

OBITUARIES

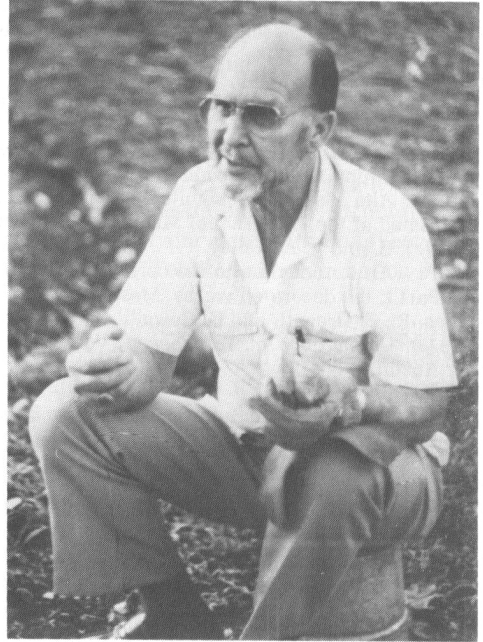
DON E. CRABTREE, 1912–1980

Don E. Crabtree, “the dean of American flint-knappers,” died in Twin Falls, Idaho, on November 16, 1980, of complications of heart disease. He had been in ill health for some time and, indeed, had major health problems for much of his life. Yet he was possessed of immense energy and curiosity that pushed him to world leadership in the study of stone-tool technologies. To a great extent self-educated, he spent most of his life in the agricultural communities of southern Idaho, yet was familiar with the world’s leading scholars and institutions of archaeology and published crucial papers in lithic technology.

Crabtree was born in Heyburn, a small community on the Snake River Plain of southern Idaho, on June 8, 1912. His parents were the Reverend Ellis and Mabel G. Crabtree, and they provided him with a strong ethical and educational heritage that was to serve him throughout his life. In 1911 the Crabtrees homesteaded 140 acres in the Salmon River Valley where they spent their summers while Don Crabtree was a child. In 1917 they moved to a 10-acre plot just outside of Twin Falls,

where they established a garden and pickle business that is still successful. They also maintained a large tourist home. Don Crabtree’s ties to his family and native Idaho were focal elements of his life, most of which he spent in the same Twin Falls community amidst parents and two sisters and their families. His father died in 1967; his mother still lives in Twin Falls.

Don Crabtree finished high school in Twin Falls in 1930 and for some time worked for the Idaho Power Company. He soon decided to strike out for California where he enrolled in Long Beach Junior College sometime in the mid-1930s, intending to major in geology and paleontology. His interest in those topics, and in prehistoric archaeology, had developed during a childhood and youth spent exploring south-central Idaho with its remains of prehistoric villages, contemporary Indian communities, obsidian and vitrophyre quarries and associated debitage, and even the Hagerman Fossil Beds with their Miocene horses. He had tried his hand at knapping the local natural glasses to replicate the arrowheads that were scattered over the landscape, and was fairly successful at it, but his primary attention first focused on the paleontological record. Crabtree was an action person, a thinker-while-doing, not happy just studying, and after one term at Long Beach Junior College he dropped out of formal academic training and went the rest of his way himself. Throughout his life he was somewhat self-conscious about this lack of college education, disliking formal speeches and putting ideas into scholarly language for publication, although he was recognized internationally as one of the most thoughtful and provocative students of prehistoric technologies.



In lieu of a college education, Crabtree began working in paleontological laboratories and by the late 1930s was preparator in the vertebrate paleontology laboratory at the University of California, Berkeley. Here he worked under the direction of Charles Camp and Ruben Stirton and did summer fieldwork in Nevada and California. At the same time, he became acquainted with Alfred L. Kroeber and E. W. Gifford of the Lowie Museum at Berkeley, and in the late 1930s worked as a technician in the anthropology program while he further developed his flintknapping skills. He also conducted knapping demonstrations for scholars and students at Berkeley and occasionally for Museum visitors. His subsequent lifelong concern with the behavioral implications of prehistoric artifacts, based on thorough knowledge of the technology and use of stone tools in general, undoubtedly dates to this association with Kroeber and the Berkeley anthropology program.

In 1939 Crabtree was stricken with cancer and returned home to his parents' care during what were considered to be his last days. However, massive cobalt treatments and his mother's and his indomitable patience through months of intensive care led him to recovery. He spent his recuperation period, when his mobility was limited and as he was trying to regain muscular strength, flintknapping—making arrowheads, spearpoints, and eccentric lithic forms by the hour. What had been a virtuoso performance until that time became a confirmed craft and art, all the time being conducted amidst a personal search for information about lithic mechanics, systems of efficient core reduction, and the significance of variations among the newly identified paleo-Indian points from the Plains and Southwest.

In January 1938 the Ohio Historical Society established its Lithic Laboratory for the study of materials of the eastern United States, and in mid-1939 H. Holmes Ellis was hired to staff the facility while he completed his Master's thesis (*Flint-working techniques of the American Indians: an experimental study*, 1940) at Ohio State University. The laboratory was to function for only a few years, being discontinued on the eve of World War II, but it was a critical element in the history of modern stone-tool studies. In the spring of 1941, fully recovered and with a year of concentrated flintknapping behind him, Crabtree was invited to demonstrate knapping techniques at the American Association of Museums' annual meeting in Columbus, Ohio. As a result of that demonstration he was employed for several months in the Lithic Laboratory, as a technician working with Ellis and Henry C. Shetrone, replicating eastern lithic artifacts. Crabtree was also called upon as an adviser in lithic studies to the University of Pennsylvania, where he was associated with Edgar B. Howard and the Clovis type site and other Blackwater Draw materials. It was during this period that he had his first "hands on" acquaintance with the Folsom materials, one of his lifelong fascinations, when Frank H. H. Roberts of the Smithsonian Institution called Crabtree in as a consultant in the analysis of the Lindenmeier Folsom collection. Everything was going right in the fall of 1941; the cancer was in remission, Crabtree had employment doing that in which he was most interested (working with stone tools), and he was becoming recognized as one of the leading students of that subject by major archaeological institutions. Then the United States entered World War II, the Lithic Laboratory was discontinued, and Crabtree returned to California to join the war effort. The first major phase of his career in lithic studies came to a close.

From 1941 until the late 1950s Crabtree's involvement with flintknapping was only as an avocation. He spent the war years in Long Beach where he worked as a coordinating engineer for Bethlehem Steel Company, which built the ships for the Pacific effort. There he met his beloved wife, Evelyn Josephine Meadows; they were married in Long Beach in 1943. Their relationship was a strong and close interdependency, she serving as his housekeeper, traveling companion, secretary and editor, and always as his closest confidant. They never had children of their own, rather "adopting" the young students who flocked around Crabtree to learn and consult; their home was always open. Evelyn's health problems were also significant; she had lost a lung to tuberculosis when she was a young woman, and spent her last years in a long fight against cancer. Their 33 years together were a true partnership, and one did not know Don Crabtree unless one also knew Evelyn.

Following World War II, the Crabtrees returned to Twin Falls. They purchased the big family

home from Don's parents, and he soon was a successful real estate salesman in a booming postwar market. Evelyn was a manager of a large savings and loan institution, where she dealt in real estate and more general financial matters. She was an astute businesswoman, and Crabtree credited her with providing their financial security in their later years. They eventually sold the large house and bought a small place out in the country just east of Twin Falls, on the Kimberly mail route, and over the years they added rooms and a shop until finally they had a modest but complete lithic laboratory and guest facility.

Crabtree was employed from 1952 until 1962 as a county supervisor for the U.S. Department of Agriculture's Agricultural Stabilization and Conservation Service (ASCS) in Twin Falls, spending much of his time in aerial photo interpretation of soil conservation problems. He maintained his avocational interest in flintknapping, was a skilled lapidarist and fine metal worker, and even did beadwork. He continued to read voraciously, to keep up with archaeological publications, and to demonstrate flintknapping to local schools and youth groups. He also continued his investigations into the archaeology of southern Idaho, particularly its prehistory. He was locally quite well known for his knapping skills and knowledge, and that local fame led him to a reentry into the scholarly world of lithic studies in 1958.

In 1957 Earl H. Swanson, Jr. arrived at Idaho State College (now Idaho State University) in Pocatello to establish the first major archaeological program in that state. Pocatello is on the eastern edge of the Snake River Plain, some 120 miles east of Twin Falls. Swanson, who had recently completed a Ph.D. program at the University of Washington and a year's work in London, was interested in the interrelationship of environment and prehistory, in paleo-Indian studies, in the culture history of the intermountain west, and in developing a strong new archaeology program in that region. He soon heard from local people that there was a flintknapper of prodigious skill with a major regional archaeological collection living in Twin Falls, and in 1958 Swanson introduced himself to Crabtree. The deep friendship of Swanson and Crabtree, which was support for an equally strong mentor-protégé partnership of the two men, was forged immediately and was to last until Swanson's untimely death in 1975. It must have been quite a moment when Swanson met the man about whom he had heard only as a local collector and knapper, and found that he had unearthed one of the world's leading practitioners and scholars of lithic technology. Swanson's international credentials and participation in the "early man" network of American archaeologists gave him access to research monies and forums that Crabtree would not then have entered on his own, and Swanson never hesitated to do whatever he could to provide Crabtree with that access by extension.

In the spring of 1961 Alex D. Krieger visited Swanson at the Idaho State College Museum to see the paleo-Indian materials being found in the Birch Creek Valley and at Wilson Butte Cave, and the idea of a conference on regional lithic typology was conceived. There was enthusiastic support for the idea from other archaeologists in the West, and Richard D. Daugherty further suggested that such a conference should be initiated with a flintknapping demonstration and discussion of the technical aspects of stone-tool production. Thus, in March 1962 the First Conference of Western Archaeologists on Problems of Point Typology was held at the Idaho State College Museum and was opened with a full morning of Don Crabtree on lithic technology. Thus, Crabtree and his expertise in lithic technology and analysis were made known to a range of influential American archaeologists, and the stage was set for focusing on technological studies rather than just "types."

When Swanson first met Crabtree the latter was still working for the U.S. Department of Agriculture. Crabtree was also having occasional heart and vascular problems, which may have been the delayed result of the cancer treatments of 1939-1940, and in 1962 these became severe enough that he was forced to take an early medical retirement. He thus had time to concentrate on the lithic studies, which he did when he was feeling more able. In 1964 he was appointed Research Associate in Lithic Technology at the Pocatello Museum, a nonsalaried position that provided some support services and an institutional identification when applying for research monies. He retained that position until 1975.

The stimulating communication among participants of the First Typology Conference led them

to seek to broaden the context of their discussions, and thus they went to the Society for American Archaeology for sponsorship of an international conference on lithic technology. The Society, in collaboration with the Université de Bordeaux and with support from the U.S. National Science Foundation, in November 1964 sponsored at Les Eyzies, France, such a 6-day meeting of scholars from the United States, Canada, and France. Again, the focus was on Don Crabtree. Crabtree was the expert on pressure flaking, though he also did some percussion work, and he was delighted to be able to work with François Bordes, Director of the Laboratoire de Préhistoire of the Université de Bordeaux, who was an acknowledged expert in percussion flaking. Jacques Tixier of the Institut de Paleontologie Humaine, Paris, another well-known archaeological knapper, was also a Les Eyzies participant. The communication between Crabtree and the French scholars was particularly facilitated by H. Marie Wormington, who had long recognized the significance of understanding the technology of paleo-Indian artifacts and who spoke fluent French. The conference established Crabtree as one of the world's leading pressure flakers, as well as lithic analysts, and in the course of it he reintroduced the concept of thermal pretreatment, or annealing of lithic materials, to the Old World. His collaboration and personal friendship with François Bordes began at Les Eyzies and thrived until his death, with Bordes being a relatively frequent visitor to the lithic shop under the cottonwoods in Kimberly, Idaho. The conference also established lithic technology as a specific field of study within prehistoric archaeology, and provided an important conceptual perspective to the analysis and classification of lithic traits and items.

Crabtree was never comfortable as a writer, yet he had a great deal to communicate and he knew that that was best done in published papers. The Idaho State University Museum provided him with the editorial support for getting his ideas in print, and indeed published all of his papers between 1964 and 1968 in their own journal, *Tebiwa*. His first paper, a collaboration with B. Robert Butler of the Museum on *Heat treatment of silica materials* (1964) is a seminal statement on that topic. His lifelong interest in and knowledge about the physics and chemistry of lithic materials themselves came from his work experience in the shipyards, and his years of lapidary work. Crabtree's next paper, a 1966 analysis of the Lindenmeier Folsom technology, had its origins in his 1941 work with Roberts at the Smithsonian Institution. In the late 1970s he would say ironically that even after all the years in its generation the Folsom paper had some major analytical errors, but his approach to delineating a production system as the basis for understanding a point "type" was a critical model for developing lithic technologists. His 1967 papers on the basic elements of any lithic technology, the stone and tools used, were suitable to both the avocational knapper and to the archaeological analyst. However, despite his participation in the 1962 and 1964 conferences and his publications in *Tebiwa*, Crabtree was still not a household word for American prehistoric archaeologists until the late 1960s.

In perspective, his publicly most productive years were probably 1968 through 1970. In 1968 Crabtree published four papers. One of these, a brief discussion of mid-nineteenth century southern Idaho Indian use of stone tools to work metal scraps found along the Oregon Trail, is a small gem of anthropological analysis and a good example of the breadth of the "uneducated" Crabtree. The other three papers of this period illustrate the diversity of his interests in lithic studies as well as his worldwide purview; one (with Earl Swanson) is on edge-ground cobbles and blade making in the Pacific Northwest; another (with Emma Lou Davis) deals with experimental manufacture of wooden implements with stone tools; and a third discusses the technology of Mesoamerican prismatic blades. The paper with Davis was published in *Science*, and the Mesoamerican blades argument came out in *American Antiquity*, both with wide audiences. In addition, a film on lithic technology (*The Shadow of Man*) featuring Crabtree was produced in 1968 by Earl Swanson and immediately received wide college distribution. Crabtree was finally a national figure, despite his disavowal of any particular competence of his own, and his presentation of a flintknapping demonstration at a university or archaeological site was sure to draw a crowd. Most of the time these were presentations for which he received minimal financial compensation. He and Evelyn would for the most part use their own resources to travel around the country visiting sites and collections; he would be delighted to flintknape for folks if they were in-

terested, and if there was some sort of honorarium they were pleased but didn't think it necessary.

In 1969 Crabtree, with François Bordes, described in *Tebiya* their experiments in replicating the French Corbiac technology, and Crabtree also provided in *Current Anthropology* a brief technological description of the lithic artifacts from the 15,000–14,000-year-old level at Wilson Butte Cave in southern Idaho. His 1970 *Science* paper was a significant discussion of the use of wooden knapping tools, and that same year he and Richard Gould produced a general overview of flintknapping for the lay public. Finally, that year Crabtree was the featured player in four films on flintknapping made by Earl Swanson at Idaho State University, and Crabtree and François Bordes were featured in *Blades and pressure flaking*, produced by J. Desmond Clark and Glynn Isaac at the University of California, Berkeley. Thirty years after he left Berkeley, he had returned as a recognized scholar.

Another major event of 1969 was the establishment of the Idaho State University National Science Foundation Flintworking School under the guidance of Earl Swanson, with direction by and salary support for Crabtree. The schools were held each summer for 6 years in Twin Falls, in a city park surrounding Dierkes Lake just above Shoshone Falls in the Snake River canyon. Each year the National Science Foundation provided Crabtree's support and a stipend for four to six students to spend one month of the summer at Dierkes Lake working with the master knapper, camping out under the huge cottonwoods while they thought, lived, bled, and seemingly breathed lithic technology and analysis of archaeological materials. Over the six summers some 33 Fellows (22 men, 11 women) attended the workshops and created a well-defined "Crabtree school" within international lithic studies. From the Dierkes Lake sessions was generated the *Newsletter of Lithic Technology*, established in 1972 by alumni Ruthann Knudson and Guy R. Muto to maintain communication among the workshop participants and to provide a medium for broader communication in the specialized field of lithic technology. The newsletter was immediately successful as an international medium, was transformed into the journal *Lithic Technology* in 1977, and continues to be published by workshop Fellows Susanna Katz with Paul Katz and Joel Gunn. Most of the Fellows have in the past decade produced doctoral dissertations in lithic studies, either directly as relates to method and technique of lithic analysis, or in the analyses of specific collections. Many of them are now teaching lithic studies in graduate archaeology programs, and several are involved in major lithic analysis projects funded either by research grants or federal contracts. The Dierkes Lake sessions taught a perspective on lithic analysis that was in the long run more lasting than the actual knapping skills. It is that perspective, a systemic behavioral approach to the study of prehistoric stone artifacts, communicated through the NSF schools and his published papers and public demonstrations, that is the most important legacy of Don Crabtree.

Tragedy struck the Crabtrees again in the spring of 1970 when Evelyn was found to have lung cancer and was thought to have only a short time to live. With Don's heart problems they had always thought she would be the one to care for him in their older years, and now the reverse was true. However, both were pragmatic survivors and the 1970 Flintworking School was held amidst Evelyn's chemical therapy, and by the next winter it appeared that her cancer was in remission. Thus, they picked up their travel and correspondence rounds, though a bit more limited than before, and Crabtree continued to write articles on lithic technology for publication in Idaho State University Museum outlets.

The most important printed contribution of Crabtree's career was his 1972 *An Introduction to Flintknapping*, published as an *Occasional Paper* of the Museum. This report probably had its origins in the 1940 Ellis publication out of the Ohio lithic program. The well illustrated Crabtree glossary soon became the standard reference used by most lithic studies scholars in America and even overseas, as its availability was quickly known through the *Newsletter of Lithic Technology*. Crabtree's later papers on the cone fracture principle (1972), the use of obtuse angles as tool elements (1973), replication of Hohokam points (1973), the grinding and smoothing of stone artifacts (1974), and a general commentary on lithic analysis (1974) were also key technical contributions. All of these were done as a team effort, with Evelyn Crabtree as original organizer and typist of the papers and Earl Swanson as final editor and wordsmith. With Swanson's death in

1975, and Evelyn's in 1976, coupled with his own heart problems, Crabtree's subsequent contributions to world lithic studies became more those of the "dean," the senior adviser in a field that he had initiated and seen granted scholarly acceptance, and less those of a primary contributor.

Even as an adviser, however, Crabtree's curiosity and experimental bent were irrepressible, and he delighted in a unique way of using himself as the experiment. Convinced of the sharpness and sterility of the edges of newly struck Mesoamerican obsidian blades, he entered into an agreement with his heart surgeon to use only Crabtree-produced obsidian blades that had been kept sterile since their production for any initial surgical incisions on Don himself. This was done during too many such operations to which Crabtree was subjected the last years of his life, but both he and his surgeon were always proud of the quick way the incisions healed and the fineness of the scars left from them.

Crabtree's affiliation with the Idaho State University Museum ended in 1975 with the death of Swanson, and in 1976 he accepted a nonsalaried appointment as a Research Associate of the University of Idaho's Laboratory of Anthropology in Moscow. Ruthann Knudson, a Dierkes Lake alumna, was then on the Idaho faculty and had close personal and professional ties to Crabtree, and he in turn was anxious to be identified with his beloved Idaho. The university is some 400 miles northeast of Twin Falls so that there could be little direct interaction between Crabtree and the Laboratory's faculty or students, but the appointment did provide him with an institutional affiliation, telephone support, and secretarial assistance. Crabtree's favorite activity was to forgo answering a letter with another written document, but instead to telephone the correspondent and spend an hour in a detailed discourse on topics of mutual interest—the way a specific material responded to heat treatment, the possible relationship of the technology displayed in one paleo-Indian site with that of another. The Moscow affiliation allowed him to maintain more comfortably his international involvements while staying in his home community; he was always supportive of the local Herrett Museum in Twin Falls, but he needed a more research-oriented tie.

In Crabtree's last years he became involved with three major projects: the lithics of Belize, the flintworking schools at Washington State University, and the "knap-ins" that were generated by the staff and participants of the journal *Flintknappers' Exchange*. Crabtree was absolutely entranced with the stone tools of Belize. In the spring of 1976 he was invited to participate in a Mayan lithics conference being organized in Belize by Thomas R. Hester and Norman Hammond, and he and Evelyn had a final trip together to visit Central America. Crabtree did not prepare a formal paper for the conference but as usual was the key catalyst in the discussions, and his evaluation of the materials from the Colha site was particularly important to the attendees. Thus, the volume that resulted from the conference (*Maya Lithic Studies*, edited by Hester and Hammond, 1976) was dedicated to Crabtree. He returned to Belize as a consultant on the Colha project in 1979, even though in poor health, and had planned to return again in 1980 and 1981. Unfortunately, he could not do that, but from his first Belizean venture on he could be relied upon to introduce the topic of Colha lithics into any conversation.

Somewhat to his disappointment at times, Crabtree's many demonstrations and schools did not produce many other master knappers (though they influenced a host of scholars with enough knapping expertise to be good analysts). Of the Crabtree students who have the best "hands" through their tutorials, J. Jeffrey Flenniken is one of the most prominent examples of the teaching-knapping tradition and worked closely with Crabtree in the latter's last few years. Washington State University's Department of Anthropology has had a strong program in lithic studies since the middle 1960s, based on Richard D. Daugherty's close personal friendship and long professional association with Crabtree. A lithic laboratory was established there in the late 1960s and has been directed by a series of Crabtree students—Jeffrey Maugher, Guy Muto, and now Jeffrey Flenniken. Flenniken reinstated in 1977, through the Laboratory, Crabtree's summer flintworking school concept, and Crabtree participated in the schools as a guest whenever possible. Thus, the tradition of the Ohio Historical Society Lithic Laboratory has been transmitted via Crabtree over the years to Idaho and on to Washington. Crabtree himself took it to Alberta briefly in 1979 when he taught a week's intensive course in lithic studies at the University of Lethbridge; he was as

delighted with the way video cameras could be used to show holding positions as he had ever been with some new insight into a reduction system.

A third major interest of his in the past few years was knapping in and of itself, in the communication with other self-taught or Crabtree-taught knappers who were themselves skilled craftspeople and were primarily interested in replication skills. Gene Titmus of Twin Falls had always been someone with whom he could sit for hours in the backyard shop while they applied themselves to the reduction of a pile of obsidian nodules, but more of his recent students were analysts rather than knappers. With the initiation of *Flintknappers' Exchange* and the gathering for "knap-ins" around the country, Crabtree found himself on occasion a *working dean*, and insofar as his strength would allow it in the last 2 years he would try to work out any knapping problem that was suggested by a member of the new club.

Crabtree was always a modest, relatively humble individual, and believed that his lack of formal education credentials was a reflection of his not really being a scholar. He was a flintknapper, frequently referred to in print as an "uneducated" person, and for most of his life he never felt it appropriate that he be accepted as a person of erudition. He was a small-town boy who happened to have friends worldwide, but that wasn't particularly noteworthy in his view. Yet, when he was awarded an honorary Doctor of Sciences degree from the University of Idaho in 1980, and in celebration of the award was presented with a volume of laudatory letters from students and scholars around the world, he finally accepted his academic value. He was the dean of world lithic studies, as well as of American flintknappers, and he finally understood and enjoyed the significance of his life's contributions.

In his last years Crabtree became concerned about the disposition of his extensive library, personal papers, and collection of archaeological and replicated artifacts, particularly given his lack of permanent institutional ties. Over the years Evelyn Crabtree had been very careful to keep order in those books and papers, with a catalog of all the publications, and Crabtree was aware that together the materials represented a wealth of insights into lithic technologies and use systems, and the history of lithic technology as a field of study. He wanted them available for future scholarly review, and at the same time he wanted his native state of Idaho to benefit from having them accessible. He also wanted to support the ongoing program in lithic studies at Washington State University. His solution was to leave his entire collection of written and artifactual materials to the University of Idaho, with a trust fund for its curation. The materials are accessioned in the University Library, and are thus fully accessible to students of Washington State University since the latter is only eight miles west of Moscow, Idaho. His will further established two \$1,000 annual scholarships "for graduate study and research of stone artifacts, and diverse technologies involved, and human behavioral involvement of such artifacts, in anthropology, geology, physiology, or chemistry when related to lithic technology," those scholarships to be available to either University of Idaho or Washington State University students. Thus, the rural Idaho boy who dropped out of college after one term left a legacy of behavioral insights into the development of human history that will last for generations.

In celebration of Crabtree's D.Sc. award, François Bordes wrote, "One could say that in American lithic archeology, there is a pre-Crabtree and a post-Crabtree period." That is undoubtedly true for more than just the Americas.

RUTHANN KNUDSON

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