1982:107) has suggested that medicolegal consulting created the moniker "forensic anthropologist," which began appearing in scientific literature around 1970.

In this special issue, Passalacqua and Clever argue that Krogman's work shapes what U.S.-based contemporary forensic anthropology practitioners recognize as "forensic anthropology." Passalacqua and Clever further suggest that Krogman himself was influenced by a particular amalgamation of U.S. and U.K. anatomists and anthropologists, namely T. Wingate Todd, Karl Pearson, and Sir Arthur Keith, whose work affected his ideas and practices.

The Formation of the AAFS Physical Anthropology Section and the American Board of Forensic Anthropology

The AAFS Physical Anthropology Section (currently the Anthropology Section) was founded at the AAFS meetings in Atlanta in 1972 under the pioneering direction of Ellis Kerley (1924–1998) and Clyde Collins Snow (1928–2014). Prior to 1970, the only two anthropologists who were members of the AAFS, Wilton Krogman and Kerley himself, were consigned to the General Section (Snow 1982). By 1971, the AAFS counted four anthropologists, two fellows and two members, among its ranks, with around a dozen or so others curious about joining, so Kerley decided there was enough interest to form a separate anthropology section (Kerley 1978). At the 1971 AAFS meetings in Phoenix, Kerley went to the Executive Board and, over the course of a single day, convinced them to eschew some of their more conservative policies, such as proof of sufficient interest in membership, to allow the formation of a new Physical Anthropology Section (Snow 1982). Kerley encountered Snow, who was not a member at the time, in the hotel restaurant, convinced him to help with the new section, and the two of them spent the afternoon using Snow's Federal Aviation Administration (FAA) emergency telephone card to contact their colleagues and recruit them to the cause; the following day, Kerley presented his list of a dozen or so potential members (at the time, the minimum number required for each section was 10), and the Executive Committee approved the new section (Snow 1982; Stewart 1979).

When it was founded, the Physical Anthropology Section had only 14 members: George Armelagos, William M. Bass, Walter Birkby, Sheilagh Brooks, Alice Brues, Eugene Giles, Roger Heglar, Richard Jantz, Ellis Kerley, Richard McWilliams, Stephen Rosen, Clyde Snow, R. Gerry Snyder, and Audrey Sublett. Its founding year, it remained small enough that only five of its members attended the meeting and the four physical anthropology papers presented were given as part of joint sessions between Physical Anthropology and Odontology, and Physical Anthropology and Pathology and Biology. Ellis Kerley and William M. Bass served as the Section's first chair and secretary, respectively, while Charles P. Warren became its first program chair when the position was introduced in 1979. Though Bill Haglund served as co-chair with Alison Galloway in 1994, the practice of splitting the annual meeting program duties between a program chair and a co-chair did not become widespread until 2010, when Ann Ross became co-chair alongside William Belcher, who served as program chair.

In 1977, the Physical Anthropology Section, along with the Law Enforcement Assistant Administration, the Forensic Science Foundation, and the AAFS, lent their support to Kerley as he spearheaded the founding of the American Board of Forensic Anthropology (ABFA) (Bartelink et al. 2020; Kerley 1978). Kerley and colleagues established the ABFA in response to the recognition of the need "for some regularization of the practice of forensic anthropology, its acceptance by the courts, and the exclusion of those individuals who have not prepared to practice forensic anthropology or testify in court by virtue of training, experience, or research" (Kerley 1978:164). The ABFA remains the certifying body for forensic anthropologists, administering the yearly Diplomate exam, and acts as the organization that sets standards for the proficiency of forensic anthropology practitioners. To qualify for Diplomate status, forensic anthropologists have traditionally been required to hold a PhD, submit case reports demonstrating their proficiency, present letters of support from other professionals familiar with their qualifications, and pass the written and practical sections of the yearly exam with a score of 80% on both sections (Bartelink et al. 2020).

The inclusion of a dedicated anthropology section at the AAFS annual meeting allows forensic anthropologists throughout North America and further afield to disseminate their own work and to explore the contributions of their colleagues. Presenting new research and casework at the annual meeting stimulates forensic anthropological activity and has increased the professionalization of the discipline (Ubelaker 2004 [2006]). Moreover, the Anthropology Section's activity has also created a greater awareness of their skills and capabilities among the Academy's other sections, normalizing forensic anthropology as "part of the investigative process" (Ubelaker 2004 [2006]:202). Anthropologists have also been involved with the governance of the AAFS, and three anthropologists, Ellis Kerley (1990–1991), Douglas Ubelaker (2011–2012), and Laura Fulginiti (2022–2023), have all served as the organization's president.

In 2013, the section membership voted to change the name of the section to Anthropology because it was considered more inclusive and more accurately reflected the contributions of those working in the forensic anthropology discipline, particularly archaeologists (Ubelaker 2018). The name change is perhaps unsurprising since Snow (1982:97) had suggested that nonspecialist physical anthropologists possessed knowledge and skills applicable to medicolegal problems beyond the narrow scope of "skeletal identification" in the early 1980s. The name change reflects the field's expansion beyond skeletal variation and into other realms such as genetics, biogeochemistry, demography, computational biology, and cultural anthropology (Algee-Hewitt et al. 2018:5).

When the Anthropology Section was founded, to be considered for membership, applicants were required to hold a master's degree in physical anthropology, with two years of active experience in forensic anthropology, or to hold a PhD with one year of active experience (Kerley 1978). Both master's and PhD applicants were also required to be actively engaged in forensic science or to have significantly contributed to physical anthropology methodology or literature (Kerley 1978).

Changes in matriculation patterns at both the master's and PhD levels are part of an article written for this special issue by Kolpan and Williams that assesses trends among the Anthropology Section members from its founding in 1972 through the present. Using AAFS membership data from the past 50 years, as well as a smaller data set with significant AAFS member participation that includes expanded information related to matriculation, mentorship, and professional practice, Kolpan and Williams explore trends such as the expansion of women in the discipline over time, in addition to how student members continue to be a large part of the Section's makeup. Kolpan and Williams also note trends in the development and expansion of forensic anthropology master's and PhD programs and formal and informal academic and professional mentorship over time.

The Postmortem Interval and Taphonomic Studies in Forensic Anthropology

Over the past 50 years, forensic anthropologists have also become increasingly involved with estimations of the postmortem interval (PMI) and the taphonomic processes that affect the human body from the time of death to recovery of the remains. Dirkmaat et al. (2008) have suggested that the increasing focus on forensic taphonomy represents a paradigm shift in which the acquisition of contextual data has transformed forensic anthropology from a laboratory-based endeavor mostly interested in human identification (see Işcan 1988) to a subdiscipline with a larger field component, providing practitioners with a broader role regarding crime scene investigation. Moreover, understanding what happens to the human body as it decomposes and how taphonomic processes can alter this process are key components in assessing the PMI and dispersal of the remains, and may also shed light on confusing aspects of the crime scene (Haglund & Sorg 1997, 2002; Pokines 2022; Pokines & Tersigni-Tarrant 2017; Ubelaker 1997).

Taphonomic studies rely on actualistic models based on the forensic practitioner's observations of taphonomic processes and the effects and/or patterns they produce, as well as Hutton's geological principle of uniformitarianism, which posits that present-day processes functioned the same way in the past and therefore have the same effects (Lyman 1994; Westcott 2018). To study rates of decomposition in variable climates with different types of weather and disparate taphonomic conditions, forensic anthropologists conduct experiments with willed cadavers at outdoor research facilities often colloquially referred to as "body farms." Studies conducted at these outdoor forensic taphonomy research facilities indicate that data—particularly that which pertain to PMI—are only applicable within the surrounding environment, highlighting the need to establish these types of facilities at other locations and in other climatic environments around the world (Williams et al. 2019).

Historically, the first of these facilities was the brainchild of University of Tennessee, Knoxville (UTK) professor William M. Bass. Bass developed the idea for what became the Anthropological Research Facility (ARF) after he declared the death of long-deceased Civil War Lieutenant Colonel William Shy to have occurred in the past year due to the colonel's remarkable state of preservation (Bass & Jefferson 2004). In the case of Colonel Shy, the embalming process and his cast iron coffin had prevented his body from decomposing until it was disturbed by vandals in 1977 (Jantz & Jantz 2008). As Bass researched how environmental factors (soils, weather [temperature, humidity, precipitation, etc.], fauna, flora, etc.) and human intervention (embalming, coffin type, weight, clothing choice, etc.) affected the rate of decomposition, he realized there was not much available research concerning how to determine the postmortem interval (Bass & Jefferson 2004; Jantz & Jantz 2008). Thus, the time seemed right for a human decomposition research facility, and in 1980, UTK broke ground on the ARF, which many people simply recognize as the Body Farm.

While there were no forensic taphonomy experimental research facilities when the Anthropology Section was founded in 1972, today, there are several outdoor research facilities in North America alone. In this special issue, Connor et al. highlight the contributions of these North American facilities, as well as facilities further abroad in places

like Australia, to examine how actualistic and experimental taphonomic studies have developed over time and space, and to discuss how they can contribute to forensic anthropology as a field of study.

Forensic Anthropology and Medical Examiner and Coroner Systems

Though scholars with specialized osteological training have been consulting with law enforcement agencies since the time of Holmes and Wyman, interest in hiring forensic anthropologists as full-time employees at medical examiner's and coroner's offices began in the late 1970s; Hugh Berryman was hired as the first full-time forensic anthropologist at the Shelby County Medical Examiner's Morgue/University of Tennessee Hospital Morgue in Memphis, Tennessee, in 1980 (Berryman & Lanfear 2012). As Berryman and Lanfear (2012) note, medical examiner's and coroner's offices originally had a difficult time justifying financing for a dedicated forensic anthropologist, often requiring forensic anthropologists to also conduct other administrative and laboratory duties, such as histology, radiology, and fingerprint analysis. For example, in 2000, the chief medical examiner at the Office of the Chief Medical Examiner (OCME) in New York City was skeptical there would be sufficient casework to justify hiring a forensic anthropologist, so he suggested Amy Zelson Mundorff, the first forensic anthropologist at the OCME, cross-train in serology (Berryman & Lanfear 2012). Zelson Mundorff never ended up conducting any serological work, but the tradition of forensic anthropologists fulfilling other roles, such as death investigators, photographers, and mass fatality coordinators, at medical examiners's and coroner's offices has continued (Austin & Fulginiti 2008; Berryman & Lanfear 2012; Rainwater et al. 2012). Moreover, as forensic anthropology experienced a recent paradigm shift that broadened the field's conceptual framework and created greater appreciation for forensic archaeology, forensic taphonomy, and trauma analysis, it also expanded work possibilities for forensic anthropologists working in medical examiner's and coroner's offices (Dirkmaat et al. 2008; Rainwater et al. 2012).

In this special issue, Fleischman et al. explore the expanded role that forensic anthropologists have played in medical examiner's and coroner's offices over the past 50 years. Fleischman et al. also highlight the importance of laboratory accreditation and professional certification in forensic anthropology and discuss how the expansion of the forensic anthropology skillset will likely benefit forensic anthropologists when it comes to future hiring practices at these institutions.

Forensic Anthropology, Warfare, and Identification from Mass Casualty, Humanitarian, and Human Rights Contexts

The repatriation efforts of the U.S. military during World War II (WWII) led to the first full-time employment for physical anthropologists conducting identification work, and it brought forensic anthropology onto a broader stage, allowing it to receive recognition outside the court system (Kerley 1978). Though the United States had long attempted to recover and repatriate its war dead, the over 400,000 American servicemembers who were killed in WWII solidified the need for a systematic approach to its search and recovery procedures, as well as its identification efforts (Emanovsky & Belcher 2012; Holland et al. 2008; Hoshower 1998). Many of these individuals' remains decomposed and skeletonized before they could be recovered, necessitating the expertise of skilled osteologists. Recognizing the need, the American Graves Registration Service (AGRS) of the U.S. Quartermaster opened the Central Identification Laboratory (CIL) in Hawaii in 1947 and employed osteologists such as Charles Snow and Mildred Trotter to identify the remains of WWII service personnel from the Pacific Theater (Holland & Tersigni-Tarrant, 2012; Stewart 1979). When the original CIL was shuttered in 1949, it was followed by a series of temporary laboratories to aid with military identifications from the Korean and Vietnam Wars before a permanent CIL with an expanded mission to recover and identify the remains of all missing and unaccounted for Americans from past military conflicts was established on Hickam Airforce Base (Holland & Tesigni-Tarrant 2012). During this time, anthropologists at the CIL conducted pioneering research, such as Trotter's stature regression equation work and McKern and Steward's pubic symphysis age estimation casts (McKern & Stewart 1957; Trotter & Gleser 1952, 1958). The anthropologists and archaeological scientific leadership at the CIL spent many years practicing and refining their field and lab approaches, and their laboratories—now located in both Hawaii and Omaha—currently set the standard when it comes to the investigation, search, recovery, and analysis of war dead (Passalacqua et al. 2016). Presently, the CIL is part of the Defense POW/MIA Accounting Agency (DPAA) and is one of the preeminent employers of forensic anthropologists in the world, as well as the world's largest skeletal identification laboratory (Passalacqua et al. 2019).

Forensic anthropologists have also become increasingly involved in humanitarian and human rights work. This often occurs because the bodies of the deceased remain unrecovered and unidentified over long periods of time, allowing them to decompose and/or skeletonize, thus necessitating the osteological expertise of a forensic anthropologist.

Though humanitarian and human rights organizations such as the International Committee of the Red Cross (ICRC; established in 1863) have existed for far longer than forensic anthropology has been an anthropological discipline, forensic anthropologists' work in nonmilitary humanitarian and human rights contexts is often credited to Clyde Collins Snow's work with Argentine collaborators, such as Mercedes Doretti and Luis Fonderbrider, to identify the remains of individuals kidnapped, tortured, murdered, and buried in clandestine graves during Argentina's Dirty War (1976–1983) (Ubelaker 2018). Prior to Snow's involvement, Argentina had been employing the services of gravediggers and firefighters to exhume the remains of the missing from unmarked cemetery graves, as well as forensic scientists with no training in skeletal analysis to identify the deceased (Doretti & Fonderbrider, 2001). When this strategy proved ineffective, the National Commission on the Disappearance of Persons and the Grandmothers of the Plaza de Mayo requested aid from the Science and Human Rights Program, a part of the American Association for the Advancement of Science, who sent seven scientists, including Snow, to Argentina (Doretti & Fonderbrider 2001). Snow's work with local, mostly student, archaeologists and anthropologists resulted in the Argentine Forensic Anthropology Team (EAAF), an internationally recognized organization that has worked to identify victims of state-sponsored violence in many countries worldwide, and served as a template for other regional organizations, such as the Forensic Anthropology Foundation of Guatemala and the Peruvian Forensic Anthropology Team (Ubelaker 2018; Ubelaker et al. 2019).

Though often used interchangeably, humanitarian and human rights investigations differ because humanitarian work does not include judicial prosecution (Guyomar'ch & Congram 2017). The Geneva Conventions and the Convention on the Prevention and Punishment of the Crime of Genocide protect the right to life and the right to justice, and violations of these rights are subject to investigation, even in contexts where there is no criminal medicolegal mandate (Guyomar'ch & Congram 2017). International humanitarian law requires that individuals search for the dead, maintain their dignity, identify and return them to their families, indicate the location of their graves, and provide families with access to both the deceased and the gravesite (Guyomar'ch & Congram 2017). Thus, the focus is on families and community stakeholders and their right to know what happened to their loved ones and to reclaim their bodies should they wish to do so. In humanitarian contexts, there is less emphasis on traumatic injury and the cause and manner of death, and the mandates of international organizations may even prevent them from examining trauma-related aspects of these investigations to maintain the principle of neutrality (Guyomar'ch & Congram 2017).

Expert Witness Testimony and the Legacy of *Daubert*

Forensic anthropologists also serve as expert witnesses who receive subpoenas and testify in a court of law. The legal landscape surrounding the admissibility of expert witness testimony has changed over the past 50 years. When the AAFS Anthropology section was founded, the admissibility of expert witness testimony was determined via the *Frye* rule. The *Frye* rule is based on a 1923 District of Colombia Appeals Court decision, *Frye v. United States*, that states scientific expert testimony is admissible if a technique is "generally accepted" as reliable by the expert's scientific community (Grivas & Komar 2008:771).

In 1975, Congress attempted to provide trial process clarification for the federal judicial system by passing the Federal Rules of Evidence (FRE) (Grivas & Komar 2008). FRE Rule 702 defined who qualified as an expert witness and when expert witness testimony is applicable, but it did not provide guidelines regarding the relevance or reliability of scientific methodologies, so general acceptance in the scientific community as outlined in the *Frye* rule continued as the general standard in state and federal courts (Grivas & Komar 2008).

In 1989, the parents of Jason Daubert and Eric Schuller filed a lawsuit against Merrell Dow, alleging the pharmaceutical company's morning-sickness drug Bendectin was the cause of their children's birth defects. During the trial, scientific evidence establishing a relationship between Bendectin and birth defects was ruled inadmissible because it did not meet the *Frye* rule's general acceptance criterion (Christensen & Crowder 2009). However, in 1993, in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, the Supreme Court handed down a decision that indicated FRE Rule 702 superseded the *Frye* rule. The Court proposed examining three areas of inquiry to determine admissibility: the expert's qualifications; the validity and dependability of methods, techniques, and scientific theories put forward (referred to as *reliability* by the Court); and the expert testimony's relevance to the case at hand (Lesciotto 2015). Additionally, the Court decided trial judges should determine whether expert testimony is reliable and relevant (Christensen & Crowder 2009). Recognizing that trial judges are not scientific experts, the Court provided general guidelines for determining the reliability of exert testimony, such as whether the theory, method, or technique has been tested, submitted for peer review, and published; has a known error rate; has standards for controlling the technique; and is generally accepted within the scientific community (Christensen & Crowder 2009; Lesciotto 2015).

In the wake of the *Daubert* ruling, forensic anthropologists have raised concerns about the admissibility of more

subjective or qualitative methods, worried that standard practices and techniques in the field would be excluded based on the new guidelines (Christensen 2005; Christensen & Crowder 2009; Dirkmaat et al. 2008). This has led to an increase in published studies testing the validity of previously established forensic anthropological methods (Dirkmaat et al. 2008). Examining both pre- and post-*Daubert* forensic anthropology cases that address the admissibility of the forensic anthropologist's testimony, Lesciotto (2015) found there was no rise in the exclusion of forensic anthropological testimony post-*Daubert*. Lesciotto (2015) suggested this could be due to the field shifting toward more objective, quantifiable methods in anticipation of greater technical scrutiny under *Daubert*.

To test this idea, here Lesciotto examines every anthropological article published in the *Journal of Forensic Sciences* between 1972, when the AAFS Anthropology Section was established, and 2020 that mentions methods and techniques related to the biological profile, a core component of forensic anthropology casework. Lesciotto breaks down the biological profile into its elemental components (age, sex, ancestry/population affinity, stature), sorts the methods and techniques related to each component based on whether they are objective or subjective and quantitative or qualitative, and examines the results to analyze whether there has truly been a shift from qualitative, subjective methods toward quantitative, objective methods in forensic anthropology over time and how that potential shift is related to *Daubert*.

Conclusion

Since the founding of the AAFS Physical Anthropology Section in 1972, the field has undergone significant changes, broadening in scope and becoming more rigorous in method and technique. The name change to Anthropology, as ratified by the Section membership in 2014, indicates that forensic anthropologists recognized that the scope of work and types of expertise valuable to the field have widened since the section was established. That said, looking back into the past also has merit in that it allows the AAFS Anthropology Section, its members, and all forensic anthropology practitioners to address contributions from scholars that may have been overlooked and overshadowed as hegemonic narratives about how forensic anthropology became the field as it is currently recognized prevailed. This special issue includes contributions from authors who are reevaluating forensic anthropology's earlier history in ways that may change how we view and discuss forensic anthropology as practiced in the United States today. Additionally, it assesses trends in the Section's membership, as well as changes to master's and PhD programs and academic and professional mentorship in forensic anthropology from the time of the Section's founding to the present. It also endeavors to assess how changes over the past 50 or so years have altered our understanding of experimental research related to taphonomy and the PMI, the place of the forensic anthropologist in medical examiner's and coroner's offices, and how court rulings such as *Daubert* have influenced forensic anthropological methods and techniques. This type of self-examination encourages forensic anthropology to critically reflect on its own history, so it can promote a stronger discipline going forward.

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References

Adovasio JM. An "outsider" look at forensic anthropology. In: Dirkmaat DC, ed. *A Companion to Forensic Anthropology*. Malden, MA: Wiley-Blackwell; 2012:683–689.

Algee-Hewitt BFB, Kim J, Hughes C. Thinking computationally about forensics: Anthropological perspectives on advancements in technologies, data, and algorithms. *Human Biology* 2018;90(1):5–10. DOI: 10.13110/humanbiology.90.1.04.

Austin A, Fulginiti L. The forensic anthropology laboratory in a medical examiner setting. In: Warren MW, Walsh-Haney HA, Freas LE, eds. *The Forensic Anthropology Laboratory*. Boca Raton, FL: CRC Press; 2008:23–46.

Bartelink EJ, Boyd DC, France DL, Pokines JT, Prince-Zinni D. The American Board of Forensic Anthropology turns 40: Historical perspectives and current trends in certification for forensic anthropology. *Forensic Anthropology* 2020;3(2):103–111.

Bass B, Jefferson J. *Death's Acre: Inside the Legendary Forensic Anthropology Lab the Body Farm Where the Dead Do Tell Tales*. New York: Berkley Books; 2004.

Berryman HE, AK Lanfear. Forensic anthropologists in the medical examiner's and coroner's offices. In: Dirkmaat DC, ed. *A Companion to Forensic Anthropology*. Malden, MA: Wiley-Blackwell; 2012:534–548.

Blau S, Ubelaker DH, eds. *Handbook of Forensic Anthropology and Archaeology*. 2nd ed. London: Routledge; 2016.

Bolhofner KL, Seidel AC. Expertise and the expert witness: Contemporary educational foundations of forensic anthropology. In: Fulginiti LC, Hartnett-McCann K, Galloway A, eds. *Forensic Anthropology and the United States Judicial System*. Hoboken, NJ: John Wiley & Sons Ltd; 2019:53–68.

Boyd CC, Boyd DC. The theoretical and scientific foundations of forensic anthropology. In: Boyd CC, Boyd DC, eds. *Forensic Anthropology: Theoretical Framework and Scientific Basis*. Hoboken, NJ: John Wiley & Sons Ltd; 2018:1–18.

Christensen AM. Testing the reliability of frontal sinuses in positive identification. *Journal of Forensic Sciences* 2005;50(1):1–5.

Christensen AM, Crowder CM. Evidentiary standards for forensic anthropology. *Journal of Forensic Sciences* 2009;54(6): 1211–1216.

Christensen AM, Passalacqua NV, Bartelink EJ. *Forensic Anthropology: Current Methods and Practice*. 2nd ed. London: Academic Press; 2019.

Dirkmaat DC, Cabo LC, Ousley SD, Symes SA. New perspectives in forensic anthropology. *Yearbook of Physical Anthropology* 2008;51:33–152.

Doretti M, Fondebrider L. Science and human rights: Truth, justice, reparation and reconciliation, a long way in Third World countries. In: Buchli V, Lucas G, eds. *Archaeologies of the Contemporary Past*. London: Routledge; 2001: 138–144.

Emanovsky PE, Belcher WR. The many hats of a recovery leader: Perspectives on planning and executing worldwide forensic investigations and recoveries at the JPAC Central Identification Laboratory. In: Dirkmaat DC, ed. *A Companion to Forensic Anthropology*. Oxford: Wiley-Blackwell; 2012:567–592.

Grivas CR, Komar DA. *Kumho*, *Daubert*, and the nature of scientific inquiry: Implications for forensic anthropology. *Journal of Forensic Sciences* 2008;53(4):771–776.

Guyomarc'h P, Congram D. Mass fatalities, mass graves, and the forensic investigation of international crimes. In: Langley NR, Tersigni-Tarrant MA, eds. *Forensic Anthropology: An Introduction*. 2nd ed. Boca Raton, FL: CRC Press; 2017: 335–345.

Haglund WD, Sorg MH. Taphonomy in the forensic context. In: Haglung WD, Sorg MH, eds. *Forensic Taphonomy: The Postmortem Fate of Human Remains*. Boca Raton, FL: CRC Press; 1997:13–26.

Haglund WD, Sorg M, eds. *Advancing Forensic Taphonomy: Purpose, Theory, and Practice*. Boca Raton, FL: CRC Press; 2001.

Holland T, Byrd J, Sava, V. Joint POW/MIA Accounting Command's Central Identification Laboratory. In: Warren MW, Walsh-Haney H, Freas LE, eds. *The Forensic Anthropology Laboratory*. Boca Raton, FL: CRC Press; 2008:47–64.

Holland TD, Tersigni-Tarrant MA. Joint POW/MIA Accounting Command/Central Identification Laboratory (JPAC/CIL) history. In: Tersigni-Tarrant MA, Shirley NR, eds. *Forensic Anthropology: An Introduction*. Boca Raton, FL: CRC Press; 2012:17–24.

Hoshower LM. Forensic archeology and the need for flexible excavation strategies: A case study. *Journal of Forensic Science* 1998;43(1):53–56.

Işcan MY. Rise of forensic anthropology. *Yearbook of Physical Anthropology* 1988;31:203–230.

Jantz LM, Jantz RL. The Anthropological Research Facility: The Outdoor Laboratory of the Forensic Anthropology Center, University of Tennessee. In: Warren MA, Walsh-Haney HA, Freas LE, eds. *The Forensic Anthropology Laboratory*. Boca Raton, FL: CRC Press; 2008:7–22.

Kerley ER. Recent developments in forensic anthropology. *Yearbook of Physical Anthropology* 1978;21:160–173.

Klepinger L. *Fundamentals of Forensic Anthropology*. Hoboken, NJ: Wiley-Liss; 2006.

Lesciotto KM. The impact of *Daubert* on the admissibility of forensic anthropology expert testimony. *Journal of Forensic Sciences* 2015;60(3):549–555.

Lyman RL. *Vertebrate Taphonomy*. Cambridge: Cambridge University Press; 1994.

McKern TW, Stewart TD. *Skeletal Age Changes in Young American Males. Analyzed from the Standpoint of Age Identification*. Technical Report. Environmental Protection Reserve Division. Natick, MA: Quartermaster Research and Development Center, U.S. Army EP 45; 1957.

Passalacqua NV, Pilloud MA, Belcher WR. Scientific integrity in the forensic sciences: Consumerism, conflicts of interest, and transparency. *Science & Justice* 2019;59:573–579.

Passalacqua NV, De La Paz J, Zejdlik KJ. 2016. Commentary on: Identification of missing Norwegian World War II soldiers, in Karelia, Russia. *Journal of Forensic Sciences* 2016;61(5): 1405–1407.

Pokines JT. Introduction: The importance and use of forensic taphonomic data. In: Pokines JT, L'Abbé EN, Symes SA, eds. *Manual of Forensic Taphonomy*. 2nd ed. Boca Raton, FL: CRC Press; 2022:1–22.

Pokines JT, Tersigni-Tarrant MA. Forensic taphonomy. In: Tersigni-Tarrant MA, Shirley NR, eds. *Forensic Anthropology: An Introduction*. 2nd ed. Boca Raton, FL: CRC Press; 2017:57–77.

Rainwater CW, Crowder C, Hartnett KM, Fridie JS, Figura BJ, Godbold J, et al. Forensic anthropology at the New York City Office of Chief Medical Examiner. In: Dirkmaat DC, ed. *A Companion to Forensic Anthropology*. Malden, MA: Wiley-Blackwell; 2012:549–566.

Snow CC. Forensic anthropology. *Annual Review of Anthropology* 1982;11:97–131.

Stewart TD. George A. Dorsey's Role in the Luetgert case: A significant episode in the history of forensic anthropology. *Journal of Forensic Sciences* 1978;23(4):786–791.

Stewart TD. *Essentials of Forensic Anthropology: Especially as Developed in the United States*. Springfield, IL: Charles C Thomas; 1979.

Trotter M, Gleser GC. Estimation of stature from long bones of American Whites and Negros. *American Journal of Physical Anthropology* 1952;10:463–514.

Trotter M, Gleser GC. A re-evaluation of stature based on measurements taken during life and of long bones after death. *American Journal of Physical Anthropology* 1958;16:79–123.

Ubelaker D. Taphonomic applications in forensic anthropology. In: Haglung WD, Sorg M, eds. *Forensic Taphonomy: The Postmortem Fate of Human Remains*. Boca Raton, FL: CRC Press; 1997:77–92.

Ubelaker D. Evolution of the relationship of forensic anthropology with physical anthropology and forensic pathology: A North American perspective. *Studies in Historical Anthropology* 2004 [2006];4:199–205.

Ubelaker D. Introduction to forensic anthropology. In: Schmitt A, Cunha E, Pinheiro J, eds. *Forensic Anthropology and Medicine: Complementary Sciences from Recovery to Cause of Death*. Totowa, NJ: Humana Press; 2006:3–12.

Ubelaker D. A history of forensic anthropology. *American Journal of Physical Anthropology* 2018;165:915–923. DOI: 10.1002/ajpa.23306.

Ubelaker D, Shamlou A, Kunkle AE. Forensic anthropology in the global investigation of humanitarian and human rights abuse: Perspective from the published record. *Science & Justice* 2019;59(2):203–209.

Westcott D. The forensic anthropologist as broker for cross-disciplinary taphonomic research related to estimating the postmortem interval in medicolegal death investigations. In: Boyd CC, Boyd DC, eds. *Forensic Anthropology: Theoretical Framework and Scientific Basis*. Hoboken, NJ: John Wiley & Sons; 2018:251–270.

Williams A, Rodgers CJ, Cassella JP. Why does the UK need a human taphonomy facility? *Forensic Science International* 2019;296:74–79.