I was a friend and colleague of Harold L. Dibble for 42 years. We first met as Arthur J. Jelinek’s graduate students at the University of Arizona, in 1976. My first encounter with Harold was actually with his disembodied voice floating over the tabletop partition that separated Art’s seminar class portion of his office from that part functioning as a lab. Art discussed topics and asked questions of the students (including me) in the course. I no longer remember the exact question Art asked (although I think it had something to do with the Levantine PrePottery Neolithic B), but it was Harold who answered from the nether regions of the lab. It was not long afterwards that I met Harold in the flesh. We went on to become fast friends, seeing each other after graduate school usually just once a year at the Society for American Archaeology meetings, but after 2000/2001, we collaborated on several research projects and were at the same institution (University of Pennsylvania).

In most obituaries of scientists, the focus is on their academic achievements, and I will discuss a number of Harold’s contributions to the field of paleoanthropology / Paleolithic archaeology. It is my intention, however, also to provide readers with an idea of Harold’s early life and interests and to highlight Harold as a person. In addition to my own recollections of Harold, there are many insights, data points, and some photographs that I collected from members of his family—his wife, Lee Dibble; his sons, Flint and Chip Dibble (and, yes, there are stories associated with their names); his daughter-in-law, Joni Martini; and his sister, Christine Burke). Other friends, colleagues, and former students also contributed photographs (as noted in the figure captions). To all of them, I am grateful.
Harold even found arrowheads in the area where they lived. In 1963, his mother took him and his sister to Paris, where they visited the Egyptian Hall at the Louvre. This background was to re-emerge when Harold was an undergraduate.

In the mid-1960s, Harold, his sister, and his mother moved to Arizona, first to Tucson, and then to Sierra Vista. Harold had been playing the drums for several years (a passion of his since he was 13 or 14 years old). Imagine his delight when his mother moved them to San Francisco in 1967; Harold was really looking forward to being part of the Haight-Ashbury and band scene. Unfortunately for Harold, his mother soon moved them back to Sierra Vista, when she remarried. Not to be deterred, however, by 1967, he was drumming in a local band with several friends. They named their band “Joy” (by 1971, “Jou”) (Figure 2) and their first paid gig was arranged by Harold’s sister Chris for a function at the Army base of Fort Huachuca in Sierra Vista. Harold finished high school a year early and devoted that year to playing in the band. He used to point out that his band had a hit song (“Andrul’s Gleam”) that was #3 on the charts just behind the Beatles (and anyone who ever knew Harold, knew that the Beatles were his all-time favorite band). He was correct, although you had to take that with a grain of salt, as the song was on a list of local hits in Sierra Vista at the time (lol; Figure 3).

Harold entered the University of Arizona as an undergraduate in the late 1960s. Initially, his major was General Studies. While taking a class in philosophy, he decided to turn to the sciences, but with a cultural bent. And, thus, he became a major in Anthropology (with a minor in Mathematics). In 1971/1972, while riding his motorcycle in Tucson, he was hit by a car driven by an individual who ran a stop sign. This accident nearly took his life; he had a broken back and a broken leg and needed several surgeries includ-
In working with Art, Harold became immersed in the study of the chipped stone from the Lower and Middle Paleolithic site of Tabūn (Israel), a site excavated by Art and for which a collection was then housed in Art’s lab at the University of Arizona. It became the subject matter of his Ph.D. thesis, *Technological Strategies of Stone Tool Production at Tabun Cave (Israel)* in 1981.

During those graduate student days from the mid-1970s to early 1980s, it was common for the archaeology and physical anthropology students (and occasionally some of the social-cultural students) to hang out with a few of the archaeology and physical anthropology professors (among them, Art Jelinek, Mary Ellen Morbeck, Andrew Moore, Pat Culbert, and Walt Birkby) nearly every Friday. We would all gather first at a local bar (the Bum Steer and the Green Dolphin come to mind) to have a few beers and play pool or darts, depending on the bar. Afterwards, a number of us (including some of the professors) would end up at someone’s house, where we would play penny-ante poker (having brought along our coffee cans full of pennies, nickels, and dimes), have a few drinks, tell jokes, and chat away till the early hours of the morning. It was a period of intense camaraderie that forged strong bonds between all of us, and of that group, Harold was a prominent member (with a very good poker face). I sometimes think he may have used his mathematics background to advantage in winning some of those tremendous jackpots of five bucks or so (lol). Harold also was president of the Anthropology Club, and we had many memorable get-togethers in that venue. At Harold’s instigation, we formed the Friends of the Paleolithic Society (or FOPS, as we liked to call it), with a motto of “Forward into the Past” and a drawing of a “Venus” figurine. We had t-shirts made, and eventually, a “chapter” of the FOPS also was established at Arizona State University (with Geoff Clark and his students) (both Harold and I saved our t-shirts; Figure 4).

In addition to the fun times, Harold as a graduate student was already engaged in aspects of archaeological research that became some of his strengths over time. I remember how excited he was when he built his first home computer from a kit (yes, people did that in those long-ago days; it was cheaper than buying one). And, this was in the days when the entire Department of Anthropology faculty shared one hard drive capacity of 10 MB (yes, you read that correctly) on the department’s computer. Always willing to collaborate on projects with others, including our fellow graduate students at the University of Arizona, he compared how researchers measured edge angles (with Mary Bernard), described a method for recording artifact shape (with Phil Chase), and developed controlled experiments for studying the effects of percussion on variation in stone flakes (with John Whittaker). He also had gone to François Bordes’ excavation at Pech de l’Azé IV in the late 1970s (Figure 5), thus beginning his professional association with Middle Paleolithic / Neandertal research in France; and,

Figure 3. Top hits in Sierra Vista, AZ, 21 October 1968. See #3 (image courtesy of the Dibble family).
Pech de l’Azé IV was a site he himself was to excavate some years later (see below). By the time that he finished his thesis in 1981, Harold thus had a few publications under his belt (a rarity in those days).

It was during the early 1980s that once plentiful academic jobs began their long, slow decline (a process unfortunately still underway). Thus, anticipating that there would be initial difficulties in finding a job upon graduation, Harold and Phil Chase started a contract archaeology business (Figure 6). I will bet that not many people who have known Harold over the years also know that he excavated in the North American Southwest! I worked with them, in fact, on their test excavation of a shallow pithouse on top of a small ridge in the Mogollon region of southeastern Arizona. It was not long, however, before Harold obtained a position with the Arizona State Museum at the

Figure 4. Front (left) and back (center) of the original FOPS t-shirt, a little worse for the wear; FOPS ASU t-shirt (right) (photographs by Deb Olszewski).

Figure 5. Excavations at Pech de l’Azé IV in 1976. Harold is in the orange shirt in the upper center left; François Bordes is in the white hat center left (photograph courtesy of the Dibble family).
University of Arizona, as a systems analyst (putting his computer skills to good advantage). He worked there for about a year, leaving in 1982 when he was offered a lecturer position in the Department of Anthropology at the University of Pennsylvania (Figure 7). His son Flint was born shortly before Harold and Lee left for Pennsylvania.

At Penn, Harold was a lecturer from 1982–1985, a period during which his son Chip was born. In 1985, Harold interviewed for and was appointed as an Assistant Professor in the Anthropology Department at Penn. In 1991, he became Associate Professor, held the Sande and Harris Hollin Term Chair in Archaeology and Anthropology in 1993, and in 1996, was promoted to Professor, a position (along with being the Francis E. Johnston Term Professor) he held until his untimely death. Among his other appointments were Associate Curator of the European Section (1991) and Curator-in-Charge of the European Section (1998 on) in the University of Pennsylvania Museum of Archaeology and Anthropology, Deputy Director for Curatorial Affairs in the Museum (2000–2004), Director of the Laboratory for the Study of Ancient Technology at Penn (2006 on), Research Associate at the Max Planck Institute for Evolutionary Anthropology in Leipzig (2009 on), Senior Fellow of the Kolb Foundation at Penn (2010 on), and Research Affiliate at the Institute for Human Origins at Arizona State University (2010 on). He won the Society for American Archaeology’s award for Excellence in Archaeological Analysis in 2014, for his lifelong research and contributions to the study of lithics. In keeping with his faculty appointment, he served on numerous committees at Penn, including chairing Ph.D. and M.A. thesis committees (see below).

Among his many publications were 11 books/monographs, 5 textbooks, and 182 journal articles, book chapters, and other publications (see below). Additionally, he organized and participated in 14 international symposia, including a major conference on the definition and interpretation of Levallois technology (held in Philadelphia in 1993 and published as a monograph in 1995), gave 66 invited presentations at various institutions both in the States and abroad, as well as numerous presentations at the Society for American Archaeology, Paleoanthropology Society, European Society for the Study of Human Evolution, and the Union Internationale des Sciences Préhistoriques et Protohistoriques meetings, among other professional venues. Harold also was a founding editor of the online journal (PaleoAnthropology) of the Paleoanthropology Society.

Beginning in 1984, when he became Associate Director for the La Quina (France) excavation project, which was directed by Art Jelinek and André Debénath, he spent every summer in the field excavating at many of the classic French Middle Paleolithic / Neandertal sites. For all of these excavation projects (except La Quina), Harold was director in conjunction with a number of co-directors. His projects included:

- Combe Capelle (with Michel Lenoir) 1985–1990
- Cagny-l’Epinette / Cagny-la-Garenne (with Alain Tuffreau and Phil Chase) 1990–1994
- Fontéchevade (with André Debénath, Phil Chase, and Shannon McPherron) 1994–1999 (Figure 8)
- Pech de l’Azé IV (with Shannon McPherron) 2000–2003
- Roc de Marsal (with Shannon McPherron, Dennis Sandgathe, and Alain Turq) 2004–2010
- La Ferrassie (with Alain Turq, Shannon McPherron, Dennis Sandgathe, Paul Goldberg, and Vera Aldeias) 2010–2015
- La Gane (with André Morala, Shannon McPherron, Paul Goldberg, Dennis Sandgathe, and Alain Turq) 2012, and,
- Pech de l’Azé IV (with Dennis Sandgathe, Paul Goldberg, and Vera Aldeias) ongoing since 2016, with a Spring 2018 National Science Foundation grant to fund three additional years (the project will continue with myself and Shannon McPherron replacing Harold).
If this were not enough, Harold also had projects in
- Egypt (the Abydos Survey for Paleolithic Sites, with myself, Shannon McPheron, and Jen Smith) 2000–2008 (see Figure 8), and,
- Morocco (Contrebandiers, with Abdoujalil el Hajraoui) 2006–2011.

I was fortunate enough to work with Harold, not only as a co-director for our Egypt project, but also for a few seasons now and then in France (at La Quina, Cagny-l’Epinette, Pech de l’Azé IV) and in Morocco (at Contrebandiers).

What is particularly astounding about Harold’s research was his ability to gain funding in archaeology (for which dollar amounts in the States often are low compared to other parts of the world). During his career, he received $2,644,664, of which $2,517,707 were from funding sources external to Penn. The majority of his funding (50 of 70 awards) was from the National Science Foundation, the Leakey Foundation, the National Geographic Society, and Penn’s University Research Foundation. While much of this funding was for excavation and survey seasons, it also supported his controlled experiments on variables involved in the manufacture of chipped stone artifacts. He had two robots for flaking stone built (the first was nicknamed “Igor” and the second, improved model, was “Super Igor” (Figure 9). He and his students examined variables such as platform beveling, force, velocity, exterior platform angle, platform depth, and the effects of core surface morphology and of original stone size. Much of this research used glass as the knapped material, which some critics claimed was not comparable to the stone raw materials used in prehistory. Thus, one of the new experiments, at the time of his death, was designed to use raw materials that are found at archaeological sites (the project continues under the direction of George Leader). This will allow testing of the insights gained from the glass experiments to examine their applicability to stone raw materials.

Harold was a man of ideas, most of which he managed to investigate at one time or another, and always from a scientific point of view. He was perhaps best known for his idea of Middle Paleolithic “scraper reduction.” This was a concept, derived from George Frison’s observations of arrowheads in Wyoming (which was named the “Frison effect” by Art Jelinek), that a stone artifact could have a life history of many uses and, therefore, morphologies. To put this in context, the prevailing notion prior to 1984 (when Harold first published “scraper reduction”) about stone tool types in the Middle Paleolithic (and other chronological periods) was that the form of the artifact that was recovered from an archaeological site was a shape intended by the prehistoric individual who made that artifact. Harold recognized that many of the so-called 23 “discrete” types of scrapers in the Bordian typology had shapes that could be
Neandertal use of fire was most prevalent, rather than during colder periods. On the surface, this is counterintuitive, as one might expect the warmth of fires to have been an important feature during colder periods, especially in Europe. After examining a number of potential variables, their interpretation of this pattern is that perhaps Neandertals could not make fires, but opportunistically collected embers from natural fires (e.g., caused by lightning strikes) which they took to sites and maintained in their hearths. Such naturally caused fires occur more frequently during warmer periods (because lightning strikes happen more often then), and thus Neandertals would have had greater opportunities to obtain fire during warmer climatic intervals. Again, this is an idea that has generated considerable backlash, and it will be quite interesting to see the additional research that occurs as a result (and, as noted above, Harold's 2018 National Science Foundation funded grant for further investigation of fire use at Pech de l’Azé IV will be continuing and will add to this debate).

During all the years of field projects, publications, teaching, and other faculty commitments, Harold also designed and created computer code for archaeology-related software. He was one of the early pioneers (1980s) in using a total station to record sites (Figure 10) and at a time when software amenable to archaeological projects did not exist, along with his then-student, Shannon McPherron, he created EDMwin, a program that enabled data entry and data transfer from a total station to a computer database. In addition to recording x, y, and z coordinates, the data entry form can be easily modified (by anyone) to accommodate attributes that individual projects need to record. Aside from basic information, such as unit, level, and so forth, one can also designate labels for items (fauna, lithic, type of lithic, pollen sample, etc.). The database created in EDMwin can then be integrated daily into a second software program, Newplot, also written by Harold and Shan-
Obituary

Harold L. Dibble: The Person

There are so many things that could be said about Harold as a person. Over the years, many have remarked that he was “larger than life,” due in no small way to how he interacted with others. Perhaps one of the most telling is what his son Flint told me was Harold’s *modus operandi*, his principle of “watering relationships.” What this meant was that Harold spent time thinking carefully about his interactions with family, friends, colleagues, and others. Whenever he could, he approached his relationships with an eye toward keeping them strong and durable. It also meant that he was nearly always available to listen to you and offer advice, if solicited. He mentored countless people in this way; they included not only his graduate students, friends, and family, but also colleagues, students on his field projects, and students in his classes. In my own interactions with Harold, I always appreciated the fact that no matter how bleak you might think things were, Harold always found ways to find what was positive in the situation. He was, for the most part, an optimist at heart.

That optimism carried over into Harold’s style in teaching his classes. He was eternally engaging, often injecting corny jokes into his lectures. And, he was terrific in drawing on relevant analogies to get concepts across to his students. One example that springs to mind is how he used a series of sharpened pencils (longer to shorter in length) to explain the process of scraper reduction. He took something that was familiar to students to explain objects (stone scrapers) that are not household items today.

Harold used corny jokes not only in classes, but also in life in general. Through a series of pet dogs that he and his family had over the years, he constantly joked that some had 3-cell brains or that grilled dog was on the menu for dinner. No matter how many times I heard the same corny jokes over the years, they nearly always made me smile or even burst into laughter (Figure 12); most of that was because Harold had a way with telling a joke. He also liked to encourage people to take-on responsibilities through couching the suggestion in a light-hearted, joke-like manner. This was a laid-back approach that kept relationships at an even keel, and persuaded people far more than a strict command ever would. Some have wondered at the names of his two sons, Flint and Chip (stone terms for those not
among other things. I agreed; none of us then realized that time was at such a premium. The official diagnosis of metastatic neuroendocrine cancer came on 9 June 2018. Harold passed away mid-morning on Sunday, 10 June 2018, due to complications related to the cancer. It rained later that day. In my more sentimental moments, I like to think of it as the skies weeping. Requiesce in pace, my friend.

HAROLD L. DIBBLE: PH.D. AND M.A. STUDENTS

In the 36 years that Harold taught at the University of Pennsylvania, he served as the chair for Ph.D. and M.A. thesis committees, as well as an integral member of thesis committees at Penn and as an external committee member at various institutions. Listed here are the students for whom Harold was committee chair at the University of Pennsylvania.

PH.D. SUPERVISOR/CHAIRMAN (COMPLETED)

- Kathleen Kuman (Professor Emeritus, University of the Witwatersrand, South Africa)
- Lawrence Barham (Professor, University of Liverpool, United Kingdom)
- Simon Holdaway (Professor and Head of Department, University of Auckland)
- Shannon McPherron (Max-Planck Institute for Evolutionary Anthropology, Leipzig, Germany)
- Andrew Pelcin (career outside archaeology)
- April Nowell (Professor and Chair, University of Victoria, Canada)
- Gilliane Monnier (Associate Professor and Director of Undergraduate Studies, University of Minnesota)
- Alex Steenhuyse (Adjunct Assistant Professor, Duke University)
• Utsav Schurmans (career outside archaeology)
• Radu P. Iovita (Assistant Professor, New York University)
• Vera Aldeias (Investigator, Universidade do Algarve, Portugal)
• Sam Lin (Research Fellow, University of Wollongong, Australia)
• Zeljko Rezek (Post-Doctoral, Max-Planck Institute for Evolutionary Anthropology, Leipzig, Germany)

**PH.D. SUPERVISOR/CHAIRMAN (CURRENT)**
• Aylar Abdolahdazeh
• Li Li

**M.A. SUPERVISOR (COMPLETED)**
• Joshua Beeman
• Stephen Kluskens
• Michael McLaughlin
• Beverly Schmidt
• Ekaterina Doronicheva
• Mathew Magnani

**HAROLD L. DIBBLE: PUBLICATIONS**

**BOOKS/MONOGRAPHS**


**TEXTBOOKS**


**CD-ROM**

**JOURNAL ARTICLES, BOOK CHAPTERS, AND OTHER PUBLICATIONS**


2018e Sandgathe, D., H. Dibble, S.J.P. McPherron, and P.


2017c Richards, M., S. McPherron, M. Pellegrini, L. Niv-
al Science 67: 64–79.


1995e  

1995d  

1995c  

1995b  

1995a  

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1994c  

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1993e  

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1991d  

1991c  

1991b  

1991a  

1990f  

1990e  

1990d  

1990c  

1990b  

1990a  

1989d  


1981a  Dibble, H. Technological Strategies of Stone Tool Production at Tabun Cave (Israel), Doctoral Dissertation, University of Arizona, University Microfilms, pp. xii + 206.
