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THOMAS DALE STEWART
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A Biographical Memoir by
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M. D. Stewart

THOMAS DALE STEWART

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BY DOUGLAS H. UBELAKER

THOMAS DALE STEWART WAS A founder of modern forensic anthropology and a major contributor to most areas of human skeletal biology, paleopathology, and related areas of physical anthropology. His quiet and modest demeanor and meticulous approach to problem-oriented research made him one of the most respected and accomplished physical anthropologists on record. Although his interests touched many areas of anthropology and medical science, he is widely regarded as a champion of accurate, detailed scholarship and remarkable career productivity. His name will forever be linked to the development of modern forensic anthropology, focused research in paleopathology, and issues surrounding the peopling of the New World and the Shanidar Neanderthals.

Dale was the chair of my dissertation committee at the University of Kansas in the early 1970s and a mentor during my own academic formative years. We worked closely on research projects and forensic issues for many years. I was hired at the Smithsonian Institution when he retired in 1971, and we subsequently worked together for over two decades. I consider myself to be his student and, like all his friends and colleagues, gained tremendous respect for his

work ethic, scholarly productivity, attention to detail, and amiable personality.

GROWING UP IN DELTA, PENNSYLVANIA

Stewart was born in the Welsh community of Delta, Pennsylvania, the son of Thomas Dale Stewart Sr. and Susan Price Stewart. Although his parents were not of Welsh ancestry, they had moved to Delta from Delaware at the encouragement of Dale's uncle, the Reverend Kensey Stewart, who was the minister in charge of the local Slateville Presbyterian Church. Reverend Stewart had noted that the town lacked a good pharmacy, and so Dale's pharmacist father decided to move there and set up what became known as Delta Pharmacy.

Dale attended the local Delta school system. The small one-building school carried students from first grade through high school, with two grades in each room. Dale felt this was helpful because it brought a preview of work to come and a review of work completed throughout the school experience. His primary school teacher Mary Arnold doubled as his Sunday school teacher and continued to assist him later in his career.

Following graduation from high school in 1920, Stewart accepted a position with the First National Bank of Delta as a runner; Dale had to open the bank in the mornings, maintain the furnace, and complete other mundane tasks needed to keep the facility operational. Within a year he became a bookkeeper, working with an adding machine to balance the books. Each day he had to go over the bank's transactions until every cent was accounted for, an experience in detail and accuracy that he felt offered good training for his later scientific career. His father died in 1916 following a stroke and Dale's deaf mother had become de-

pendent on him, adding an incentive to maintain his new position in the local bank.

Dale was well on his way to becoming a small-town banker when family friend John L. Baer convinced him to enroll in George Washington University in Washington, D.C. Baer had worked in Delta Pharmacy, married Dale's former teacher Mary Arnold, and was living and working in Washington. In 1922 with his mother's approval, Dale rented a room from his old friends from Delta and launched his college career.

INTRODUCTION TO ANTHROPOLOGY AND THE SMITHSONIAN

At that time Mr. Baer held a temporary position with the Smithsonian Institution as a substitute for archeologist Neil Merton Judd and physical anthropologist Aleš Hrdlička when they were on travel. Through Baer, Stewart agreed to share his room with a young man who had just arrived to work at the Smithsonian, Henry B. Collins Jr., who recently had worked with Judd on an archeological project at Pueblo Bonito in New Mexico. The following year Collins departed for work in Mississippi, and again through Baer, Stewart's roommate became Karl Ruppert (a future Mayanist), who also was working for Judd at the Smithsonian. Through these three primary contacts, Stewart attended lectures, took classes in anthropology, and became familiar with anthropological activity at the Smithsonian.

In 1924 Baer was offered an opportunity to conduct research in Panama, and he asked Stewart if he would consider substituting for him on a temporary basis at the Smithsonian. At that time Baer was working as an assistant to the curator of physical anthropology, Aleš Hrdlička. In the employment interview with Hrdlička, Stewart discussed his previous banking experience. Hrdlička needed someone to tabulate numbers and he was impressed with Stewart's

experience with the adding machine back in the Delta bank. Stewart accepted the position expecting it to end when Baer returned from Panama. When Baer died of yellow fever and malaria in Panama, Hrdlička invited Stewart to stay on, again on a temporary basis. After graduating from George Washington University in midyear 1927, he accepted a permanent job with the Smithsonian as an aid to Hrdlička.

Hrdlička admired Stewart's work ethic and indicated that if he would obtain his M.D. degree, he could eventually succeed Hrdlička as curator. With a leave of absence from Hrdlička and his guarantee that he would return to the Smithsonian after receiving the degree, Stewart enrolled in medical school at Johns Hopkins University in Baltimore. He had previously met Johns Hopkins professors Adolph Hans Schultz and William Louis Straus of the anatomy department.

With medical degree in hand in 1931, Stewart returned to the Smithsonian as assistant curator working with Hrdlička. He was promoted to associate curator in 1939. Following Hrdlička's death in 1943, Stewart became curator and continued at the Smithsonian for the remainder of his career, accepting appointments as head curator in 1960 and museum director in 1962. He retired in 1971 but continued work there until the 1990s.

RELATIONSHIP WITH HRDLIČKA

Dale Stewart loved to reminisce. During breaks on field expeditions or after dinner at his lovely home in McLean, Virginia, discussion would frequently shift to his years working with Aleš Hrdlička. Dale considered himself to be Hrdlička's primary student through his long apprentice arrangement at the Smithsonian. He credited Hrdlička with teaching him most of what he knew about physical anthropology, public speaking, scientific rigor, and the work ethic. Yet, he was

mindful of Hrdlička's shortcomings and difficult personality and admitted that he was always on guard when working with the man.

Since both Hrdlička and Stewart held medical degrees, Smithsonian staff would frequently turn to them for help on medical issues. Two of Dale's stories relating to this medical experience reveal the delicate road he walked in his relationship with Hrdlička. Apparently Hrdlička maintained in his office a supply of citrine ointment that he would dispense to colleagues at the Smithsonian for a wide variety of minor ailments. One day Stewart was approached by a member of the department who had been a long-time user of Hrdlička's citrine ointment. She was in need of more ointment but had experienced a recent falling out with Hrdlička and did not feel comfortable approaching him with the request. In short she wanted Stewart to intervene and secretly obtain some of the valued ointment for her own use. Although Stewart was sympathetic to the woman, he turned her down, pointing out that if Hrdlička ever found out, his own relationship with him would be permanently damaged.

On another occasion in 1940 Stewart returned from lunch to learn that he had been requested to go to the office of a colleague in another department on a medical emergency. Both he and Hrdlička arrived at the same time to find the elderly colleague lying on the floor. Hrdlička immediately approached the patient while Stewart, mindful of Hrdlička's seniority, stood to the side. Hrdlička, perhaps influenced by his own recent experience with a heart attack, knelt down next to the man, listened to his heart, and quickly diagnosed that condition. Observing from a distance, Stewart gained a broader perspective, noting that one side of the face was sagging and the arm and leg on the same side were flaccid. Stewart could not hold back, and he ap-

proached Hrdlička pointing out his observations. Hrdlička turned and walked out, upset that he had been corrected by his student.

Although Stewart always referred to his years with Hrdlička as being an apprentice or assistant, the record shows that he also worked independently and productively during this period. From 1929 (date of his first publication) through 1943 (date of Hrdlička's death) Stewart authored 163 publications, or over 10 per year, and none coauthored with Hrdlička. This record is particularly impressive when one recognizes that in addition, Stewart provided support for most of Hrdlička's own voluminous publications. Following Hrdlička's death, Stewart maintained a remarkable publication rate, but somewhat reduced from his years with Hrdlička (about six per year from 1944 to 1971 and about three per year following his retirement).

RESEARCH DESIGN AND IMPACT

Throughout his career Stewart's research focused on a variety of specific issues that he would approach in original, detailed, and comprehensive ways. Stewart would define a specific problem that needed a solution, assemble all the relevant literature, and then craft a research design, frequently including the Smithsonian's collections. Early in his career, research topics complemented those of Hrdlička and his work at the Smithsonian: dental caries in Peru, separate neural arch and spondylolisthesis in Eskimo and other samples from the Americas, ossuary excavation and analysis in eastern North America, cranial deformation, dental alterations, anthropometry, and detailed analysis of specific skeletal samples recovered from archeological excavations.

Following Hrdlička's death, Dale's research expanded to include forensic topics, historical issues, and analysis of the fossils from Shanidar cave, Iraq. His forensic interests

were shaped through casework with the FBI and concern with the science supporting human identification. Dale became a regular consultant in forensic anthropology for FBI Headquarters, then located just across Constitution Avenue from the Smithsonian's National Museum of Natural History. Between 1943 and 1969 he reported on at least 254 forensic cases for the FBI and others but had to testify in court on only eight occasions. Through casework Dale realized the need to improve scientific methodology. This concern led him not only to publish extensively on forensic issues but also to gather data from identified individuals, examined in a forensic context, to improve methodology. In 1954 he accepted an invitation from the secretary of the U.S. Army to work in Japan organizing an effort to gather data from Americans killed in the Korean Conflict. Stewart successfully argued that existing methodology had been developed primarily from the study of medical school collections, which tended to be composed mostly of the elderly. The military fatalities were primarily of the young and thus offered an opportunity to help remedy the problem. He also noted that most of the published literature offered only general statements about epiphyseal closure and other age changes, whereas his observations indicated that the issues were more complex stages of closure, and change needed to be recognized and calibrated especially in young adults. The resulting classic 1957 publication with Thomas R. McKern, *Skeletal Age Changes in Young American Males*, continues to be a primary source for the estimation of age at death.

Later in Dale's career his writing turned more toward synthetic works, bringing together his own research and that of others to focus on topics of considerable scientific interest. Edited volumes focused on human identification issues (with Mildred Trotter in 1954 and his own *Personal*

Identification in Mass Disasters in 1970) and included the 1970 *Handbook of Middle American Indians* and his revision of Hrdlička's *Practical Anthropometry*. His 1973 *People of America* volume presented a unique synthesis of the physical characteristics and historical issues of populations from the Americas. His *Essentials of Forensic Anthropology* (1979) continues to be a frequently cited, classic overview of an application of physical anthropology that he helped to shape.

Following his retirement in 1971, Dale continued to quietly conduct research and publish at the Smithsonian. Free from administration and other Smithsonian duties, Dale came to the office regularly and continued productivity for another two decades. Although he always modestly cited Hrdlička as a model of career research accomplishment, the number of his own publications surpassed that of Hrdlička, totaling at least 394 contributions, including five edited volumes and four books or monographs. He published his final monograph, *Archeological Exploration of Patawomeke*, in 1992 at the age of 91.

His work in paleoanthropology included detailed study of the Neanderthal material from Shanidar cave in Iraq and late Paleolithic remains from Egypt. Stewart's contributions included perspectives on cleaning and casting techniques, dating issues, taxonomy, and detailed anatomical documentation and interpretation.

His scientific record is especially impressive in consideration of his commitment to administration and contributions to organizations. In addition to the routine museum curatorial duties, Dale served as head curator in the Smithsonian's Department of Anthropology from 1961 to 1962 and director of the National Museum of Natural History from 1962 to 1965. In 1964 he was largely responsible for the production of a major Smithsonian exhibition on physical anthropology, which presented aspects of human

variation and evolution, including many personal research interests of Dale's. He taught at the Washington University School of Medicine in St. Louis in 1943, at the Escuela Nacional de Antropología in Mexico City in 1945 and at the George Washington University School of Medicine in Washington, D.C., from 1958 to 1967.

Stewart was elected to the National Academy of Sciences in 1962. He also was a member and president of the Anthropological Society of Washington, a vice-president of the Washington Academy of Sciences, president of the American Institute of Human Paleontology, a fellow of the American Anthropological Association, and an active member of the Committee on Research and Exploration of the National Geographic Society. He was president of the American Association of Physical Anthropologists from 1950 to 1952 and its treasurer-secretary from 1960 to 1964. Stewart received the Viking Fund Medal in 1953 and the Charles Darwin Lifetime Achievement Award in 1993 from the American Association of Physical Anthropologists.

In 1974 he was elected an honorary member of the American Academy of Forensic Sciences, and he regularly attended their annual meetings. Stewart could usually be found at those meetings sitting attentively in the first row of the physical anthropology section. In 1978 he accepted an appointment as a consultant to the American Board of Forensic Anthropology Inc., a newly founded organization offering certification and recognition to forensic anthropologists. In 1981 he became the second recipient (following Ellis R. Kerley) of the Physical Anthropology section award. This award was renamed the T. Dale Stewart Award in 1987 and represents the highest award offered by the section of Physical Anthropology for career achievement in physical anthropology. Between 1987 and 2005, 13 forensic anthropologists have received this award.

PROFESSIONAL QUALITIES

Growing up in Delta, Pennsylvania, Dale developed an interest in local history, searching for Indian artifacts along the Susquehanna River. This interest grew when he was exposed to anthropology in college and at the Smithsonian Institution. In the academic environment of the Smithsonian he flourished. With a work ethic that had been well established early in his life and honed during his long years working with Aleš Hrdlička, Stewart became a prodigious researcher who focused on accuracy and detail. Through extensive national and international travel, he was recognized throughout the academic world as the authority in his field. Soft-spoken and modest, Dale quietly shaped the academic development of his areas of interest.

Although he worked long hours even after retirement from the Smithsonian, Dale always took time for family and friends. He married Julia C. Wright in 1932. Following her death in 1951, he married Rita Frame Dewey in 1952. He had one daughter, Cornelia Gill, and numerous grandchildren and great grandchildren.

Dale played the piano and became an amateur portrait painter. He was a gracious host and enjoyed interaction with younger scholars and students. I remember many pleasurable evenings at Dale's home in McLean, Virginia, when after dinner we would retire to the living room and his stories would emerge: working with Hrdlička, ship travel to Alaska, meetings in Europe, and the complexities of various colleagues. This delightful person touched the lives of many anthropologists and others around him.

HIS LEGACY

Stewart led the professional development of forensic

anthropology, paleopathology, and related areas of human skeletal biology. Through example in lectures, publications, and editing, he set the standard for scientific conduct in his areas of interest. A frequent international traveler, he was a diplomat for the Smithsonian Institution and American physical anthropology. His scientific contributions include original, detailed, and interpretive analyses of such diverse topics and conditions as treponemal disease, trephination, dental alterations, vertebral osteophytosis, anterior femoral curvature, Neanderthal morphology, and the complexity of skeletal aging.

MUCH OF THE INFORMATION presented here results from many conversations I enjoyed over the years with Dale and Rita Stewart and materials assembled for a symposium held in Dale's honor at the 51st annual meeting of the American Academy of Forensic Sciences in Orlando, Florida, on February 19, 1999, and published in the *Journal of Forensic Sciences* in March 2000.

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