MAMMOTH TRUMPET

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Center for the Study of the First Americans
Department of Anthropology, Texas A&M University
4352 TAMU
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http://centerfirstamericans.org

ROBSON BONNICHSEN
1940–2004

Dr. Rob Bonnichsen passed away in his sleep on December 25. As you know, Rob was the founder and first Director of the Center. During his long career in archaeology, Rob was a pioneer and leader in the field of first American studies. His research and ability to synthesize diverse aspects of the field brought forth new ideas and ways of thinking about the past. Rob was also committed to sharing the story of the first Americans and the excitement associated with the quest for this knowledge with the public. Rob was also a dedicated teacher who loved to work with students. He felt that it was important to train new researchers who could make new discoveries about the earliest inhabitants of the Americas. Rob also fought for the rights of all archaeologists to pursue their research into the past. Rob was a guiding light in the study of the first Americans and his absence is a great loss to the field. We will miss our great friend and colleague.

Rob always said that life was about dreams. Rob's dream led to the creation of the Center for the Study of the First Americans. Because of his dedication and hard work, the Center is strong and will continue its mission of research, outreach, and education.

–Michael Waters

The Center for the Study of the First Americans fosters research and public interest in the Peopling of the Americas. The **Center,** an integral part of the Department of Anthropology at **Texas A&M University,** promotes interdisciplinary scholarly dialogue among physical, geological, biological and social scientists. The **Mammoth Trumpet,** news magazine of the **Center,** seeks to involve you in the peopling of the Americas by reporting on developments in all pertinent areas of knowledge.

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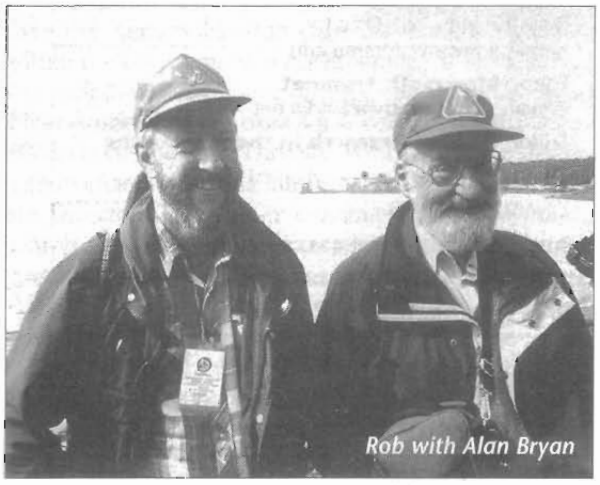
Rob Bonnichsen: The Making of a Scientist

ROBSON BONNICHSEN was raised on a farm in Filer, near Twin Falls, Idaho. His family obviously created a stimulating home environment because his brother Bill became a geologist with the Idaho Geological Survey, and is well known for his contribution to understanding Idaho geological history. Rob became interested in the flaked stone artifacts which he found in nearby fields. He soon amassed a large collection of arrowheads, which he mounted on the walls of the Bonnichsen home.

I first met Rob in 1960 when I was surveying for caves in southern Idaho. I found him at the Browns Bench site, digging alone while the rest of the crew had gone to town for the weekend. I was impressed by his devotion to the work; and suggested that he contact Earl Swanson, the archaeologist at Idaho State College, and enroll in the undergraduate program there. In addition to his regular course work under Swanson and Bob Butler, Rob studied flintknapping under the tutelage of Don Crabtree, an avocational flintknapper associated with the department. Although Rob did not become as good as Don at pressure flaking, he learned how to analyze flake patterns on stone tools, and come to a practical understanding of how they were made. Thus Rob became one of the first experimental archaeologists. He maintained that strong interest throughout his career.



Rob with Alan Bryan

Although not an honors student as far as grades were concerned at Idaho State, Rob concentrated on learning proper techniques of site excavation and analysis; and contributed to several field reports. He did so well as a field archaeologist that Swanson urged him to go on for a graduate degree after getting his B.A. in 1965. Impressed by Rob's determination to become a proficient professional archaeologist, I suggested that he apply to the University of Alberta, where Ruth Gruhn and I were starting an archaeology program in the new Department of Anthropology. So Rob came north to Canada.

Working with us at the University of Alberta, Rob became familiar with the controversial problem of the initial settlement of the Americas. His doctoral research, however, stemmed from his experience in the production of stone tools. While at the University of Alberta, Rob was the primary person to arrange for Don Crabtree to come to Edmonton for a knap-in; and later suggested that François Bordes, the great French Paleolithic specialist, be invited to Edmonton for another knap-in, in 1970. Dedicated from the beginning of his career to scientific method, Rob realized that in order to

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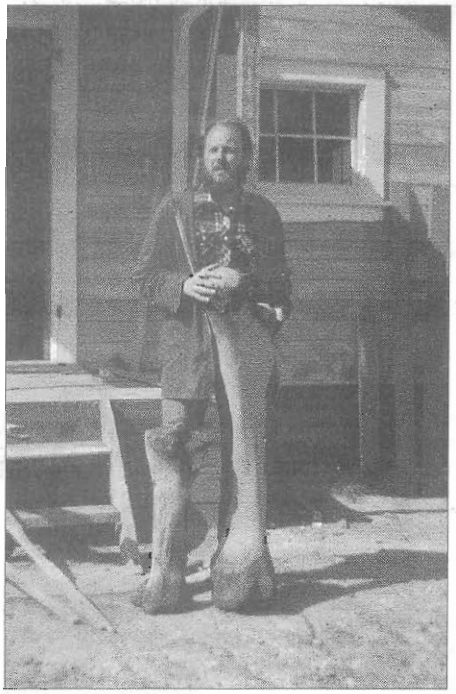
understand the nature of stone tool making, one must first understand the mechanical properties of toolstone; and to that end he constructed what he named the "stainless-steel Indian," a mechanical device to measure accurately the degree



of force necessary to flake standard blocks of various types of toolstone. The results of these experiments provided the basis of his dissertation.

Working with cognitive anthropologist David Young, Rob expanded his research into the application of the cognitive approach to stone tool technology. Then Rob turned his growing expertise in the production of stone tools to the analysis of bone technology. Before receiving his doctorate at the University of Alberta in 1974, he became a Visiting Scholar at the National Museum of Man in Ottawa, where he applied his talents to the analysis of bone specimens collected from late-Pleistocene deposits in the Old Crow basin, Yukon Territory.

Degree in hand, Rob returned to the States. In 1974 he took a position in Anthropology and Quaternary Studies at the University of Maine at Orono. His interest in the problem of the First Americans strengthened, and in 1981 he took the opportunity to obtain significant funding from the Bingham Trust to found a Center for the Study of Early Man. While at Orono he carried out fieldwork at early sites on Munsungun Lake in northern Maine, research which led to several publications. He also continued fieldwork at several important early sites in the Pryor Mountains area of Montana.

Rob continued his interest in developing experimental approaches to stone tool and bone tool technology. In 1980, with Dennis Stanford, Dick Morlan, and others, he used expediently fabricated bone tools to butcher the carcass of Ginsberg, a zoo elephant. The Ginsberg experiment was published in *Science* in 1981. The understanding of bone tool technology gained by this experiment was applied in the study of the Old Crow bone specimens and of flaked bone recovered from several mammoth kill sites.

By 1991 Rob had amassed an impressive bibliography of published articles and monographs, many co-authored with colleague archaeologists and other specialists. He transferred his research center, now called the **Center for the Study of the First Americans,** to Oregon State University in Corvallis, where he later became a full professor. With an active pub-

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Mammoth Trumpet, Statement of Our Policy

Many years may pass between the time an important discovery is made and the acceptance of research results by the scientific community. To facilitate communication among all parties interested in staying abreast of breaking news in First Americans studies, the Mammoth Trumpet, a science news magazine, provides a forum for reporting and discussing new and potentially controversial information important to understanding the peopling of the Americas. We encourage submission of articles to the Managing Editor and letters to the Editor. Views published in the Mammoth Trumpet are the views of contributors, and do not reflect the views of the editor or Center personnel.

–Michael R. Waters, Director

lication program and the sponsorship of important conferences on First Americans research, the **Center** was now well established.

In the early 1990s, Rob carried out the investigation of aboriginal toolstone quarries in the area of South Everson Creek in southwestern Montana, with a crew provided by Earthwatch. A new area of research opened there with the discovery of human hair in deep levels at the stratified Mammoth Meadows site on the floodplain of the creek. Realizing that ancient hair specimens could be used to determine age of occupation by radiocarbon dating, and genetic affinity of the individual by DNA analysis, Rob together with students at Oregon State developed a methodology for hair recovery and identification. The biological aspect of First Americans became another important research interest for Rob.

In the mid-1990s Rob became involved with the Kennewick Man find from southeastern Washington. Jim Chatters, a friend of Rob's from Idaho days, was first to examine the skeleton and note differences from modern native populations. After the bones were dated over 8000 years old, the disposition of the Kennewick remains became a controversial issue when the U.S. Corps of Engineers, which controls the land on the banks of the Columbia River where the skeleton was found eroding out of the river bank, indicated its intention to turn over the remains to the nearby Umatilla tribe before interested physical anthropologists could study this early-Holocene American with the latest scientific techniques. Never one to avoid a fight on a question of principle, Rob led the scientists into court. After years of litigation, ably handled by Alan Schneider, the case of the scientists has been upheld and the Kennewick remains are preserved, although they still await full scientific study.

The controversy generated over the Kennewick Man case within the Department of Anthropology at Oregon State helped to precipitate Rob's move of the **Center for the Study of the First Americans** to Texas A&M University at College Station in 2002. He continued as Director of the **Center;** and Mike Waters, a geoarchaeologist long interested in early sites, became Associate Director. The Center continued its active program of research and publications. Before he died, Rob had active plans to conduct research at early sites in Texas, Mexico, Argentina, and Brazil.

Rob's curriculum vitae present an impressive record of his achievements. In addition to more than 70 articles in journals and books, and a number of technical reports, Rob produced six monographs and six edited books. He organized several international conferences, all focused upon the critical question of the initial peopling of the Americas. The First International Conference on Bone Modification, held in Carson City, Nevada, **in** 1984, attracted specialists from China, South Africa, Mexico, and England, as well as Canada and the United States. Papers discussed both sides of the argument as to whether or not scientific methods could determine whether ancient bones were broken naturally or by humans. The First World Summit Conference on the Peopling of the Americas, held in Orono, Maine, in 1989, brought together archaeologists from several countries in South America, as well as Mexico, Russia, China, Korea, Japan, Canada, and the U.S. This conference made North American archaeologists more aware of the solid archaeological research that was being carried out at significant early sites in Latin America. After the Kennewick discovery, an interdisciplinary conference was held in 1997 in Corvallis, entitled Who were the First Americans? This meeting, focused on biological aspects of the question, brought together geneticists, physical anthropologists, and archaeologists who were dealing with the human skeletal and hair remains from early archaeological sites. Keeping current issues to the forefront, Rob also organized a public conference on the Coastal Entry Route model, held in Portland, Oregon, in 1998. The Clovis and Beyond Conference, held in Santa Fe in 1999, was certainly the most popular and best-attended conference on the First Americans ever held. Over 1,400 people, both avocational and professional archaeologists, packed the lecture hall and admired the collections of early artifacts assembled for the occasion.

Rob made a very strong contribution to public archaeology, both in articles published and presentations to lay audiences, all stressing the importance of preservation and scientific study of precious archaeological resources. Realizing that the public is enormously interested in early archaeology, over the past decade he gave more than 50 public lectures to avocational archaeological societies, service clubs, and other organizations on the peopling of the Americas. I think back to his very first presentation, as a graduate student, at a professional meeting in Banff, Alberta, when he was visibly so nervous that the audience could hear his knees knocking. It wasn't long before he became a confident and polished public speaker, sure to draw an attentive audience.

The lifelong contribution Rob made to the study of the First Americans is incalculable. Rob himself never found a famous early site, but he with his research foundation provided essential intellectual support and encouragement for the many scholars **in** archaeology and other disciplines to pursue active research and publication in this vital sector of American prehistory. Rob especially gave his support to pre-Clovis research. Now with recognition that the Clovis-first model is inadequate, the field of First Americans studies has opened up to new areas of research and the exploration of new approaches. We owe thanks to Rob for a large part of that scientific advance, and trust that the momentum he helped to generate will continue on. MT

–Alan Bryan

Remembering Rob

ROB and I were raised in Filer, Idaho, from a sturdy stock of conservative farm families. We only lived about four miles apart but never formally met until we were sophomores at Filer High School. At that first meeting we were pitted against each other in a PE wrestling class run by an ex-Marine determined to make men out of us. Rob was rail thin, all arms and legs with a pure-white Scandinavian body. Even then he was highly focused on pinning my back to the floor. I do not remember the outcome of that match, but we both earned a high respect for each other as a result of that first meeting. He appeared to be absent from school quite frequently, and as I learned later from other classmates he spent an enormous amount of time in the desert areas of Magic Valley and Owyhee County excavating Indian sites. One day at his home he displayed an array of arrowheads (that I now know as projectile points) all laid out on cotton padding inside wooden frames. He was very proud of those artifacts that I thought never existed. Rob's senior class prophecy said Rob would become a famous archaeologist, and I believe he is the only one in our class to meet their prophecy. After high school we both attended different colleges and lost track of each other. I believe our next contact was at a class reunion 40 years later. My interest in cultural archaeology and history had significantly increased by that time, giving Rob and me plentiful subjects to discuss along with renewing our old friendship. After I earned my M.A. from University of Leicester in Archaeology and Heritage Rob invited me to join his Advisory Board on the Center for Study of the First Americans. In many ways Rob was the epitome of the absentminded professor. During the 18 days we spent almost two years ago in Brazil, Argentina, and Chile Rob would become so highly focused on the more important archaeological issues before him that I would need to keep guiding him back to our room after dinner. But his intense focus and concentration on an issue are what made him unique, interesting, and a successful archaeologist. Rob was not too concerned about being the "clothes horse" like some of the rest of us and was known to wear different colored socks and the same style of vertically striped shirts that more than likely hung out of his waistband in disarray. On one plane flight Rob left his airline tickets on the flight as he departed. Upon discovering the tickets were lost he retraced his steps back to the empty plane to retrieve them while they were vacuuming the airplane. It is my understanding that he gave his travel agent fits by constantly changing ticket itineraries. In my opinion these are small issues in the world of the highly focused individual who is seeking knowledge in the most efficient manner. In other words Rob did not sweat the small stuff of life. His role was on a much higher plane. Rob usually laughed longer and harder at his own punch line jokes than the rest of us did. But his hearty laugh made us all feel good. His presence amongst us will be sorely missed and the world will not quite be the same without him. As he would say in closing, Cheers.

–Steve Kohntopp, RPA
Vice-Chairman, CSFA Advisory Board

IT WAS WITH A SENSE of utter shock and profound sadness that I learned of Rob's passing. I first met Rob in the early 1980s while I was an undergraduate at the University of Maine at Orono. At the time, Rob was founder and director of what was then called the Center for the Study of Early Man. I had the pleasure and good fortune of taking several courses from Rob and of serving under him as the Center's lab director from 1985 to 1987. My fondest memories of Rob, however, are from the two summer excavations ('86 and '87) I spent with him and his family (his first wife, Anne, and their two boys, Sven and Shield) at the South Everson Creek site (later named the Mammoth Meadow site) in the Beaverhead Mountains in southwestern Montana. Directed by Rob, those two excavation seasons were nothing short of an adventure, an adventure I look back on with feelings of happiness and nostalgia. Among many other things, Rob was a deep thinker, an innovator, an engaging lecturer, a gifted storyteller, and a master flintknapper, from whom I learned much. Rob also was one of the most down-to-earth academics I have known, a very genuine human being. I will never forget his unique and infectious laugh, a laugh that more often than not set his entire body into motion, especially after delivering the punch lines to the many jokes he shared with his field crew while relaxing around the camp fire at night after a long day spent digging in the dirt. My sincerest condolences to all the members of Rob's immediate and extended family, and to his many close friends and colleagues. Farewell, Rob.

–Randy Preston
School of Library, Archival and Information Studies, University of British Columbia

I FIRST MET ROB in the summer of 1980. I was a graduate student looking for summer employment with someone doing research on Paleoindians. I had sent letters of inquiry to several prominent Paleoindian archaeologists, and Rob was the only one to respond with a job offer. He hired me to be a field assistant on a survey of Paleoindian sites in northern Maine. One of Rob's graduate students picked me up at the Orono airport and dropped me off at

his house. As I walked up his driveway, he was scrubbing out the back of his van and grumbling about his wife's lack of understanding. It seems he had used the family van to pick up the battered carcass of some animal from along the side of the road in order to add the skeleton to his faunal collection. His wife didn't appreciate his dedication to science; or maybe it was the blood stains and bad smell that she didn't appreciate. While this incident doesn't speak too well for Rob's sensitivity, it does illustrate his devotion to archaeology and his fierce commitment to furthering his understanding of the past regardless of the personal consequences.

In recent years, Rob's dedication to understanding the past became focused on the federal government's attempt to give the remains of the 9,000-year-old Kennewick Man to a group of modern Native American tribes for reburial. Rob perceived that such a decision was an abuse of the laws governing ancient human remains, and he helped put together a scientific "dream team" of scholars who finally succeeded last year in overturning that decision. Rob faced a great deal of professional and personal harassment for his efforts to champion science, but thanks, in no small part, to Rob's efforts, Kennewick Man will have the chance to tell his story to the world through the work of many dedicated scientists. I am deeply saddened that Rob will not get to play his intended part in that research or see the results of those studies, but it is a fitting tribute to him that this landmark court case forever will be known in legal shorthand as *Bonnichsen* versus *the United States of America*.

–Bradley T. Lepper
Curator of Archaeology, Ohio Historical Society

MY BROTHER ROB was born in December 1940 at the county hospital in Twin Falls, Idaho, near the family farm at Filer where he grew up. He was the second of four children of his parents, Everett and Helen (Williams) Bonnichsen. His dad was 26 when Rob was born and his mother was 22. Rob came from ancestors that were explorers and pioneers, and this heritage rubbed off on Rob as he grew up. His great-grandfather, Caesar Bonnichsen, who was raised in Hamburg, Germany, emigrated to the U.S. after he had spent many years at sea as a young man. He settled in eastern Iowa and raised eight children, including Rob's grandfather, the first Robson Bonnichsen, for whom my brother was named. When Rob's grandfather was a young man the family moved to western Missouri for a few years, where they became acquainted with the Whitby family. Granddad Bonnichsen eventually married Edith Whitby of this family. Just after the turn of the twentieth century, Edith and her sister and brother traveled from Missouri to southern Idaho to homestead land being offered in the new irrigation tract being formed by the construction of dams on the Snake River and of canals to distribute the water. Grandmother Edith homesteaded a 160-acre farm in the Deep Creek area, a few miles west of the town of Buhl, then returned to Missouri. Soon she and grandfather returned to southern Idaho and proceeded to reclaim the farm land from the desert and then to farm it. It would have been a hard pioneering life in those times, without modern machinery such as tractors, but they persisted and eventually prospered. About the same time Rob's mother's parents, Charlie and Minerva (Page) Williams, had also moved to the same irrigation tract from Nebraska, where they took ownership of a farm near Filer, about a mile from where Rob grew up. They had four children; Rob's mother, Helen, was the youngest of the family. Rob's parents met each other in the middle of the Great Depression. They were married in the fall of 1936, a little after his father had graduated from the University of California with an Electrical Engineering degree and his mother had finished high school in Filer. A consequence of the Depression was the lack of suitable employment for many people, including some with sterling credentials such as Rob's dad, Everett, with his new EE degree. This dilemma was solved by the help of Rob's Granddad Bonnichsen, who helped Rob's parents obtain what became the family farm near Filer. With this, the future course of Rob's early childhood was set—he would be raised on a farm in southern Idaho, which was an area surrounded by many thousands of square miles of uninhabited desert and in which Euro-Americans had lived for only a few decades. There was not much sense of local history amongst the people of that area in those times, as they were only the first and second generations of the history makers. The setting into which Rob was born was one in which everyone was in a pioneer of sorts and there was a huge surrounding desert and mountain region offering great opportunities for exploring the natural environment. Thus, he grew up on the edge of the Western frontier.

In Rob's first few years, during the Second World War, things were quiet on the farm, since people not directly involved in the war effort stayed close to home due to the severe rationing of

gasoline. This was when his first memories were formed, such as the presence of German POWs on the farm in the fall of 1944 to help with the harvest of sugar beets and the huge VJ-Day blowout celebration party by the entire community when the end of the war finally came in August, 1945. That party, among other things, involved Rob's parents tying an old tin-plate bathtub behind the family car and driving for miles with sparks flying on the country gravel roads, along with the neighbors in their cars doing similarly interesting things and honking their horns all the way, to eventually end up at a party lasting well past dawn at one of the neighbors' places. Undoubtedly, this was the first time Rob ever saw adults behave in such an interesting fashion instead of just working on the farm all the time. It certainly planted a seed in his mind that there was more to life than just the farm work his parents and the other adults around him were involved in. Rob grew up in an extended family that included not only his brothers Bill and Joe and sister Janet, but also his cousins, Dick, Sam, Cecilia, and Mary Alice Williams. We were close and got together often, and the older boys had a tendency to be quite boisterous. We sometimes had great clod fights—just for fun, mind you. It usually was the two oldest boys, Bill and Dick, against the younger Rob and Sam. This probably was where Rob learned to be tenacious and persistent in the face of adversity—standing up to the onslaughts of the older boys. Looking back, I think he learned how to thrive on adversity in those years.

After the war it soon became possible for the Bonnichsen family to travel more. One of the family activities during that time was to go exploring the desert areas out away from the farming region. Rob's Dad bought an army surplus jeep when these marvelous machines became available, and off we went on the outback desert roads to see what was out there, and there were lots of wonderful things. One of the first things Rob discovered that he really loved was fishing in the streams, and he always caught his limit of fine trout when we went on such expeditions. On one of these trips Rob spotted an arrowhead and picked it up. That was it—the hand of fate had intervened! Rob knew then and there what he was mainly interested in, and it didn't take long until looking for arrowheads and other artifacts became the focus of his attention. Normal kids would have stuck with the fishing, but Rob had already mastered that. He was only about ten years old at that time. As a family we continued to explore the desert region and on some of these expeditions Rob would talk his Dad into letting him ride on the fender of the jeep to search for arrowheads, if the road was far enough away from civilization and traffic cops. He even found some in this manner; he certainly had sharp eyes.

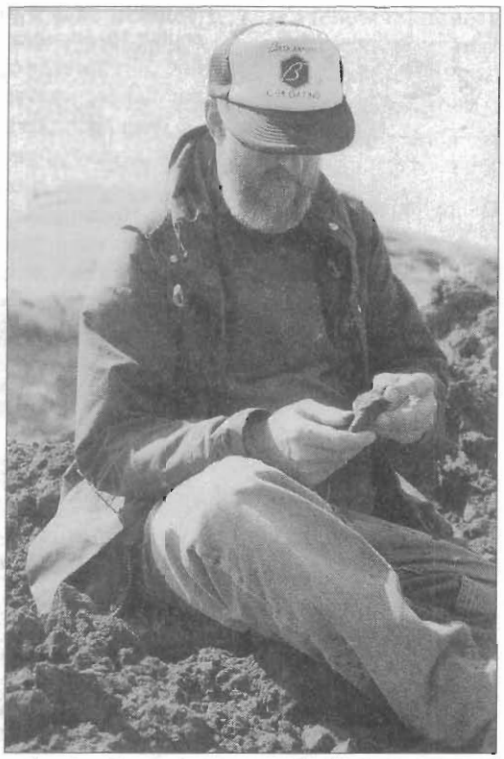
One of the big early adventures that Rob participated in was to explore Bruneau Canyon, a notorious deep canyon that slices across the southern Idaho desert. In the summer of 1953, when Rob was 13, he set out with his Dad and me, 16 at the time, on an expedition to float down the Bruneau River through this canyon to see what was there. We used an inflatable 12-foot-long war-surplus raft that Dad had purchased for this type of exploration. In all likelihood we were the first group to float through that canyon, and certainly Rob would have been the youngest person at that time to have visited that remote area. And it was a really great adventure and learning experience for him. Not only was he tough enough to handle his part of the raft paddling and making camp, he spotted many places where he thought he could come back and search for artifacts. I don't think he ever got a chance to do that, though. This trip certainly convinced him, as if he already wasn't convinced, that his future lay in exploration and similar adventures, and in finding places to add to his artifact collection and to his knowledge of the ancient people who made them.

The next few years were Rob's high school years. He did the usual things expected of a boy that age. He played center on the football team and participated in 4H-club activities. In 4H his best projects involved raising pigs, animals that have the same independence of mind that Rob always demonstrated, and he was fond of them. Rumor had it that he sponsored a great party for his friends in the family home one weekend while his parents were out of town, but this was never ever discussed. If it was true, then I'm sure Rob had a great time, and maybe learned some new things about people. But still, during his high school years his first love remained the intellectual rewards and sheer adventure of finding arrowheads and other artifacts and learning about the ancient people that earlier had inhabited the region of his youth. This led him to learn how to make arrowheads himself, a skill at which he

eventually became very proficient. Many years later I and some of his nieces and nephews watched him make a fine arrowhead from a chunk of obsidian in less than 10 minutes. We were amazed! At one time in the 1970s he even obtained a contract with one of the Eastern U.S. Indian tribes to teach them how to chip arrowheads. They had forgotten the skill and needed to find a way to make trinkets to sell to tourists.

In the summer of 1957 while Rob was 16 the opportunity came up for him to join a small expedition of archaeologists, led by Professor Alfred Bowers of the University of Idaho, in order to excavate some promising areas along the Missouri River near Mobridge, South Dakota. That area was soon to be flooded by rising waters impounded behind the Oahe Dam, which was under construction. During this expedition Rob got his first real taste of systematic field archaeology and learned how to excavate for artifacts in a scientific fashion. He thrived on this new knowledge. In addition, he came home with a lot of new artifacts of his own and new friends in the world of archeology. By that time the die certainly was cast. His class prophecy in the old high school annual reads that he would become a famous archaeologist. When Rob finished high school he attended Idaho State College (now University) in Pocatello to study anthropology and archaeology. I believe he wrote his first published paper dealing with archaeology while in school there. After this, it is history. Rob attended the University of Alberta in Edmonton for his Ph.D., did very interesting work on early man (20,000–30,000 years ago) in North America in northern Alaska and the Yukon, did post-doctoral work on artifacts from that region at the National Museum in Ottawa, Canada, and taught at the University of Maine in Orono. While in Orono, in about 1980 and 1981, he founded the **Center for the Study of the First Americans.** He moved to Corvallis, Oregon, with the Center in the early 1990s, and moved again in 2002 to Texas A&M University with the Center. By the time he died, unexpectedly and tragically, at the end of 2004 he certainly had become a famous archaeologist, just as his high school prophecy had predicted. In this brother's opinion, he led a full life that was well lived, and he contributed mightily to the science of archaeology while living it! But we'll all miss him terribly and forever remember him fondly.

CSFA building at UMO



–Bill Bonnichsen
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IT WAS MY PLEASURE and privilege to be Rob Bonnichsen's friend and his personal attorney for various matters. Over the years, we collaborated on many archaeological, public policy and research projects. All of them were an education in one way or another. None of them, however, was more of an education (both for Rob and myself) or better illustrates Rob's determination, integrity and commitment to science than the Kennewick Man controversy. Like the other plaintiffs in the lawsuit, Rob was a reluctant warrior. He did not relish the idea of litigation, and did everything he could to avoid it. It was the government, not Rob and the other plaintiffs, who refused to compromise and who turned a chance discovery into a front-page controversy.

Rob's commitment to the lawsuit, once it was filed, never wavered. As the first plaintiff named in the case caption, Rob came under enormous pressure from the institution he worked at, from members of the anthropological community, and even from some of his close colleagues to withdraw from the lawsuit. The threats, work reprisals and personal attacks he experienced only increased Rob's determination to stay the course he had undertaken. More than once, he commented to me that the more pressure that was brought to bear, the more convinced he became of the importance of standing up for science and for rational investigation of the past.

The Kennewick Man lawsuit was not brought to denigrate or challenge Native American traditions and religious beliefs. Rob would not have condoned, or participated in, such an effort. He had great respect and sympathy for Native American cultures and beliefs. His professional career was spent in trying to learn more about how and when their ancestors first came to the Americas and how they adapted to new environments once they got here. The sole purpose of the lawsuit was to compel the government to follow the law as written by Congress. Native American religious beliefs became an issue in the case only because of the government's deliberative decision to make the tribal claimants' oral traditions the primary, if not sole, basis for giving them the skeleton.

Rob's role in the litigation was huge. He helped to find experts needed to establish points in dispute, he reviewed and commented on drafts of documents, he found needed references, and he provided critical insights and ideas. He and I spent hundreds of hours discussing strategy and tactics. He was an exponent of moderation, patience and adherence to the highest standards of scientific practice. He never let unstated or erroneous assumptions

go unchallenged. I shudder to think of what might have happened without the contributions that Rob made.

It is fortunate that Rob lived long enough to see his efforts vindicated by resounding victories at the trial court and appellate levels. He had the satisfaction of knowing that he was not wrong in taking the stand that he did. Nonetheless, it seems more than a little unfair that he will not be here to participate in study of the skeleton. No one gave more than he did, and he deserved the chance to see what he could have learned from Kennewick Man.

Rob was a special person, a great scientist, and we will miss him very much.

–Alan L. Schneider

HE MADE YOU FEEL IMPORTANT

He was a man of many projects

He squeezed in time for his students

He made time for the everyday person that walked into the office

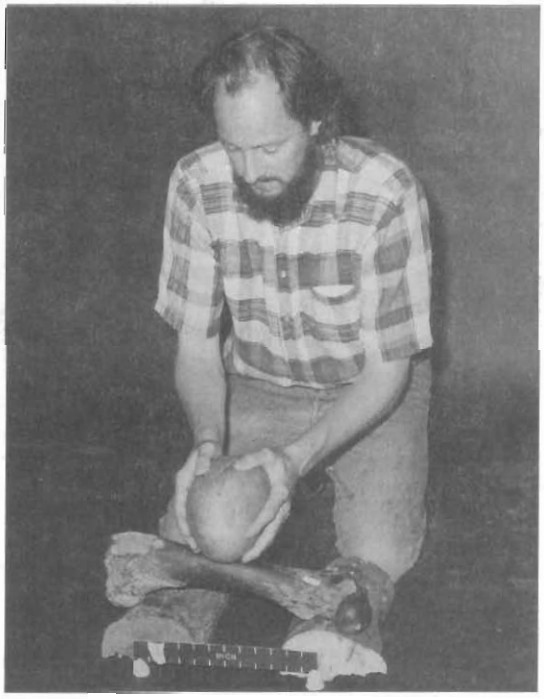
He worked with other faculty in streamlining the workings of the Department

We are still working on all the things he had started

–Laurie Lind
CSFA Office Manager

I ONCE HEARD an old Inuit story about dying. The Inuit believed that no one should be allowed to die until one had "sung his song." That "song" was what an individual was born to accomplish, whether it was to make the most beautiful caribou mukluks possible or perhaps to lead people to believe in a vision one knew to be true.

Rob Bonnichsen, from the time he became an archaeologist, worked relentlessly, in the words of the Inuit, "to sing his song." Rob was convinced that prehistoric archaeology in the Western Hemisphere couldn't progress until the established thinking that was blocking paleo research could be changed. North American archaeologists held to the theory that the earliest humans in the Americas migrated across frozen Beringia during the last ice age and spread throughout the Western Hemisphere. Textbooks stated that the people who crafted the spectacular stone tools called "Clovis" were the "first Americans" and set foot in the Western Hemisphere no earlier than 11,500 years ago. For more than 40 years, the "Clovis first" archaeologists refused to believe that humans were in the Western Hemisphere any earlier. Research funds were seldom available to anyone who thought differently.



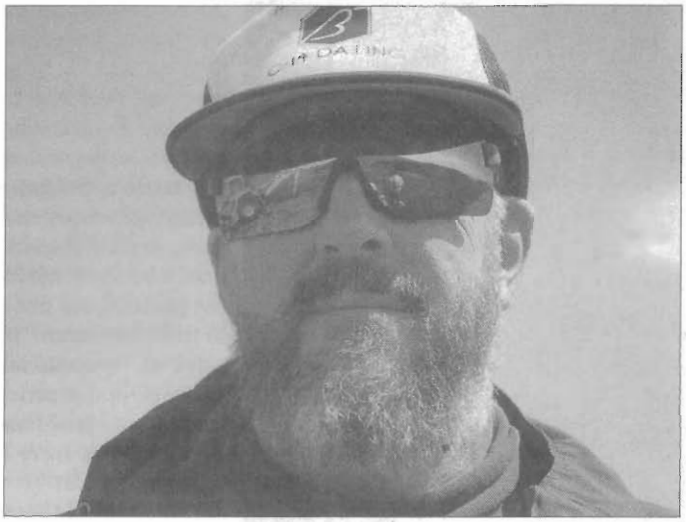
Rob, as a young academic at the University of Maine, dared to disagree. He began to speak out about "the big picture," trying to encourage discussion in North America about some of the discoveries of very old sites in South America. He thought about possible migration routes and methods deemed to be "unacceptably early" by most North American archaeologists. His position on the peopling of the Americas caught the attention of the Bingham Trust board in New York City, who also were interested in this growing archaeological debate. In 1981, they chose Rob as the recipient of a $500,000 grant to establish an archaeological center to encourage Paleomerican research that would involve not only interdisciplinary academia but also would establish a parallel program to reach out to the general public as well.

With characteristic zeal, Rob led the new Center into a multitude of new projects. The *Mammoth Trumpet* was started to get current information about the earliest Americans research out to the general public as well as to academics. *Current Research in the Pleistocene*, an academic journal, was launched. In addition to teaching and leading research projects, Rob published a number of scholarly books about what he now called "The Paleoamericans."

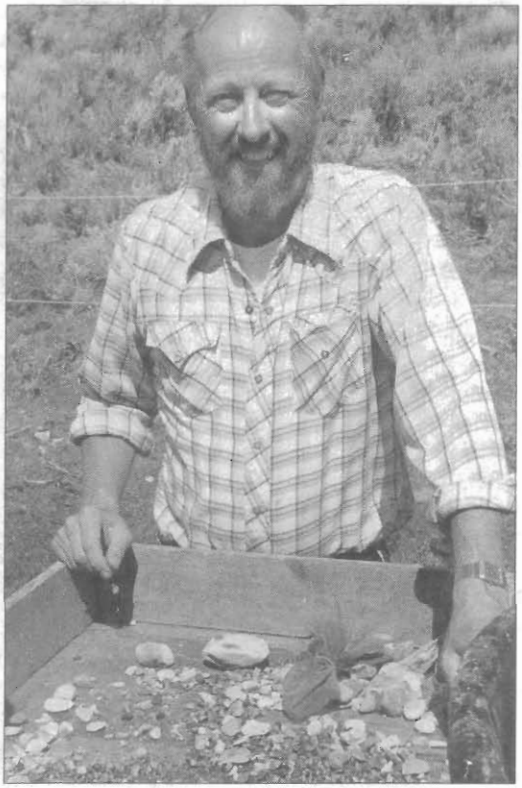
Spinning a web of fascinating evidence, he recruited those of us who became advisory board members from all walks of life to enthusiastically join him in this epic journey into our American past. Rob also traveled to sites in North and South America, to China, Japan, and Russia, meeting with archaeologists who had evidence of older dates. During the summers, he launched archaeology digs using students and other volunteers (including most Board members) in Maine and Montana. Butting heads with some of the more traditionally minded archaeologists, he also met with amateur archaeologists and hobbyists, some who were dedicated stone tool and artifact collectors.

Under Rob's direction, the unprecedented World Summit Conference focusing on the peopling of the Americas

was held in Maine in 1989. Most of the prominent American paleoarchaeologists attended, as well as those from South America, Europe, China, Korea, Japan, and Russia. Dozens of private citizens were encouraged to bring their stone tool and artifact collections to be displayed and to discuss them with the archaeologists who were present.



Ten years later, in Santa Fe, New Mexico in 1999, after years of working seven days a week from early morning to late at night, Rob's "song" finally became a chorus. It was here that his **Center for the Study of the First Americans** sponsored a conference called "Clovis and Beyond." Twelve hundred people attended and heard scientists give papers on new older sites, including the meticulously excavated 12,500-year-old site called Monte Verde in southern Chile. Monte Verde was accepted by a large majority at the conference to be a thousand years older than Clovis! Other papers were given on possible boat entry to the Western Hemisphere. Displays of Clovis collections were also displayed and admired. But the roadblock of accepting nothing older than Clovis had been demolished.



Successful in generating debates about the timetables of the peopling of the Americas, Rob often was a lightning rod in the midst of the American archaeology establishment and others who disagreed with him. He was stubborn. He never wavered. He was fearless about voicing his opinions and was often quoted in the *New York Times* and other national and international media. He was especially prominent in his lead position among the eight scientists who successfully battled the U.S. government in the courts for years over the right of scientists to study the bones of the now famous Kennewick Man found in the state of Washington and carbon dated to be approximately 9000 years old. The ancient Kennewick Man, a skeleton with a distinctive bone structure dissimilar to modern native Americans, was to be handed over to several Northwest Native American tribes for immediate burial without any examination by scientists. The courts finally ruled in favor of the scientists' right to study the skeleton in 2004. It was a huge victory for Rob, his colleagues, and science.

After some tumultuous times in his professional life and the life of the Center, two years ago Rob and the Center found a new and hospitable home at Texas A&M University in a thriving environment with an anthropology department supporting the mandates of the Center.

Rob's legacy will live on. Yes, he accomplished what he set out to do. As the Inuits would say, "Go in peace, Rob Bonnichsen. You have sung your song."

–Anne Stanaway
CSFA Advisory Board Chair 1993–1997

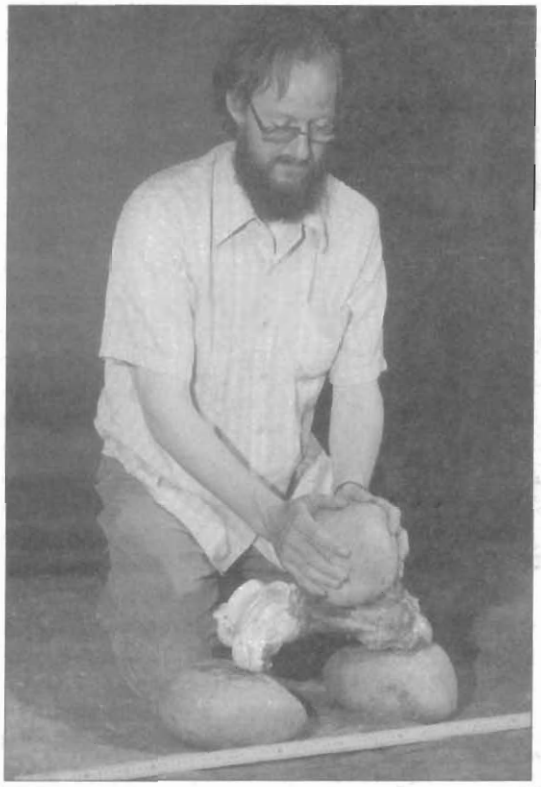
"LOOK'S LIKE you're havin' a bit of a problem there, little girl" (okay, he didn't voice the "little girl," but I heard it) cracked the guy sitting in the door of an RV directly across from my site. I was an Earthwatch volunteer in 1988 at my first-ever "dig," attempting to put up my first-ever tent. Although this eccentric-looking guy was far too amused by my struggle, it was clear that if I was going to have shelter, I'd have to accept the implied offer of help. The tent was up in a New York minute; and he did it without a glimmer of the arrogance I had expected. In fact, he was downright compassionate about my lack of basic skills. I assumed he was a fellow volunteer with nothing better to do. He wasn't; and he did have lots better to do. He was Dr. Robson Bonnichsen, the principal investigator.

A month later, back in my Manhattan law office, I got a phone call from Rob. He said, "I want you on my Board; we need a lawyer." I said, "Whoa, remember my specialty is criminal law." He said, ambiguously, "Exactly!" Of course, like many before me and after, I agreed.

And there began a synergistic relationship at many so many different levels. Rob's Board was salted with some of the most wonderful characters I have ever met. To this day, each one of them remains a treasured friend. He had a way of winning our "all" for him and for the Center time and time again. Rob was not only my friend, he was my teacher (in the science of archaeology, but also in the art of inspiring people), my co-conspirator (in the best sense we explored the connection between law and science), my travel companion (he dragged so many of us to far-flung archaeological sites we could have never seen without him), and my client (yielding to authority, particularly academic, was not one of Rob's strong suits). Quite simply, he opened my mind and many many doors. In countless ways he enriched my life.

The scientists among his friends and colleagues can speak

much more eloquently and knowingly of Rob's extraordinary ability to envision and articulate new directions in a field sometimes stuck in the past (in more ways than one). He repeatedly devised means of bringing together factions among the internationally known archaeological elite; and at the same time, he never lost sight of the scientist's obligation to reach out and excite and inform and motivate the general public. His enthusiasm for the search for the origins of American prehistory never flagged. His energy was contagious, attracting to him some of the most unlikely of people to help in the search. (I remember, for example, a very bright management consultant he met on a plane and sweet-talked into dedicating untold free hours in the Center's cause, and the guy wasn't even interested in archaeology. . . .)



Rob was a unique character with a singular style, a wonderful sense of humor, punctuated by a huge, roaring laugh. I grieve in the silence.

–Jo Ann Harris
Former Chair, CSFA Advisory Board

ROB BONNICHSEN was a beautiful and compassionate man of vision and insight, a constant flow of truth, kindness and understanding; a strong but quiet person of extraordinary integrity; a lover of world art, the human experience, through all the ages.

An instructor and mentor that respected with a profound affection, tolerance, balance and knowledge.

He was inquisitively "tweaking" the known for the unknown in a science that is very conservatively defining itself and redefining its role within its own definition. This subjective science strives for objectivity (it still must allow for the arbitrary).

Rob was an incredible and relentless pioneer. He could open your eyes, your ears, your mind, to the possibilities held within the turning in the hand of a single stone.

The father of anthropology, Franz Boaz, first studied the language of my tribes, the Watlala/Cathlamet Chinook on the north bank of the Columbia River Gorge, approximately 108 years ago. Anthropology has had some apologies to make ever since. Rob's work made many of those apologies. His work spanned almost half the life of this new science.

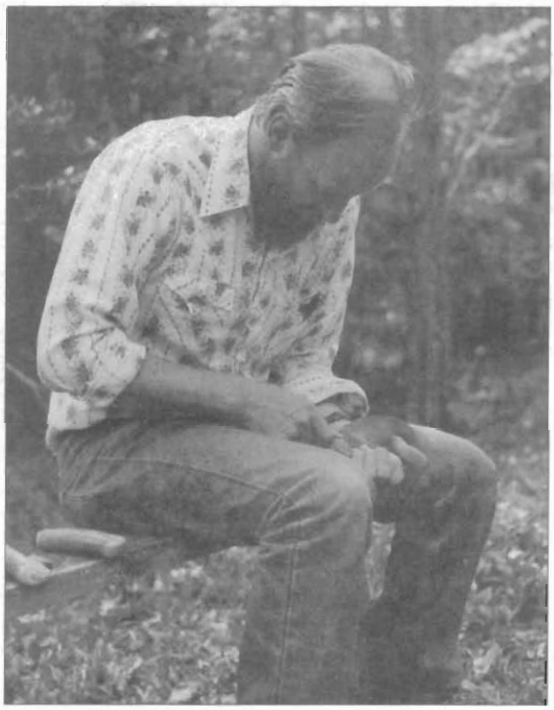
He was pure flowing water, a great friend.

–Scott Watkins
Former graduate student, OSU

IN MANY WAYS Rob was born in the wrong century. Although that could probably be said for many archaeologists, it was particularly true for Rob, who, from his high school years all the way to the present, did not really fit the mold of a citizen of this generation. In high school, he learned the ways of early Native Americans, explored their habitats, and practiced their habits, including the removal of facial hair with tweezers, because "Indians did not have beards." Fortunately, he got over that one.

As he moved though his professional career, his view of the "big picture" did not always gel with those who were in positions of political clout, (as many of us know from personal experience). But he always took the high road and moved in the direction that he knew was right, regardless of the consequences. He was not one to subscribe to political pressures that did not conform to his discipline's higher goals and objectives.

I remember in the early years, his favorite thing was to go into the Idaho desert with a shovel and a screen and dig for artifacts. I am so glad that I had the opportunity to do that with him, since he generated the interest that I have always had in history and archeology.



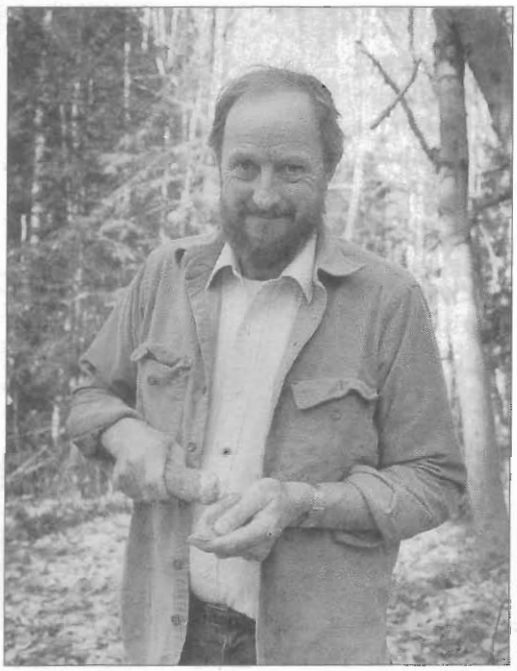
Rob knew how to be a true friend. How many people maintain close relationships with friends from each stage of their lives? Most of us tend to move on in life. If you were ever one of Rob's friends, you were always his friend and you could count on him to honor that friendship forever.

Rob will be greatly missed. He will be missed by family, by his many friends, by his professional colleagues, and by the entire academic community of his chosen discipline, which has looked to him as one of its recognized leaders. He was a giver and a contributor to all, and we are all very fortunate to have had him with us for the time that we did.

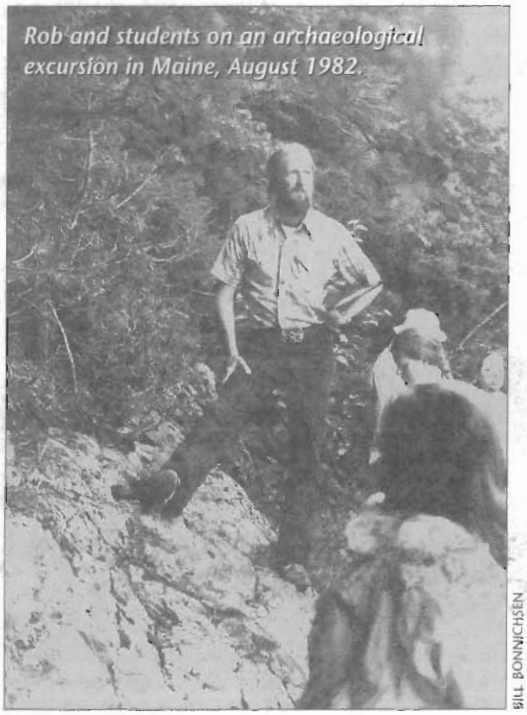
–Bob Engle
Secretary, CSFA Advisory Board

IT WAS 1989 the day we made Rob's acquaintance, when his generic pickup pulled into the driveway of our humble homestead after a 40-mile drive from Orono. He had introduced himself on the phone after seeing our ad in a journal targeted at Maine writers and publishers (it was the only nibble we ever got from the ad). PCs and laser printers were rare in those days, and C&C Wordsmiths was the only entry in the local phone book under "typesetting" and "desktop publishing." Over coffee we talked and took the measure of each other. Rob was dissatisfied with the performance of the UMO campus press. Did we think we could do better? We said, Yes, we did. A few days later he gave us the contract for the prepress work on *Clovis: Origins and Adaptations.*

Sometime after we had put the book to bed—details about the passage of time are porridge today—we got a call from Karen Turnmire, editor of *Mammoth Trumpet.* Would we be interested in doing the typesetting and paste-up for their quarterly newspaper? (At the time *Trumpet* was an eight-page tabloid.) Yep, we sure would. Until then camera-ready masters had been assembled by a campus office worker in her spare time; issues were printed by a local weekly newspaper. The newspaper's production manager greeted us with a frown and said he sure hoped we knew how to keep columns straight.



Well, we kept *Trumpet* columns pretty straight until Rob declared himself *hors de combat* from the political scuffles of the University of Maine system and moved his little shop to Oregon State University. The last time we ever met Rob face to face was the day in 1991 we drove to Orono to bid him farewell.



Rob and students on an archaeological excursion in Maine, August 1982.

BILL BONNICHSEN

It turned out to be good-bye, not farewell, because publication of *Trumpet* never skipped a beat. Rob immediately got us working across the country with his new editor at Corvallis, Don Hall. Don is our candidate for canonization. No one but a saint could have made it work long distance in those days before e-mail and CDs. It *did* work, though.

Somewhere down the road *Trumpet* became a 20-page newsmagazine and Wordsmiths cranked out an occasional CSFA book.

Then along came the Kennewick Man lawsuit and the toxic effects on Rob's career and his peace of mind that Alan Schneider, the lead attorney for Rob and his co-plaintiffs, describes in his tribute in this issue. Once more Rob moved his Center, this time to the congenial atmosphere of College Station. We continued to pop out *Trumpets* regularly four times a year, except now they invariably contained articles about the latest developments in the wrangling between the U.S. government and the tribal coalition on one side, Rob and his co-plaintiffs on the other, and other scientists on either side of the fence—or straddling it.

Saints get tired, too, just like the rest of us. When Don decided after nine years he'd had just about enough of tyrannical publication deadlines, I (Jim) asked Rob if he would consider me for the post. Rob gave me the job and about as much freedom as any editor could ask for. After—*good grief!*—four years in this job, I can only describe Rob's management style as *laissez-faire.* He would feed me leads for stories and serve as a one-man review board for articles submitted by a writer. Only occasionally would he wrinkle his nose at a bit of suspect science and send me or a staff writer (I am blessed with heroes who support me far more faithfully than I deserve) scurrying back to the principal for clarification. Otherwise, silence. Rob, always up to his ears in projects and living with the Kennewick Man turmoil constantly gnawing at his innards, didn't find time to lavish praise. I can't fault him, though, because neither did he ever chide us about the infelicities that inevitably find their way onto the printed pages of *Trumpet*—we always have to be on guard for grammatical clinkers, misspellings, adn typos. If you worked for Rob, you learned to run on pride and simply do your best not to embarrass him and his Center.

I'll bet I can count on the fingers of both hands the number of phone conversations we had with Rob after he left Orono. The last one was early last December. He was ecstatic (for Rob) and couldn't wait to tell us about the plans he and the CSFA Advisory Board had for the future. He had prevailed in the Kennewick Man case after a grueling seven-year legal battle. He had just turned 64, he said, and didn't plan to retire as far ahead as he could see. After 25 years, he felt his Center was just starting to enjoy the success he always hoped for.

There are times when you wish rewards for hard work were distributed just a bit more fairly in this manifestly imperfect world.

–Char and Jim Chandler, C&C Wordsmiths
Jim Chandler, editor, Mammoth Trumpet

CHEERS to the memory of Rob Bonnichsen, legendary archaeologist and native son of Filer.

Sadly, Bonnichsen passed away this Christmas at age 64, after a long and often-times controversial career in archaeology and

politics. But for a boy who grew up studying the earth's geological wonders in the southern Idaho desert, he left a significant impression on the sciences.

Bonnichsen's biggest impact came when he sued the U.S. government to extend study of the so-called "Kennewick Man," whose remains were discovered in Washington and were believed to go back 9,200 years.

That wasn't a popular stand among the politically correct ranks of academia. But Bonnichsen preferred debate and scientific research on the ground—not in an ivory tower. His unconventional style was refreshing and enlightening, and he will be hard to replace.

–An unnamed Filer High School classmate of Rob's

MY MOST ENDURING MEMORIES of Rob throughout his life are of his never-ending curiosity and his love of archaeology. These were evident the first time I met him, 45 years ago, in Birch Creek Valley, Idaho, at a site being excavated by the late Earl W. Swanson, a superb young professor from Idaho State University where Rob was an undergraduate student. Rob had also studied flintknapping with Don E. Crabtree, one of the pioneers in the replication of early tools, and spent evenings perfecting his technique. When Rob wasn't digging, he was learning the science and art of surveying for sites. Alan Bryan, a post-doc from Harvard, would take Rob with him walking the valley all day, postulating what the landscape would have looked like 11,000 years ago and where humans might have camped. In the evening they would talk with Earl about what they had seen and the different scenarios it might indicate, creating "multiple hypotheses." They talked about the importance of bringing other disciplines such as geology, soil science and C-14 dating into archaeological problems. With Earl, Alan, and Don as his teachers, it is easy to understand how Rob learned to think about the "big picture."

In 1981, the Bingham Trust offered Rob the opportunity to set up a center for educating the public about the different theories of the peopling of the Americas. This would involve a lot of public outreach, something not always regarded as important in the academic world. Knowing that I was a scientist who had done a lot of public outreach, Rob invited me to become a member of the Board. My first meeting was in the spring of 1982. In the early years the Center started the *Mammoth Trumpet*, created a traveling exhibit about the Peopling of the Americas, developed a school program complete with teacher's manuals, and designed merchandise such as T-shirts, mugs, letter openers, and pins, which gave our supporters a way to help publicize the young Center and its work.

The book publishing program helped get the scientific side of the Center established. The publication of *Current Research in the Pleistocene* fulfilled a need in the profession to quickly get short fieldwork reports out to other archaeologists. Rob then expanded the Center's work to sponsoring conferences, in which he brought scientists with differing and sometimes directly opposing opinions together, not just to listen to each other in the usual conference format, but to share their theories and evidence. Such encounters require quite different approaches to conferences. At the Bone Modification conference in 1984, Rob decided to offer scientists quality replicas of their artifacts if they would bring them with them to the conference and participate in a "show and tell" session. He arranged to have the replication done on site at the conference. Only those who brought specimens could attend the special session. The "laboratory session" was set up with a large square of tables so everyone could see everyone else. The moderator was in the middle. The "bait" worked, and scientists in a highly contentious field were, for the first time, able to see each other's specimens and discuss their interpretations. That is where I heard a scientist apologize to another scientist for the severe criticism he had written in a letter to a noted journal. He told him that if he had seen his evidence first, he would certainly not have written the letter. Rob realized that such opportunities would help the science advance, and he was willing to do the extra work and effort it took to set up such opportunities. We should never underestimate the importance of such things to the advancement of science.

At the World Summit Conference in 1989 in Maine, he wanted to be able to include scientists from other countries, many of whom couldn't afford to come to the U.S. That meant getting funds for their air fares, and keeping housing and food

costs low. He found grants and sometimes private moneys for air fares, and adopted the practice used by Quaternary scientists in their conferences of housing and feeding participants in a college dormitory. This made attending affordable and opened many opportunities for casual encounters and conversations. Evening activities such as flintknapping were held there. The effect was that scientists really got to know one another. Rob persuaded a number of these international scientists not just to give a talk and show slides, but to bring their artifacts for display in secure cases. Then he allotted time in the schedule for scientists to be at the displays and talk with participants. There was a great response, and even when artifacts couldn't be taken out of their country, scientists tried to bring replicas to show. Many of our scientists learned that their counterparts from other traditions (countries) didn't look at the peopling of the Americas in quite the same way as they did. Seeing differences opened minds to new interpretations. Science is indeed a voyage of discovery. Rob realized that and planned conferences that gave opportunities for people to listen and discuss openly, which helped advance knowledge and understanding. That is one of things I will always remember about him.

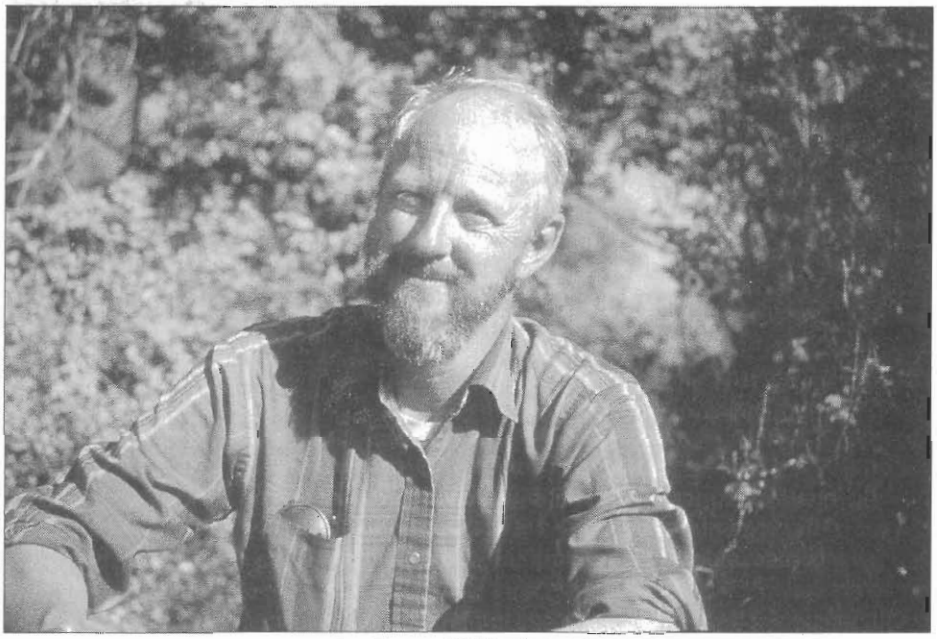
Rob with his father, Everett Bonnichsen, August 1984.

BILL BONNICHSEN

In addition to the public outreach of the Center, Rob had his own research projects to do. At Mammoth Meadow, Montana, an area picked for its location directly south of the ice-free corridor, his love of archaeology had a chance to be nurtured. He ran a project that Earthwatch said was one of its best. Some Earthwatchers showed their enjoyment by returning year after year. His enthusiasm about archaeology and early man in the Americas came out in the lectures he gave and the field trips. He was receptive to new ways to do research. Marv Beatty and I developed a quick and easy way to test an area for a site by using the power pole digger that rancher George Cremer, who befriended the project in many ways, had loaned to the dig. The "digger" made it possible to do a quick, deep survey report in a neighboring valley for BLM. That report saved the site from being torn up and built over by a logging road.

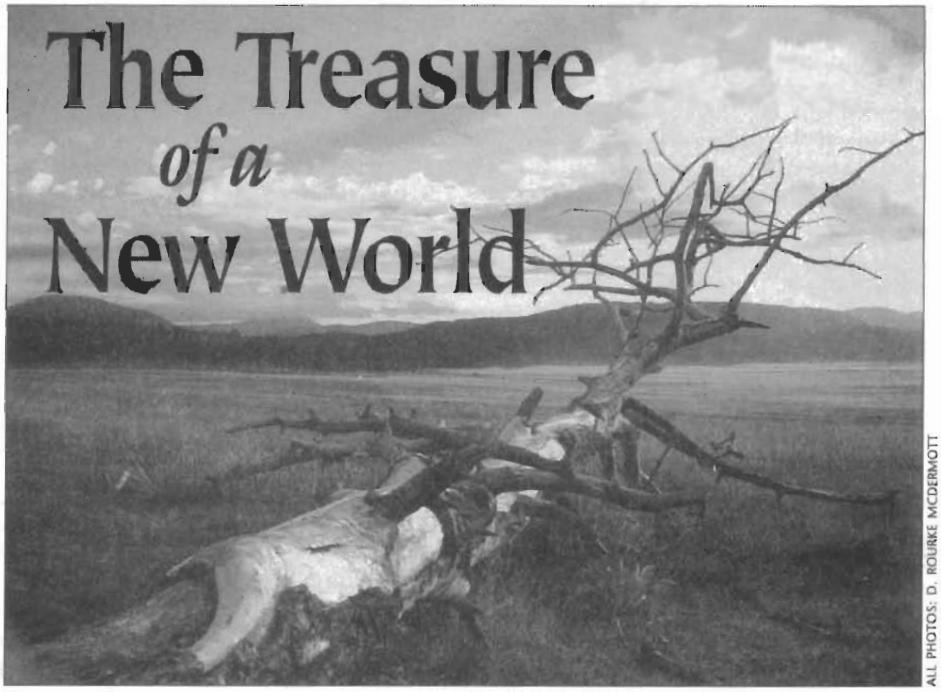
Rob made use of the digger in other unusual ways, too. We had an unexpected snowstorm and freeze that threatened to prevent our Earthwatch crew from getting out in time to make their flights home. The usual road was impassable. But there was another way out—over the steep hill to the next valley, across a creek and down the valley. After scouting, it was the general consensus that that route had the best chance for making it. But there was luggage to get out as well. Rob loaded up the digger with the entire luggage and started across first to see if the digger could make it. When it did, he hiked back, loaded people in the van, and took them across. All the 4WDs we had in camp followed in case they were needed. People who didn't have flights to make stayed at camp until the snow stopped, melted, and the roads dried up the next afternoon. Some of those people even came back the next year!

These are just a few of my memories of Rob. Throughout them all, I remember Rob's curiosity, his love of all archaeology, especially the peopling of the Americas, his ability to solve problems, and his energy. I also remember his never-ending willingness to spread knowledge to the public through the work of the Center. When the Center moved to Texas A&M, both Mort and I felt that it had found a very wonderful, appropriate home. While Rob will very much be missed, we know that the Center for the Study of the First Americans that he nurtured will continue to develop and grow.



–Joanne Turner
Former Secretary, CSFA Advisory Board

The Treasure of a New World



ALL PHOTOS: D. ROURKE MCDERMOTT

The conclusion of a story by Alan Kirkland

THE CRAFTSMAN, CLIMBING WITH DELIBERATE CARE, MADE HIS way up the ever-steepening side of the peculiar mountain. Earlier, seen from the little hill, it had looked strange, with many long ridges like fingers that ran from all its sides. Thoughtfully rubbing his chin with his hand, he had resolved to climb it. Why he thought it important, he could not have said, but it seemed to him to be so. Now the climb was costing him much effort, every step trying to steal his breath. Drawing air in ragged gasps, he determinedly worked his way upward until he reached what was more or less the top. Strewn all about were boulders, large rocks, and many, many smaller pebbles and cobbles. All of them had a certain grayish grainy cast, and the craftsman smiled, for this was what he had hoped he would find.

From his elk-skin pouch he took out a smooth river-worn stone, his hammerstone. Settling into a comfortable sitting position, he began to study a cobble the size of his head. He turned it this way and that, seeking to probe the mysteries of its surface and to imagine the even deeper mysteries of what lay beneath that surface. Finally he found a particular spot on the near-top and struck it a determined yet delicate blow with the hammerstone. He could almost feel the force of his blow flowing through the rock, lifting and separating the very heart of it.

All this happened in an instant, for with the blow still ringing in his ears he saw a long slivered flake fall away, a flake deep opaque black, black so shiny and slick that it reflected light like a dark pool and cast the sun's rays back at him in a way he had not dared to hope for. This was it, the black rock he had sought, the magik rock that made the finest and sharpest points and tools.

He studied the inner surface of the cobble revealed by the removal of the flake. With a rising sense of fierce joy, every bit as exultant as that of the hunter downing his prey, he quickly struck the cobble a succession of careful blows that released flake after perfect flake. He thanked his gods for giving him the presence of mind to listen to his companion and follow him to this place, this wonderful magical place.

At sunset the hunter was sitting in the shade of a small grove of aspens, staring at an object in his lap. Hearing a sound, he looked up and acknowledged with a brief nod the return of his companion. The craftsman removed the hastily constructed pack from his back and carefully set it down beside him. He was smiling. "You were right," said the craftsman. "This is a good place."

His companion moved his hands so that the craftsman could see what was in his lap. There lay the point, the perfect unfailing spear-point, in three broken shards. His mouth worked, his features struggled, every lineament trying to find a way of expressing the deep sense of despair that was in his heart. "It is broken," he croaked finally, "it is gone, and with it my magik, my ability to hunt. . . ." His voice choked off on a sob.

"Now I understand why there was no meat broiling, no fire made," said the craftsman. "I am no hunter such as you; else I would have brought meat for us to eat."

The hunter scowled at him. "You dare to mock me, I, who could hunt better than you since we were boys? Can you not see the gods are angry with me, else my spear would not have broken?"

The craftsman smiled. "Maybe there is something that can be done."

"Truly? You think so?"

"Yes," replied the craftsman, still smiling, "I do."

Opening the pack, he showed the hunter the black shining flakes he had struck from the cobble and from others like it. He had kept only those that he felt in his bones were right, were perfect, that would make the finest tools and weapons. He carefully spread these out on the hide in which he had carried them down from the sacred mountain where he had spent many hours this day. He told the hunter, "Choose."

The hunter hardly dared believe his eyes. There before him were the magik black rocks, the stones from which were made weapons like the one he had lost in his hunt and that now lay in pieces in his lap. Hope burned fiercely in his eyes like a lantern. Slowly, deliberately, he studied the shapes and patterns of the flakes spread before him. Finally, without hesitation, he picked up a flake. "This one." He handed it to the craftsman. "It spoke to me."

The craftsman saw within the shimmering black leaf of stone the spear point that the hunter desired. He nodded and said, "I shall try."

Both men saw the need for favorable intervention of the gods in this endeavor. The craftsman moved off from their campsite to the place that seemed best to him for communing with the spirits that dwelt in this

place, that had made the wonderful stone to be. He chose a spot with shade and running water, a place near the creek where they had first entered this wonderful place. He bathed in the water. When the sun had dried him, he spread his hide on the ground near the water and settled himself upon it.

On the hide he placed the flake, his hammerstone, and a selection of elk antlers that he had collected on his way back from the sacred mountain of the black stone. After studying each antler piece, he chose three that seemed good to him. With measured blows he struck each at its base, severing it from the main stem of the antler. Then he scraped the broken edges of each base so that it was no longer jagged but not exactly smooth. There was no need for a smooth finish, since the work itself would eventually smooth them.

The hunter, meanwhile, was not idle. Since he knew that he could not help in the process and must stay away from the now-sacred space where the craftsman was working, he busied himself learning the lay of the land and the ways of the numerous groups of elk that were this new place. Exploring for the sake of seeing new country was no new thing to him. It was a task he enjoyed. Freed of the responsibility of feeding his far-off family and their relations, he was able to do what he pleased when he pleased to do it. Knowing the craftsman would not eat until he had completed the task at hand, the hunter had only to concern himself with his own appetite. With each passing hour he discovered new and thrilling things about this wonderful place. He delighted in the sheer joy of seeing what he had never seen before, never stopping to wonder or care that he was the first. It was new to him, and that was all that mattered. Since it would be three periods of light before the craftsman would be finished (or so he hoped), there was plenty of time to learn the new country.

Wandering into the encircling mountains, he found they were like a group of hunched elk, lying down in a magik circle to protect and guard the broad and verdant valley below them. He marveled for many hours at the sight, and in his mind he called the place the Great Valley. When he looked at the humped shapes of the mountains wrapped around it, shrouded as they were in their cloaks of mist in the early morning, he thought of them as the Elk Mountains-Shrouded-In-Mist. He saw the little domed hill in the valley, all alone, which seemed to him an old man who watched over the plain, and so he called it Old-One-Who-Watches. So he passed the time naming things, as he waited for his companion to accomplish his mysterious task.

THE GROWLING IN THE CRAFTSMAN'S BELLY was forgotten as he worked to shape the flake according to the vision of the spear-point in his mind. He had seen it, had felt the way it should be, after his companion had chosen it. Truly, he did not for a moment doubt that it had spoken to him, for it was reacting exactly as he wished it to, as step by step he carefully struck flakes from the piece of black stone. With each falling flake the piece became more like the vision he had seen of it, the form that he wished it to take.

Having fashioned it into a long, nearly flat ribbon of stone, he now began the arduous task of forming the point and edges. Using the antler tools to exert pressure on the stone, he removed flake after delicate flake of material, gradually fashioning it into the outline of a slim and deadly blade. The end was a wicked point, tapering and deadly, and the opposite end was squared off for joining it to the shaft of the spear.

Two days later, with delicate pressure and sure hand the craftsman removed the final tiny piece from the edge, now sharp as anything imaginable. There remained but one task, to remove the channel flake so that the point would mate with the shaft and become a single matchless weapon. Carefully he wrapped the piece in hide. Fixing his eye on the precise spot, he struck a perfectly delivered sharp blow. The flake ribboned off the middle of the piece and snapped off about a third of the way down its length. He repeated the process on the other side, hardly daring to breathe lest he make a mistake. He did not. The other side became almost the mirror image of the first.

The point was done. All that remained was to mount it to a shaft he would select, and then he would present the finished weapon to the hunter.

The sun was slanting to the west, making a peculiar pattern of patchwork light on the sides of the mountains, when the craftsman returned to the campsite. He swayed a bit, almost staggering, for only now did he realize that he had not eaten for three days. Yet his mind was clear, and his step, if a bit unsteady, was springy, triumphant.

The hunter looked up from fish that were broiling in the coals and said, "I knew you would come today. See, there is fresh fish for us to eat."

"Soon you will make meat," said the craftsman, and he handed the hunter the new spear.

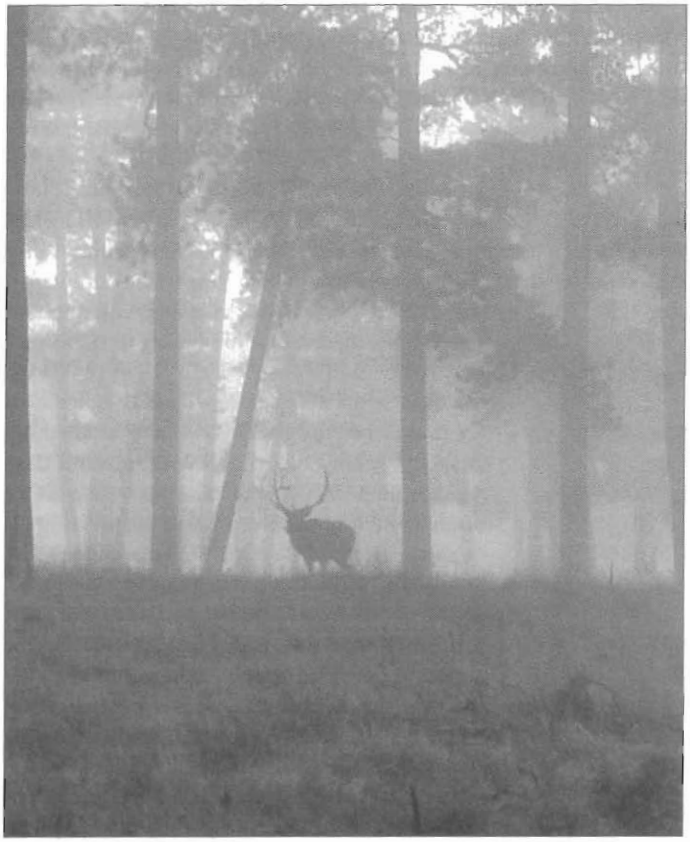
The hunter's eyes shone as he took the spear from the craftsman. Inch by inch he examined it, looking for the slightest flaw, the tiniest warp in the shaft that could make it miss its mark when hurled. But he could find none. Tears sprang to his eyes, and he said to his companion, "Never before have I seen the like of it. Not even my grandfather could possibly have seen the like of it. It is beautiful. You made this for me. Why?"

"Because it is what I do," replied the craftsman, "even as you hunt and bring to the fire much meat, I make the weapons so that you can."

"I shall return," said the hunter.

"I shall be here," said the craftsman, "eating this delightful fish."

"No!" said the hunter, "do not eat the fish. I shall bring you far better meat than fish to eat this period of darkness by this fire. With this spear, there is no elk that can withstand my skill, and if the gods are kind enough to restore my power to me, then we shall eat full and long this darkness."



"I shall wait for this feast," said the craftsman, "After all, what is a few more hours when one is already hungry?"

The hunter faded into the deepening twilight in silence, and the craftsman smiled to himself by the flickering firelight.

After the craftsman had two times placed several sticks the thickness of his wrist on the fire, the hunter returned. He bore across his shoulders the haunch of a mighty elk. He staggered under the load, for it was the haunch of a herd-father, a mighty bull, one of the sires of the herd that the hunter had stalked, an animal so huge that six men could not have carried the whole carcass easily. He flung it down before the light of the fire and without a word removed the hide in expert strokes with the head of his spear. The black point gleamed like a living sliver of icy death, as it had been when it took the life of the great beast which lay before him. Deftly the hunter removed two large steaks from the choice shoulder meat of the animal and carefully hung them upon green branches above the flames to roast.

He said to the craftsman, "My magik is returned to me, and the gods must surely have been pleased with the splendid spear that you made for me, because in one cast I brought down this one, to now make us a feast in honor of the great thing you have done for me."

The craftsman smiled and said, "So, then the weapon is all that you wished for? It is as mighty as the one you had before, its bite as sharp, its aim as true?"

The hunter, his eyes lowered in deference to his companion possessed of magik powers, replied, "All that, and more. It is truly a weapon that one of the great ancestors would have been proud to own, for surely its bite is deadly enough to have brought down the great Long-Nose or the terrible Long-Tooth-Cat. I am in your debt."

"You are pleased," said the craftsman. "That is good."

Together they watched the flames, each thinking private thoughts. The meat sizzled and smoked upon the heat of the flames. Finally the men removed the thick steaks and appeased their hunger with the rich flavor.

"With such a spear," the craftsman remarked, "a man might never be hungry again."

"I pledge that you and yours shall never know hunger again!" cried the hunter.

"And I pledge that you shall never lack for spear points again," the craftsman replied.

Thus was born in that new place of wonder and bounty a relationship that became a deep and abiding friendship between the two men, indeed between their families, for many years to come.

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About the photographer D. Rourke McDermott, landscape architect and environmental planner, has been deeply immersed in the field of landscape architecture for the past five years. The residential landscape design company he founded encouraged clients to prize natural and ecological design principles and showed them ways to restore the original cultural/historic landscape of a setting and achieve a sustainable natural balance.

As the preserve landscape architect at the Valles Caldera National Preserve in New Mexico, he works in managing visual scenery, conceptual master planning, and interpretive thematic master planning.

After earning a bachelor's degree in Landscape Architecture from Utah State University in 2003, he became engrossed in landscape photography. With no prior experience or training, over the next four years he developed a love, style, and passion for shooting extraordinary landscapes. "Any spare moment I get," says McDermott, "I either have a camera in my hand shooting a landscape or I am on the road seeking that next amazing place to give my attention and passion to. Through my training and background as a landscape architect and the moments of still contemplation while photographing inspiring landscapes, the connections of the past start to become apparent and the spirit of the place starts to reveal itself. It's times like these when I most realize and recognize the sublime relationships between archaeology and landscape architecture."

Assault on Gault

TAMU Anthropology Department is researching the Clovis culture at the famous Gault site

The conclusion of our story

BESIDES STUDYING Clovis expedient tools, doctoral candidate Char Pevny's assigned areas of investigation are analyzing debitage to determine spatial patterns—identifying areas that may have been knapping locations, for example, or possible hearths. What's more, she is analyzing debitage from *all* cultural layers at Gault, from Clovis through the Archaic period. Her work is pivotal to the success of the project. It's probably also the most demanding.

When you sort through 80,000 flakes, as Pevny is doing, you find many objects that may be expedient tools, flake tools, or edge-modified tools mixed with debitage. Understanding expedient tools—pieces of chert made to serve as throwaway utensils—is essential to understanding the lifestyle of Clovis occupants at Gault. "These are the plastic knives and forks of the prehistoric world," she emphasizes. She has collected about 300 potential edge-modified tools from the Clovis layers, and more than 100 from the late-Paleoindian and Archaic contexts. For her study, she excludes as candidates objects more than twice as long as wide. Scott Minchak deals with true blades and bladelike tools; Pevny looks at everything else. "Some are small," she explains, "some are quite large." How does she know which pieces of chert are tools? "Right now it's a stage in my education," she admits. "I'll be honest with you. I don't."

The problem, of course, is determining whether a piece of modified chert is an artifact, altered by a human hand, or a geofact, chipped or broken by an animal or a natural event. "That's why," she says, "we've been devising a series of experiments to try to replicate post-depositional processes." Figuring that a colluvial layer at the site, slopewash from the banks of Buttermilk Creek, must have done a lot of damage to artifacts, Pevny asked her husband (a nautical archaeologist who specializes in ship reconstruction) to build her a big rock tumbler so that she could simulate the action of pieces rolling down a slope onto the Clovis layer. She tried variations, first tumbling flakes, dirt, sand, and a few pebbles; then she added water and tumbled again for an equal length of time. Adding water, she found, increased the damage to flakes. Resourcefulness is a quality that appears again and again in these team members.

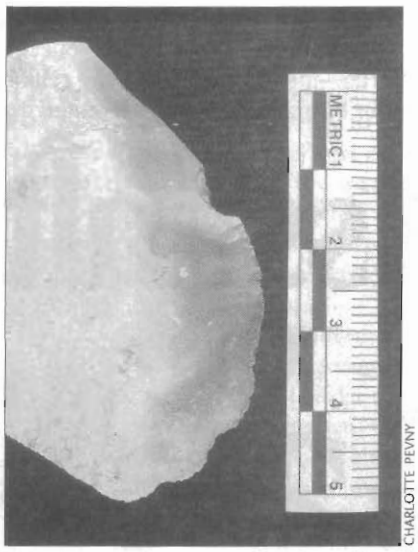
Every conceivable agent of change gets attention. For instance, when doctoral candidate Bill Dickens was making bifaces and blades for use in experiments by the team (Pevny calls him "a fantastic knapper"), they found that damage resulted from the knapping process itself, when a piece knocked off fell onto a pile of debris. Pevny emphasizes the importance of documenting the state of objects before and after experiments. Using the sophisticated camera in the TAMU lab, which takes pictures as though viewed through a 10-power 'scope, they photograph every piece of material used in experiments. Edges of objects are especially important—Pevny's flakes, Minchak's blades, Smallwood's bifaces.

Before entering the doctoral program at TAMU, Pevny worked for six years in CRM for a professional archaeology company in New Orleans. She serves as a teaching assistant at the Gault lab on campus, each semester walking five to ten students through the fundamentals of lithic analysis—how to identify different types of debitage and different kinds of flakes, how to determine whether material is burnt or unburnt, learning how to weigh, count, and sort. Her students get credit, she gets help with aggregate analysis of Gault debitage. "There's a lot of data to run," she says in a superb example of understatement. It's a necessary step, though, before she can undertake a study of spatial patterning in collaboration with Waters.

MARK BEAL, TEXAS A&M

Char Pevny excavates Clovis layers at the Gault site, 2000.

The research for *The Gault Clovis Site: Excavations at the Lindsey Pit* is overshadowed by the commitment made by TAMU to return all artifacts to the Lindsey brothers. Until recently, this would mean the loss of all artifacts for further scientific study. Lucky for the Gault team, however, C. Wayne Smith, director of the Archaeological Preservation Research Laboratory at TAMU, has made his marvelous 3-D imaging and replication system available for recording the precise shape and dimensions of artifacts (**MT 19-2**, "Freezing Moments in Time: C. Wayne Smith and the Art of Archaeological Conservation"). Pevny is understandably excited about Dr. Smith's "very sexy" machine. Set an artifact on the turntable, and the imaging system rotates it 360 degrees while scanning it continuously. Digital infor-



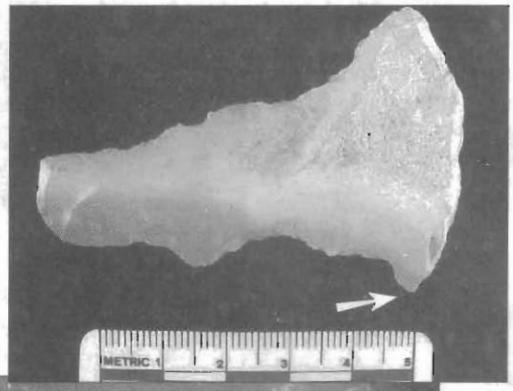
CHARLOTTE PEVNY

Char Pevny says of this artifact, "It is one of the few flake tools I have that is so obviously a flake tool! On this piece, edge modification is easy to see with the naked eye and use wear is clearly visible under the microscope (in the form of polish, rounding and linear indicators). Use is concentrated near the edge, there's no damage anywhere else on this tool that may confuse the issue, and I have no doubt that the damage you can see on that tool was the result of cultural processes and not post-depositional, or lithonomic, processes."

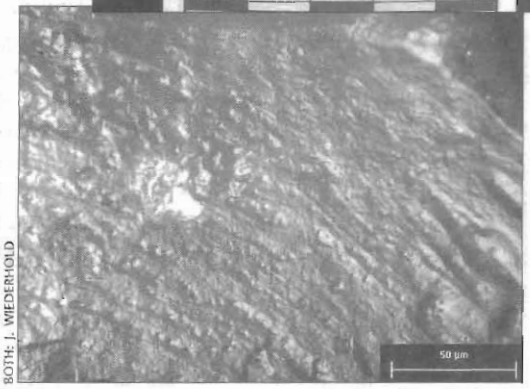
mation, safely stored, can later be retrieved and manipulated—view the object from any angle, double-check any measurement, even refit broken pieces on the computer monitor. What's more, it's even possible to make an exact plaster copy of the object. For Pevny, the system adds to the excitement of her work. "If you find something you like to do and it's fun," she says, "then you definitely have the perfect job."

Humble endscrapers hold surprises

We met Jim Wiederhold several issues ago in our story about his realistic—and gory—experiments using flint endscrapers to scrape hides (**MT 19-2,** "Use Wear: A Hands-on Study"). At the time (March 2004) he was completing work on his master's at TAMU and working part-time as a microscopist in the lab. Since then he was granted the degree (he still works in the lab). His contribution to *The Gault Clovis Site* is adapted from his thesis.



Endscraper from Gault. The arrow ▶ points to a spur that is characteristic of Clovis specimens, the result of repeated resharpenings.



BOTH: J. WIEDERHOLD

The spur tip viewed at 500x. Polish ▼ and striae indicate the spur was functional, probably used as a graver.

His research on endscrapers found in the Gault Clovis layers took an unexpected turn when he discovered that they weren't used on hides, at least not exclusively. "I can't say they weren't used on hides," he explains, "but the *last* use they had, the use wear that remained, was not hide wear. It was something harder." Many hours spent working hides with experimental scrapers have taught him to recognize polish characteristic of hide use wear. On Gault scrapers he found traces of the same kind of polish, but most of it was masked by really rough damage to the edges, unlike wear you'd expect from hides. He concludes that the scrapers may have been used to work hides early in their life. Periodically they would have been removed from the haft and resharpened; after repeated resharpenings they developed twin spurs that are characteristic of Paleoamerican endscrapers. He believes they received their last use wear after being unhafted for the last time before being discarded (it's noteworthy that every endscraper he examined in the Gault collection was worn out) because those "two neat little horns" would have made the former endscraper useful as a graving tool. Sure enough, when he examined the spurs under his 'scope he found abrasion and polish on the tips. Clovis toolmakers, it turns out, were also savvy improvisers.

Gault soil gets attention, too

If you're on a geoarchaeological career track, as Heidi Luchsinger is, your principal interest is the soil instead of the things in it. Her article in the 2003 issue of *Current Research in the Pleistocene*, "Paleoclimate under the Microscope: Sediment Micromorphological Analysis at the Gault Site, a Paleoamerican Site in Central Texas," encapsulates one of the research objectives of her thesis. It's also a fine example of TAMU Anthropology Department's policy of making students' research available to the scientific community.

Luchsinger, a doctoral student, pursued micromorphological research at Gault to answer specific questions posed by Collins, Waters, and Shafer. Directed research is the best way to proceed with micromorphology, she says, because "if you don't have really pointed directives or specific research questions it can get overwhelming because there's so much you can see under the microscope."

Four questions spurred her investigations.

1. What was the effect of groundwater on the Gault site? Buttermilk Creek was a blessing for early Americans who camped beside it, but the fluctuating water table that results from it complicates the archaeologist's job. Iron staining in the soil indicates that some soil alteration occurred; the important question is, How much was the site altered by water from the creek and all sources?

Very little organic matter has been found in the Clovis layers, probably because of repeated episodes of wetting and drying. That could account for the absence of pollen and phytoliths. Because of the similar paucity of charcoal, the Clovis layers have resisted attempts to date them. Waters, who works closely with Luchsinger, recalls that "we did find a few


BILL DICKENS

Bill Dickens with replicated blades he and Jim Wiederhold used in bison butchering experiment. Using chert tools like these, they skinned and butchered three bison!

Broadly speaking, Dickens describes Edwards chert from Gault as falling into two groups. One form is very high quality with excellent flaking characteristics that made fine tools. The other, perhaps because silica has eroded out, is grainy and doesn't flake well and therefore wasn't used by early toolmakers. Unfortunately, today there is no good chert left at Gault, since looters over the years have taken it all. What's left is small fragments of debitage, few pieces large enough to make tools. After scouting the countryside, inspecting quarries and getting permission from landowners to make exploratory digs, he has found a few deposits of what he considers good-quality chert, though not very much.

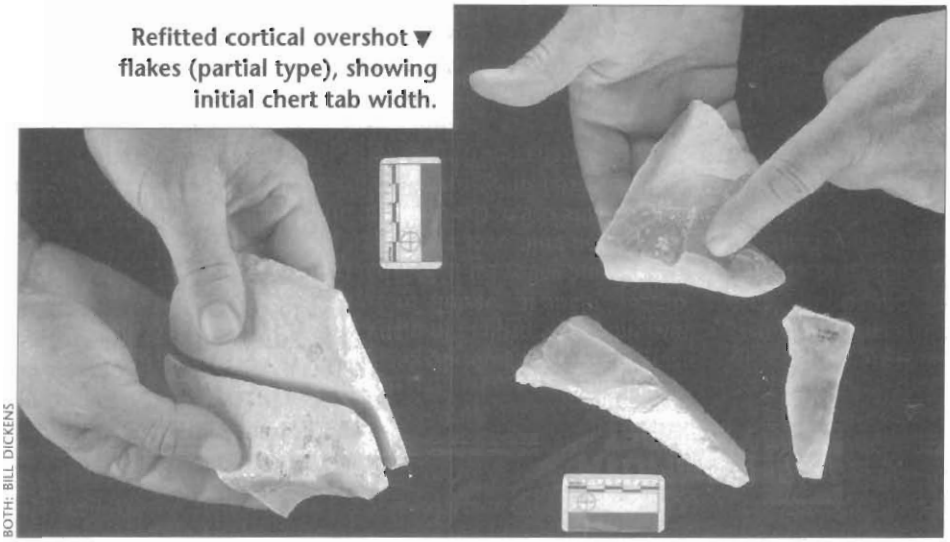
In his studies of Clovis bifaces and blades from Gault, Dickens departs from the gospel preached by authorities like Don Crabtree. "He was a wonderful flintknapper whose ideas have been retained and copied," Dickens readily admits. What makes him uncomfortable is the particular reduction strategy that Crabtree describes, which Dickens finds too rigid. He gives Clovis knappers credit for inventiveness and flexibility in their technology. He contends that there wasn't a fixed sequence, a "cookbook" that prescribed a specific procedure. Instead, he believes knappers worked individual pieces according to the material, their skill, and the mistakes they made.

One reason Dickens takes issue with Crabtree's description of Clovis knapping procedure is because Crabtree worked principally with obsidian, which flakes much more easily than chert. Consequently Crabtree worked extensively with indirect percussion using a punch, which calls for vastly different techniques than direct percussion of chert using a hard or soft hammer. Dickens finds little evidence of indirect percussion on Gault tools except for fluting.

"Clovis knappers had a bag of tricks," says Dickens, "and they pulled out what they wanted when they needed it." Readers of *The Gault Clovis Site* interested in Clovis knapping will be fascinated with Dickens's encyclopedic discussion of variations of overshot flakes, including a technique he calls overface flaking, and other strategies he has identified in the Gault collection of more than 560 blades, 55 bifaces, 4 finished Clovis points, 185 overshot flakes, and more.

Two corner removal blades and one overshot flake (full type). The finger points to corner removal blade scars. Dickens describes Clovis knapping strategies in exquisite detail—enough to satisfy any purist.

Refitted cortical overshot flakes (partial type), showing initial chert tab width.


BOTH: BILL DICKENS

A landmark publication

No publication date has been set yet for *The Gault Clovis Site: Excavations at the Lindsey Pit*, which promises to be as all-encompassing a description of the Clovis culture as any book yet published. Waters promises that "you'll be able to pick up this book and glean a very comprehensive overview of the site."

And yet, there remains a mystique about these people we call Clovis. "They were gatherers as much as they were hunters," says Waters. They were undeniably capable hunters, though not of mammoth alone. Collins has found evidence of horse association in Clovis horizons; in TAMU excavations mammoth appear, along with bison, deer, elk, and miscellaneous small animals. The truth that is emerging is that, like all primitive people who lack farming or herding skills, Clovis people depended on nature's bounty and probably ate anything that didn't eat them first.

And they also made those marvelous fluted points.

–JMC

Suggested Readings

Luchsinger, H. 2001 Paleoclimate under the Microscope: Sediment Micromorphological Analysis at the Gault Site, a Paleoamerican Site in Central Texas. *Current Research in the Pleistocene* 20:126–128.

Texas Archeological Research Laboratory. The Gault Site. Web site www.utexas.edu/research/tarl/research/Gault/intro/intro.htm

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