

Aleš Hrdlička's Role in the History of Forensic Anthropology

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ABSTRACT: Although Aleš Hrdlička (1869–1943) is widely recognized as a central figure in the development of American physical anthropology, his contributions to forensic anthropology are not well known. The record shows he: 1) had training in legal medicine; 2) researched and published on issues of broad medico-legal interest; 3) reported on autopsies; 4) analyzed skeletal cases; 5) researched and testified on ancestry issues; and 6) maintained contact with FBI officials on medico-legal matters. His efforts in research and building collections helped to build the foundation for modern forensic anthropology.

KEYWORDS: forensic science, forensic anthropology, Hrdlička, William R. Maples

In a 1992 book on forensic anthropology (1), I briefly discussed aspects of the history of the discipline and included William Maples as being among a new generation of scientific “giants” succeeding the original pioneers. His inclusion in this list was my way of recognizing over six years ago the many contributions of Maples to the discipline, including his research, publications, extensive casework, and service to the AAFS. This essay focuses on the origins of that history and presents evidence supporting the recognition of Aleš Hrdlička as an early major contributor to the field of forensic anthropology.

Aleš Hrdlička (1869–1943) is generally considered to be a central historical figure in the early development of American physical anthropology. Born in Humpolec, Bohemia (now part of the Czech Republic), he immigrated with his family to the United States in 1881. In 1892, Hrdlička graduated with honors from New York Eclectic Medical College and subsequently established a private medical practice. He received additional medical training at the New York Homeopathic Medical College (1893–1994). After a position at the New York Middletown State Homeopathic Hospital for the Insane he studied anthropometry and related areas of anthropology in Paris. Following subsequent positions in New York at the Pathological Institute (1896/97–1899), and the American Museum of Natural History (1899–1902), he accepted an offer in 1903 to direct the newly established Division of Physical Anthropology at the Smithsonian Institution's National Museum of Natural History in Washington, DC in 1903 (2–4).

Hrdlička (Fig. 1) spent the remaining 40 years of his career at the Smithsonian, building an extensive comparative collection of hu-

man remains and directing an impressive research effort in physical anthropology. Hrdlička is credited with founding the *American Journal of Physical Anthropology* (1918) and the American Association of Physical Anthropologists, which met for the first time in 1930 (2–4).

Although recognized by many as the accomplished early leader of American physical anthropology, Hrdlička's name does not usually appear in discussions of the formation of American forensic anthropology. Given the close intellectual linkage between physical anthropology and forensic anthropology, this absence is somewhat curious.

Hrdlička's primary student in physical anthropology was his Smithsonian successor, T. Dale Stewart. Despite his considerable knowledge of Hrdlička and his work, when Stewart discussed the history of forensic anthropology in his own book on the subject (5), he names Thomas Dwight (1843–1911) the “father” of forensic anthropology, with other early pioneers being George A. Dorsey (1869–1931), H. H. Wilder (1864–1928) and Paul Stevenson (1890–1971). Stewart regarded Hrdlička, along with Earnest A. Hooton (1887–1954), as “the two most important American physical anthropologists during the early decades of the twentieth century” (5), but feels their names “do not come readily to mind in connection with forensic anthropology” (5), although both were involved in skeletal identification. Likewise, Stewart's 1940 biography of Hrdlička (2) presents no discussion of forensic anthropology, or at least of skeletal identification work.

Stewart's appraisal of Hrdlička's contributions to forensic anthropology as being relatively minimal, to some extent probably reflects his own, somewhat narrow definition of the field as being “that branch of physical anthropology which, for forensic purposes, deals with the identification of more or less skeletonized remains known to be, or suspected of being, human” (5). Although Hrdlička contributed in this area, his overall forensic contributions are greater when viewed within the broader context of forensic science or even more comprehensive definitions of forensic anthropology, such as that offered by Snow (6) as the application of physical anthropology to “problems of medical jurisprudence.” This essay explores the available evidence for Hrdlička's contributions to forensic science through study of archival documents, his publications, and those of others.

Training

Although Hrdlička's primary training was in medicine, he was a key figure in the formation of physical anthropology as a modern science. At that time the fields of physical anthropology and forensic science were not as well defined as they are today. Documents within the Hrdlička Collection of the National Anthropological

¹ Curator, Department of Anthropology, NMNH, MRC 112, Smithsonian Institution, Washington, DC.

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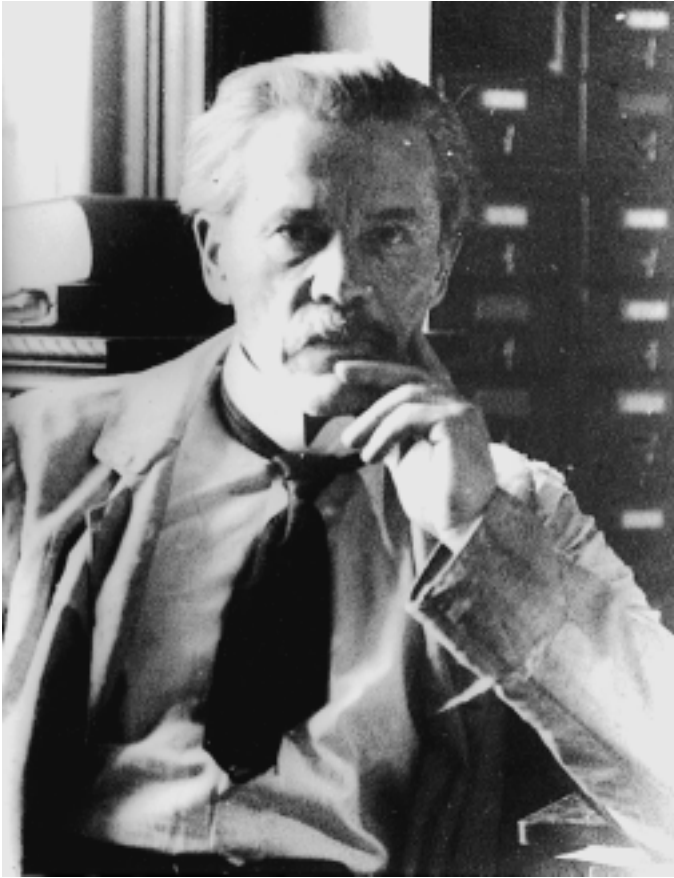


FIG. 1—Undated photograph of Aleš Hrdlička. Negative no. 36663-F, Smithsonian Institution.

Archives (NAA) of the Smithsonian Institution's National Museum of Natural History contain two examples in which, in a medico-legal context, Hrdlička described his own training as including legal medicine. In a draft Notary Public statement in January 1932, regarding his analysis of a human skull, Hrdlička first commented: "I hold a degree as Doctor of Medicine and have been engaged in anthropological work for many years." This draft document includes a hand-written phrase to be inserted after "Medicine" reading "have had medico-legal instruction" (Odd S. Halseth Correspondence, Box 29, Aleš Hrdlička Papers, National Anthropological Archives, Smithsonian Institution, Washington, DC).

A transcript of his deposition on the "full-blood" condition in American Indians contains the following passage from direct examination (Ransom J. Powell Correspondence, Box 53, Aleš Hrdlička Papers, National Anthropological Archives, Smithsonian Institution, Washington, DC):

Question: "What college degrees have you?"

Hrdlička response: "Two medical college degrees and another State Board medical examination, comprising the three separate schools in medicine, Eclectic, Homeopathic and Allopathic. I also studied abroad, especially in France."

Question: "Along what lines?"

Hrdlička response: "Anthropology and Legal Medicine."

Spencer's (3) biographical work on Hrdlička notes that, during the course of his studies in France in 1896, he visited Alphonse

Bertillon's (1853–1914) criminology laboratory in Paris where Bertillon utilized anthropometric measurements and observations for human identification in forensic science (7). While visiting this facility, Hrdlička was photographed in the standard criminal format (Fig. 2).

Hrdlička's early work following his practice as a physician focused strongly on medico-legal issues. At the Middletown State Homeopathic Hospital for the Insane in New York State and later at the Pathological Institute of the New York Hospitals, Hrdlička largely researched the biological basis for abnormal behavior (3). He described how in September 1896 his first duty at the Pathological Institute was to work with others in conducting "research autopsies" on victims of sunstroke following a severe heat wave in New York. His later work there facilitated the collection of data on over 11,000 abnormal individuals from New York State Institutions (My Journeys manuscript, NAA, Box 163, transcription by J. Andrew Darling, pp. 13–14). Information gathered through autopsies, anthropometry and related procedures led him to the realization that data on "normal" individuals were needed to interpret the evidence for abnormality. Following these interests, Hrdlička developed an association with the American Museum in New York and strengthened his osteological and anthropological skills (4). Through this initial quest for data on the "normal" populations, Hrdlička began a decades-long effort at building large comparative skeletal collections and assembling massive data on human variation.

Publications

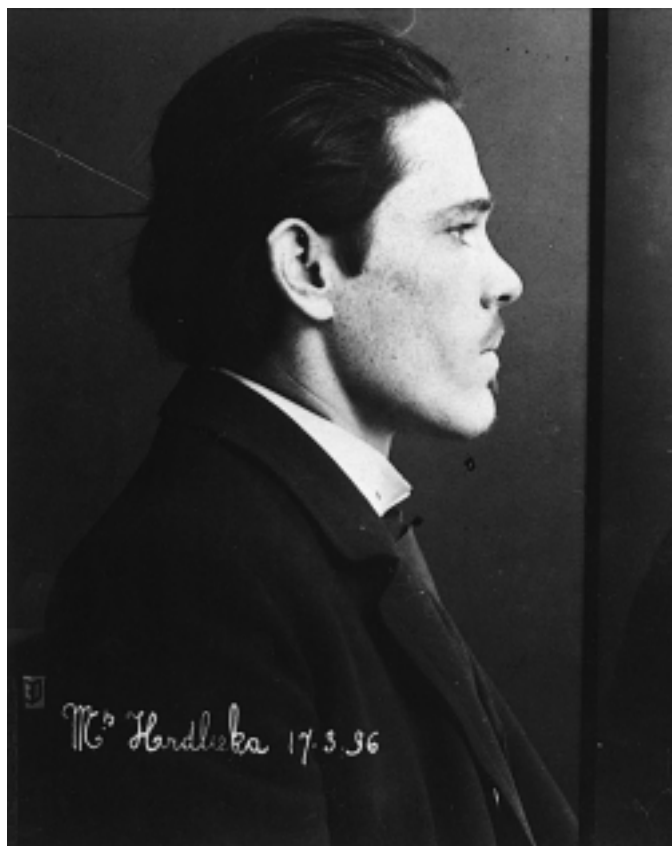
Hrdlička was a prolific writer but, as noted by Stewart (5), relatively little of his published work focused on skeletal identification. However, much of his early work explored issues of the biological basis of insanity and criminality, both matters of broad medico-legal interest. His early publications include 1895 and 1896 discussions of the general pathology of the insane (8,9) and an 1896 account of 20 autopsies conducted upon cadavers of the insane (10).

In 1897, Hrdlička published on the medico-legal aspects of the Maria Barbella case (11). She was an epileptic, with a family history of epilepsy, who was tried, convicted, later retried and subsequently acquitted of a murder. Hrdlička studied Maria and her family, taking detailed anthropometric measurements, conducting life history interviews, and making note of physical and behavioral abnormalities. He provides a thorough analysis of the case and of Maria's mental state during it.

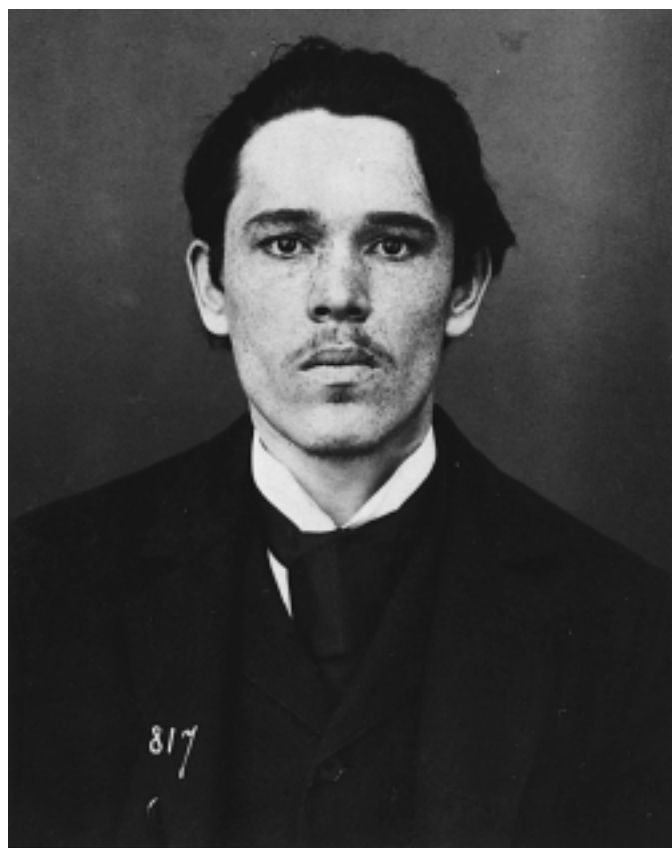
In 1899, Hrdlička published his anthropometric investigation of the physical attributes of a large sample of children "who are being admitted and kept in juvenile asylums" (12). The study was conducted in the larger context of documenting the physical attributes of people displaying abnormal behavior.

Hrdlička's 1908 *Science* article on "Physical Anthropology and its Aims" (13) does not mention medico-legal cases, but does comment that the discipline has contributed to the increased knowledge of the biological characteristics of criminals and other abnormal groups and has directly helped create systems used to identify criminals.

In 1919, Hrdlička mentioned his having taken "medico-legal and related courses at the Paris University, and visits to the principal European insane asylums, penal institutions and museums" (14). He also discussed his program to document the anthropometric standard for "normal" Americans and also to assess if those displaying abnormal behavior deviated from this standard. This research led him to acquire human skeletal remains with the goal of documenting human variation.



A



B

FIG. 2—Photographs of Aleš Hrdlička taken on March 17, 1896 when he visited the Paris laboratory of Alphonse Bertillon. Negative no. 36685, Smithsonian Institution.

In this context, the 1920 edition of his book on anthropometry presented detailed instructions on how anthropometric measurements and observations should be recorded. Number six in his list of eight reasons for taking these measurements was “Criminal and other identification” (15). The text contains information on the estimation of age at death, sex, stature, and other forensic-related information readily available from skeletal remains. Also included is discussion of the estimation of ancestry and aspects of anthropometry of the living of potential forensic value.

In 1922, Hrdlička elaborated on his perspective of the evolving relationship of anthropology and psychiatry, pointing out that even by that date “the anthropologists are generally physicians” (16). In this article, he also acknowledges that in his early work he was influenced by the Italian Cesare Lombroso (1835–1909) in Lombroso’s studies of the physical attributes of those with abnormal behavior. Hrdlička’s 1939 review of criminal psychopathology research reported no evidence for physical differences between criminals and non-criminals, and concluding “crime is not physical; it is mental” (17).

By 1939, his volume *Practical Anthropometry* was revised to include discussion of “anthropometry and medicine,” citing the value of anthropometric measurements as data for “legal and even ordinary medicine” to be used by the “medico-legal student” and others (18). This edition of the now-classic volume includes a significant section on aspects of “Anthropometric Identifications” and related forensic procedures. The newly added material contains discussion of using skeletal evidence to help identify deceased individuals, the use of anthropometry to help identify criminals, and the assessment of incomplete and fragmentary evidence. Discussion is also provided on differentiating human from non-human materials, the assessment of parentage of living children, and procedures for blood typing and recording fingerprints.

It is noteworthy that this edition, with its augmented forensic section, was published the same year as Krogman’s “A Guide to the Identification of Human Skeletal Material” in the *FBI Law Enforcement Bulletin* (19). The Krogman article has been frequently cited within discussion of the history of forensic anthropology because of its specific forensic focus and its publication in a bulletin with great exposure within the law enforcement community. Stewart (5) cites the Krogman article as “the beginning of a new period” because it was the first on the subject of skeletal identification to appear in a forensic-oriented publication. While the 1939 Hrdlička edition presented similar information, it was organized in a different, more general format not specifically directed to law enforcement. However, both the Krogman and Hrdlička publications from 1939 discuss information to be gleaned through skeletal analysis. The Krogman article does not include procedures for the assessment of the living but offers more detail than Hrdlička’s book on age determination from the pubic symphysis and ossification centers, as well as techniques of facial reproduction.

Hrdlička’s Work in the Context of Other Published Literature

The current Division of Physical Anthropology within the Department of Anthropology of the Smithsonian Institution’s National Museum of Natural History maintains Hrdlička’s collection of offprints published and sent to him by others. Within this large collection are four boxes labeled “Criminology” that contain much of the literature on that subject of which Hrdlička was obviously aware. These four boxes contain 89 publications and newspaper clippings, most focusing on various anthropometric studies con-

ducted on criminals or other people exhibiting unusual behavior. Included are two works by Lombroso (20, 21) as well as FBI publications on criminal investigation.

Within Box 278 is a newspaper clipping from the “Sun” in Baltimore, Maryland dated December 10, 1916 describing a New York case in which the technique of clay facial reproduction was employed by Dr. Albert B. Pacini of New York’s Central Testing Laboratory. Pacini’s father, Agostino Pacini, described as being a sculptor, produced the facial reproduction from a skull which led to identification of the decedent. This not only provides documentation for an early American attempt at facial reproduction (also discussed by Wilder and Wentworth, (22)), but also suggests that Hrdlička was familiar with the procedure. The only direct reference by Hrdlička to this technique is within his report on a skeleton he studied for the FBI on May 13, 1940 (NAA, Hrdlička Papers, Box 36, Dept. Justice folder): “The request of the senders calls evidently for a reconstruction of the soft parts; this is, while practicable to some extent, unsafe and could readily prove fallacious.”

Consultation and Testimony on Forensic Matters

Evidence for Hrdlička’s direct involvement in both consultation and testimony on medico-legal matters derives from archival documents stored in two facilities, The National Anthropological Archives (NAA) and the Federal Bureau of Investigation (FBI). This evidence is presented in chronological order below. All documents from the NAA are located within the Hrdlička Papers.

- Approximately December 2, 1896 (NAA, Box 2). Hrdlička presented court testimony on epilepsy and insanity issues in a jury trial.
- 1910, South America (NAA, Box 163, transcription by J. Andrew Darling). Within his unpublished manuscript “My Journeys,” Hrdlička relates an account from his travels in Argentina that apparently represents his first analysis of human skeletal remains in a medico-legal context. Arriving in the town of Viedma in the “valley of the Rio Negro,” Hrdlička contacted the “Governor,” who then, together with the local Chief of Police, solicited his help with a forensic case. Following the disappearance of a local rancher, police had recovered a human skeleton thought to originate from a missing person. Hrdlička determined that the remains were those of an Indian of great antiquity and definitely did not represent the missing person. An individual being held for the suspected crime was released.
- Also in 1910 Hrdlička visited Peru. In Lima, Dr. Max Uhle, then Director of the Museo Nacional of Peru arranged for him to examine what was described as the skeleton of Pizarro. Although Hrdlička did not have an opportunity for detailed study, he noted that the skeleton “does not seem to correspond in age with that historical character” (My Journeys manuscript, NAA, Box 163, transcription by J. Andrew Darling, p. 323). Hrdlička’s comment is interesting in light of more recent study of remains from Lima thought to represent Francisco Pizarro. Maples et al. (23) suggest that since 1891, mummified remains had been thought to represent Pizarro but their 1984 examination concluded that skeletonized remains found in 1977 more likely represented him, mostly since the latter displayed evidence of skeletal trauma more consistent with the historical record. Both sets of remains were thought to represent those of elderly males (the age at death of Pizarro was thought to have been between 63 and 65 years (23)).
- November 7, 1914 (NAA, Box 53). Hrdlička is invited by a law firm in Minneapolis, Minnesota to be retained as an expert witness for defendants in litigation regarding the “blood status” of Indian allottees of the Chippewa White Earth Reservation. An additional letter from the same law firm to A.E. Jenks of the University of Minnesota refers to “testimony given by Dr. Ales Hrdlička [sic] relating to the characteristics of the pure blood American race.”
- April 29, 1915 (NAA, Box 33). Request for Hrdlička’s assistance on Chippewa Indian litigation was also requested of the Secretary of the Smithsonian Institution, Charles D. Walcott, by the Department of Justice. This correspondence refers to a deposition by Hrdlička on the matter and requests that Hrdlička conduct research among relevant reservation populations. Hrdlička responded on May 3, 1915 that he was willing to help but cites concern about adequate time to prepare for the requested testimony on May 10. He inquired if the Department of Justice would offer some payment for this service since “the lawyers on the opposite side, who wanted me for the same purpose, were willing to pay me \$25.00 a day besides the expenses” (NAA, Box 33). Arrangements were apparently made for Hrdlička to take leave without pay for three months, beginning in April 1916, to do this work.
- November 15, 1920 (NAA, Box 36). Special Assistant to the Attorney General, R.C. Bell, wrote the Secretary of the Smithsonian Institution expressing appreciation for Hrdlička’s help in the above matter. The letter notes that Hrdlička had spent more than three months examining the Chippewa and that all sides accepted Hrdlička’s findings to settle the dispute. The concluding paragraph states: “The Doctor is truly a great scientist and his expert opinion has been accepted as conclusive by opposing litigants and lawyers, and by the Commissioners and the Court. His assistance greatly facilitated tasks that seemed next to impossible. It is my duty and my pleasure to say that the Department of Justice, the people of Minnesota and the Indians owe Dr. Hrdlička [sic], and through him, your Institutions, a lasting debt of gratitude” (NAA, Box 36).
- January 1932 (NAA Box 29). On December 13, 1931 Hrdlička received a telegram from Odd S. Halseth of Phoenix, Arizona indicating he was sending Hrdlička a skull found near the last known camp of a missing person from that area. The skull had been found exposed on the ground surface with associated insects and odor. Hrdlička briefly reported back on December 18, 1931: “skull unquestionably that of aged white man, recent shot possible, Hrdlička.” The full report followed in January 1932 (date of notarized copy in file). The report discusses the discovery facts and concludes that the skull originates from an “aged white man” with a “strong probability that the man was shot to death by a shotgun or a large caliber rifle and that the bullet passed somewhat downwardly from the left.” The report also indicates that “three large photographs and three stereoscopic photographs” were provided of the missing person believed to be represented by the remains. Hrdlička notes:

“The stereoscopic photographs were viewed through a stereoscope which revealed the shape of the head in three dimensions. A comparison of the aforementioned skull with these photographs showed that the high forehead, position of cheek bones, and comparatively frail features of the face corresponded. The long nose, the short distance between the mouth and nose, and the general contour of the head and face corresponded. . . . The condition of the skull indicated that death occurred not more than a few months ago. My examination discloses that all features of this skull closely corre-

spond with the aforementioned photographs and information, and not a single feature fails to correspond. Furthermore, the mere fact that the skulls of different individuals greatly vary, in view of the aforementioned close correspondence, indicates that this skull is in all probability that of [the missing person].”

The hand-edited version of this report indicates that Hrdlička worded the document carefully. He changed a description of a gunshot wound from “about two inches” to “over an inch.” A “high powered gun” was changed to “shotgun or a large caliber rifle.” Wording in his conclusion was changed from the awkward “this skull is extremely unlikely not to be” to “this skull is in all probability,” and “very probably met his death by means of a shot from a high powered gun” to “probably met his death by means of a shot from a gun.”

The report also indicates that subsequent to the finding of the skull, “a headless skeleton somewhat scattered over the ground has been discovered about three fourths of a mile from where the skull was found” and that these additional remains were recovered with belongings of the missing person in question.

Hrdlička does not reveal in his report exactly how the comparison between the skull and photographs was conducted, other than through the use of a stereoscope. This procedure employed by Hrdlička seems to represent a very early, or perhaps even the first such attempt to use cranial-photograph comparison for identification in a medico-legal context. Most discussions of this general approach reference the 1935 work of John Glaister and James Brash in the Scotland case involving identification of two missing persons (24). Hrdlička’s work on the Arizona skull preceded Glaister and Brash’s effort by three years.

- June 13, 1936 (FBI) This earliest entry in the available FBI files on Hrdlička is an internal FBI memorandum commenting on Hrdlička’s credentials (“recognized as the best informed man in the United States on anthropology”) and referencing testimony Hrdlička presented before the House Committee on the Territories on the racial status of the Japanese.
- July 15, 1936 (FBI). An internal FBI memorandum references an October 31, 1918 communication advising that Hrdlička was employed at the Smithsonian and that the “Jacksonville office” (presumably an FBI office) was instructed to contact the Smithsonian. The nature of the inquiry is not revealed, but apparently it represents a scientific forensic matter in which the FBI urged the requesting party to contact Hrdlička directly rather than going through the FBI.
- November 30, 1937 (FBI). A memorandum from the Washington Field Office of the FBI to the Director of the FBI provides detailed biographical information about Hrdlička, primarily professional accomplishments.
- February 11, 1938 (NAA, Box 36). Letter from John Edgar Hoover, Director, FBI to Dr. C.G. Abbot, Secretary, Smithsonian Institution. This letter notes that the Bureau’s Technical Laboratory had received specimens thought to be human bone that need evaluation. “In view of the fact that the Bureau’s Technical Laboratory does not have facilities to conduct such examination it will be appreciated if the Anthropological Laboratories will conduct this examination and report upon the results of their examination. In accordance with previous arrangements the specimens will be delivered by a representative of the Bureau’s Technical

Laboratory.” A return letter from A. Wetmore, Smithsonian Assistant Secretary to Hoover, (February 17, 1938) presents an analysis of the material, but indicates they were examined by Dr. T.D. Stewart.

- April 13, 1938 (NAA, Box 36). Letter from John Edgar Hoover, FBI to Hrdlička. This letter thanks Hrdlička for his help advising the FBI “Technical Laboratory” on what might be learned from the examination of human remains recovered in a medico-legal context in Arkansas. Hoover advised the Arkansas authorities to contact Hrdlička directly regarding analysis of the materials. The record does not indicate if the remains were in fact sent to Hrdlička.
- November 1938 (NAA Box 36; FBI). An exchange of correspondence took place between Hrdlička and Hoover regarding Hrdlička’s request for publications and the right to reproduce information on fingerprint analysis and related matters.
- December 20, 1938 (FBI). A brief unsigned note to Hoover in Hrdlička’s file indicates: “The specimen was brought in by a representative of the FBI, identified, with the help of the Division of Mammals, as the foot of a small bear, and returned with an oral report to the same representative later that day.”
- December 15, 1939 (NAA Box 36). A letter from Hoover to Hrdlička acknowledges receipt of copies of Hrdlička’s article “The Criminal.”
- May 13, 1940 (NAA Box 36) In a report, apparently prepared for the FBI, Hrdlička presents his analysis of a skeleton of “a rather aged white man, probably over 65 years of age.” Discussion is presented on the presence of “senile arthritis” and light bones due to “senile absorption.” Hrdlička also presents an estimate of living stature, comments on muscularity, and notes evidence for gunshot trauma: “In both the right and the left temples of the skull, at the location of the pterion, there is a hole smaller on the right larger on the left, evidently made by a small caliber [sic] but rather powerfully projected bullet, which was shot almost horizontally from the right side and passed out on the left. This identification is quite positive.” The request of the sender for a facial reproduction is declined by Hrdlička, noting that he feels the technique is “unsafe and could readily prove fallacious.”
- September 30, 1940 (FBI). An unsigned copy of a letter to C.G. Abbot, Secretary of the Smithsonian expresses “my appreciation for the assistance rendered by Doctor A. Hrdlicka [sic], Curator of the Division of Physical Anthropology of the National Museum in the examination of two skulls received by the Bureau’s Technical Laboratory. One of these skulls had been received from the Bureau’s Seattle Field Division, while the other had been submitted by the Police Department of Lockland, Ohio.” The FBI file also contains a follow-up memorandum for the internal file noting that a representative of the laboratory on September 28, 1940 took two skulls submitted from Seattle and Ohio to Hrdlička. They apparently received oral reports from Hrdlička on his impressions of the skulls. The memorandum also references a third skull from Bismarck, North Dakota which “is already in the possession of Doctor Hrdlicka [sic].” Apparently, the FBI had contacted the authorities in North Dakota on Hrdlička’s behalf to obtain the skull in question, and were told that the skull was needed in their investigations but “would be returned to the Bureau for submission to Doctor Hrdlicka [sic] at the conclusion of this investigation.” Although the available FBI and NAA records are silent on what eventually transpired regarding the North Dakota skull, apparently the skull was eventually transferred to Hrdlička. A skull is presently in the Smithsonian collections (Accession 159116, Catalog Number 379242)

with collection records indicating it was received on February 24, 1941 from the State Bureau of Criminal Investigation, Bismarck, North Dakota (through the FBI). A handwritten note, apparently by Hrdlička, accompanies the skull, indicating it represents an American Indian female and detailing how it was acquired.

- April 1, 1943 (NAA Box 26; FBI). In a letter to Hrdlička, Hoover offers thanks for the receipt of Hrdlička's publication "The German Race" and for "the many courtesies you have shown us and the excellent cooperation you have given us. Your aid has been immeasurable when we are confronted with so many problems today."
- April 10, 1943 (FBI). A lengthy internal "Memorandum For The Director Re: Dr. Ales Hrdlicka [sic]" presents detailed biographical information as well as reports of Hrdlička's connections and activities. The introductory paragraph states "As you will recall, the Bureau has frequently contacted Dr. Hrdlicka [sic] in matters pertaining to the identification of skeletal remains and bone fragments. These incidents have arisen in connection with Bureau cases, and he has also been consulted from time to time to secure his opinion in cases referred to the Bureau laboratory by local authorities. Dr. Hrdlicka [sic] has always been most cooperative and willing to lend his assistance in these cases. Dr. Hrdlicka [sic] is, of course, one of the world's foremost anthropologists and is considered to be the outstanding authority in his field."
- June 25, 1943 (FBI). A letter from Hoover to C.G. Abbot, Secretary of the Smithsonian acknowledges Hrdlička's "splendid assistance" in the study of human and animal remains submitted by the Phoenix Field Division in connection with the investigation of a crime on an Indian reservation.
- September 8, 1943 (FBI). The final entries in Hrdlička's FBI file relate to his death. Hoover wrote a personal letter to his widow, Mina, stating: "The Doctor was a real friend of the Federal Bureau of Investigation and aided us immeasurably in the course of our work. He will always be remembered for his outstanding contributions to the science of crime detection and for his gracious and spirited willingness to help us at every turn."

Summary

Hrdlička's primary biographer, Frank Spencer, notes that "Hrdlička's interests spanned the entire spectrum of the discipline. . ." (4) and that when the Smithsonian anthropologist William Henry Holmes proposed the need for a new Division of Physical Anthropology, which Hrdlička was later hired to direct, he cited the "obvious 'practical value' of such inquiries (3)." The information provided above suggests that forensic anthropology was very much within the spectrum of Hrdlička's activities and he did not shy away from the practical applications of his science.

The record shows that from the inception of his career in medicine and anthropology, he was involved in forensic/medico-legal issues. Initially this focus was on the biological basis of criminal behavior and the medical/physical attributes of abnormal behavior in general. This interest was a strong component of his early anthropometric research and led directly into his efforts to assemble comparative collections of human remains.

Much of his field work among then living American Indians was stimulated by legal issues regarding ancestry and the extent of admixture. This work culminated in court testimony with considerable impact.

It is somewhat curious that Hrdlička's publications contain so little on human identification issues when the archival sources clearly

indicate extensive involvement on his part in this area. Beginning with his 1910 report on the skeleton from Argentina, Hrdlička reported on a minimum of nine cases. The 1943 letter from FBI Director J. Edgar Hoover indicates Hrdlička was "frequently contacted" by the FBI, suggesting the actual number of cases was much greater.

These skeletal cases included not only assessment of antiquity, age at death, sex, stature, disease conditions and general build, but also gunshot trauma and early recognition of a bear paw thought to be human. In the 1932 Phoenix case, Hrdlička attempted what may have been the first anthropological identification procedure in a medico-legal context utilizing comparison of photographs with cranial features, an early antecedent of modern, more sophisticated procedures involving photographic superimposition.

Clearly, Hrdlička had considerable direct involvement with forensic issues, including making his expertise readily available to law enforcement. He initiated Smithsonian consultation with the FBI, maintaining direct contact with then Director J. Edgar Hoover. The nature of this consultation apparently varied, with the FBI at times referring outside evidence and inquiries directly to Hrdlička or representatives of the FBI bringing cases directly to the Smithsonian. This liaison with the FBI, initiated by Hrdlička early in the twentieth century, has continued uninterrupted to the present.

As noted before (25), perhaps Hrdlička's greatest contributions to forensic anthropology have involved organizing the science which has led to its increased sophistication in later years. In the Americas, no one has done more than Hrdlička to assemble the collections, procedures, and intellectual initiatives that make modern forensic anthropology possible. His early work in the forensic examination of human skeletal remains was significant, although somewhat overshadowed by his tremendous productivity, scientific passion, and authoritative presence in other areas of anthropology. Clearly, however, the work of Aleš Hrdlička occupies a significant niche in the history of forensic anthropology.

Acknowledgments

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