Of Burnt Coffee and Pecan Pie: Recollections of F. Clark Howell on his Birthday November 27, 1925 — March 10, 2007

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"It is fitting that Clark Howell committed his life to the study of human evolution because he was such an excellent example of what a human being could be."

Nina Jablonski, Eulogy for Clark Howell, May 2007

Figure 1. A young Clark Howell in the field in Spain (photo courtesy of Randy White).

Francis Clark Howell (always known as Clark) had the habit of starting his addresses—and often his conversations—with some seemingly tangential anecdote or question (Figure 1). I'm not sure that it would have occurred to him that they were tangents as they almost always led to the heart of the matter at hand. And from that middle ground he would draw together many fine filaments. It never seemed to occur to him that you might not catch up as he maneuvered through these apparent tangents. And although it required at least a paragraph to get one's bearings—those lines eventually wove together into a tapestry far greater than the sum of its parts. You just had to wait for it. His practice belied a world view that prized complexity, depth, and nuance. The understanding and drawing out of relationships was important to him. The obvious ones for paleoanthropologists—ecological and geological context, multidisciplinarity—are clearly visible and have been commented on by the many fine tributes written since his death in March (e.g., Andrews 2007; Butzer and Klein 2007; Perlman 2007; Tobias 2007; White 2007). And the view also went beyond this to historical context of arguments, the relationships between vineyards and localities, baseball and opera, and much, much more.

I was fortunate to have 10 years of near daily practice with those complex threads, starting at what was for me a particularly impressionable age. In 1984 I began volunteering in Clark's Laboratory for Human Evolutionary Studies (LHES) at UC-Berkeley; I was an undergraduate and he was less than a decade from official retirement. I was taking Anthro 1, *Introduction to Physical Anthropology*, an oversized class of some 800 students taught to rock concert perfection by Tim White. I'd waited a year to take his class because a friend had declared that 'Tim White is God'. Be that as it may, in anticipation I'd avidly read in Physical Anthropology as I commuted to my summer job Freshman year—*Physical Anthropology* (Stein and Rowe, 3rd edition, 1982), *Lucy*

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Figure 2. Clark on a morning break in Turkey in 1993.

(Johanson and Edey 1981), *People of the Lake* (Leakey and Lewin 1978) and so on—and I'd fallen for the subdiscipline. So there I found myself in Clark's lab—by the good graces of his graduate students and his acquiescence—volunteering to update the LHES cast catalog (still stored at that time on a mainframe computer). I would only later grow to appreciate that Clark had amassed one of the finest hominid cast collections in the World—with a focus, like Clark's, not only on the big iconic pieces, but on as many of the small bits as he could get his hands on. The bits that form what little we know of the individual and demic variation of hominid taxa and that he recognized as crucial to understanding larger evolutionary patterns (Howell 1999). Clark would argue throughout his career that big picture relationships—whether in geological sequences, paleoenvironmental reconstructions, biological units or technocultural complexes—"…must commence with the local and provincial and proceed to the areal and regional." (Howell 1967a: 903). And his fossil cast collection, like his library and his field projects, testified to his efforts to amass those local bits (Figure 2). For the time being, however, he was to me simply the affable man—nearly my father's age—who made legendarily bad coffee.

Conditioned by growing up on a farm, Clark arrived at "The Lab" by 7:00 or 7:30 each morning and started a pot of coffee. He used good coffee, this was Berkeley after all, home of the original Peet's coffee on Walnut and Vine, started by Alfred Peet—specialty coffee concessionaire and ultimate inspiration of Starbuck's (Marshall 2007). But no coffee could survive the day's slow burn. It started strong, if palatable—by mid-afternoon strong be the constitution, or uninformed the visitor, who drank it. Bill Clemens, a 30-year colleague of Clark's and a weathered field paleontologist, told of timing his visits for early morning, so he could stand the coffee. Yet, Clark drank his all day—without milk—while the rest of us traipsed across Bancroft Ave to Café Roma (now Strada), being sure to spare his feelings and not let on where we were off to. I now drink my coffee plain and strong, influenced by years of fieldwork in unpredictable places and the coffee of Gainesville, Florida. I've finally learned a message Clark presented years ago, in not so many words, but in many ways from coffee to counseling—when reasonable, managing expectations avoids a lot of disappointment.

The Lab consisted of a warren of rooms in 55 Kroeber Hall, the basement. The linoleum-tile floor had the texture and color of slightly worn enamel. There were no windows. The outer lab contained a casting room with a giant wheel resembling a medieval torture device, some modern collections, and ten or so of us students (Figure 3). The middle lab housed the famed cast collections; Omo materials; Clark's slide collection—many of them of the double glass variety, others with seemingly archaic names like 'pre-Zinj foot' (for OH 8) that spoke of the changes in the field over the five decades of Clark's career; his light and drafting tables; map cabinets; visiting researchers of fame and note; and a sump pump. Sometime during my lab years, Clark annexed a room to the side of the middle lab by removing the wall between it and the adjacent 'underutilized' lab. The computer room would house a single IBM pc and printer—donated by one of Clark's 'Angels,' as he referred to his various benefactors, and shared by the entirety of lab denizens—and an IBM Selectric typewriter. Clark wrote all his papers long-hand on yellow legal pads, sometimes physically cutting and pasting thoughts together. These compilations were typed later, sometimes by one of us, but more often by Judy Ogden, his friend and longtime illustrator. His hand-edited versions might return in many iterations. The Lab's innermost room, Clark's office and library, was banked into the hillside on two sides and below the water table when it rained. (I inherited more than a few waterlogged volumes when the sump pump failed.) His extensive library and reprint collection rose from floor to ceiling in scores of book cases and sorting shelves that subdivided the room into smaller enclaves. The outermost nave housed AJPAs (*American Journal of Physical Anthropology*) going back nearly forever and reprint drawers, organized by cat-

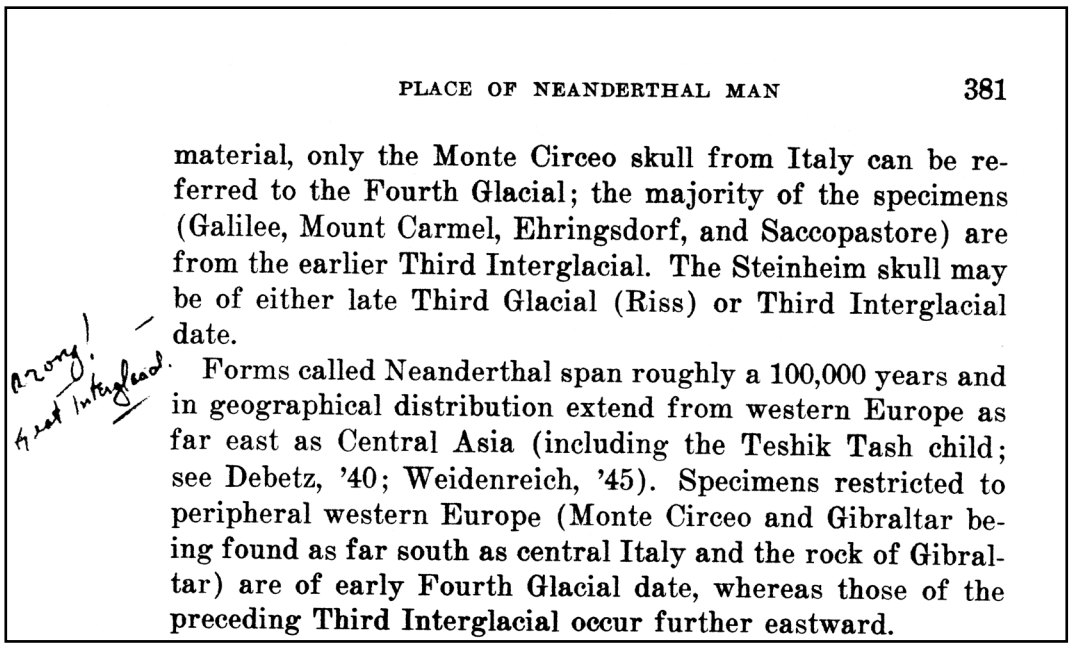
Figure 3. Curtis Marean visits the outer lab of 55 Kroeber.

egory, chock full of papers—each one annotated in some way. Even his own reprints, especially the early ones, were annotated with short phrases and exclamations points, highlighting where he had previously gotten things wrong (Figure 4). It was usual to find similar markings in anything that Clark had read. Behind a formidable bank of file cabinets, in the deepest recess of the lab, sat Clark's desk and table, and his black leather swivel chair. So ensconced was this spot I imagine it would have proven serviceable as a fallout shelter. Surrounded on three sides by floor to ceiling bookshelves, you could tell what Clark used most by what was closest to his elbow; what he was working on at that moment lay in the impossibly neat stacks of reprints, books, and notes along the front of his table.

We lab occupants had uncommon access to Clark and his stuff. We all had keys to his office—but mostly the door wasn't closed, let alone locked. It was understood that books and reprints did not leave the lab—except for photocopying, of which we did much. And it was understood that things went back in their place. But beyond that, we had open access to his books and reprints, and through his fine marginal pencilings, to his thoughts. Clark had a near photographic memory that extended beyond written passages to the spatial positioning of items on his desk, in his filing system, or reprint drawers. If you were looking for something in the reprints drawers that you thought he probably had (and he had just about everything), but that you couldn't quite find—Clark could tell you the precise 'fundstelle.' If he was feeling chatty he might ask what you were reading, and when you replied Solecki on Shanidar, he would counter "…the 1950's reports or the 1963 or 1975 pieces where he said…" and continue to regale you, chapter and verse, on the main gist of the paper, even though he might not have read it for 20 years. He never seemed to forget a thing. True enough, there were days he didn't feel chatty—when he wore a virtual cone of silence, and we knew to keep out of the way, not because he would have yelled or grumped, but because he clearly had some mission he was on and that was to be respected. In retrospect, I marvel at his willingness to open so much of his world to us, to cohabitate so easily with us, and to not leave us feeling as if we were invading his space. Clark was generous of spirit.

Clark also was a pretty low maintenance kind of advisor. In the lab, traveling, or in the field, he was predictable and patient (Figure 5). As long as he got his second cup of morning coffee, food, and a cigarette by an appointed time, he had an even keel. That's about as fair as it gets—establish the critical parameters and then operate within them. And in a field such as ours, what a rare and happy thing.

Clark's presentation style and his personality were both well-suited to small or individual gatherings and detailed conversations. Because of this, he was not an idolized undergraduate teacher. Although undergraduates felt



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material, only the Monte Circeo skull from Italy can be referred to the Fourth Glacial; the majority of the specimens (Galilee, Mount Carmel, Ehringsdorf, and Saccopastore) are from the earlier Third Interglacial. The Steinheim skull may be of either late Third Glacial (Riss) or Third Interglacial date.

Forms called Neanderthal span roughly a 100,000 years and in geographical distribution extend from western Europe as far east as Central Asia (including the Teshik Tash child; see Debetz, '40; Weidenreich, '45). Specimens restricted to peripheral western Europe (Monte Circeo and Gibraltar being found as far south as central Italy and the rock of Gibraltar) are of early Fourth Glacial date, whereas those of the preceding Third Interglacial occur further eastward.

Figure 4. Clark's marginal notes on his own Neandertal paper of 1951.

fondly toward the person, it simply required too much care to follow the arc of his argument, and the reward—a gobbet of knowledge nowhere obtainable in the pages of a textbook—was too rarefied a one for the average undergraduate to prize. Although it was always clear that he didn't much want to do it, he spent a lot of time preparing. In the days before powerpoint and digital photos, he would photocopy pages of books and articles and, back in the middle lab, carefully cut out the graphs or tables he wanted, glue or tape them onto a clean page, add citations, and make a composite handout. Then back upstairs to duplicate his handout for class. Nearly every class of his Anthro 100 or Anthro 108 (upper division *Human Paleontology* and *Primate Evolution,* respectively) started, after the initial apparent tangent ("Has anyone ever visited the Perigord?") with… 'Today I think we'll just talk around the handout'—and he'd launch into the relationships between soil and bone preservation (and anecdotes about why famous sites were often near good sources of food and wine). After years of teaching I now realize how much effort all this took. And in my mind's eye I can see him drawing those strands together—the process of pulling together those handouts was a physical manifestation of his world view. And his presentation style, although often frustrating to the average bear, was a vote of confidence in the importance of bringing those connections to the students and in their ability to appreciate them. In subsequent years, each time he would rise to a podium I'd settle into an old familiar spot—and wait. Sometimes I'd see a bit of bewilderment cross a novice face—and I'd think, wait for it… Near the end, like a fine German sentence, there would be a moment of realization and appreciation as those fine strands wove together.

Figure 5. Clark patiently waiting for the car to be unmired in Turkey.

Clark's style was better suited to the small graduate seminar, always held in the middle lab, where he would sit apart, often at the map cabinet, smoking and listening. He would let us wrangle with one another in our discussions—and just when you finally thought perhaps he might not really be paying attention, he would interject. He was entirely about ideas and process and figuring things out. He would say things like '…well, I know he said that, but I don't really think he meant it as it just doesn't follow from his earlier argument. I think what he meant to say was ….' And thus lead you away from an easy, but unproductive digression and toward the more compelling part of the point-counterpoint. Even so, he didn't steamroll over you—that just wasn't Clark. He knew what he thought—you needed to figure out what you thought.

In this way, Clark trained graduate students, undergraduates, and postdocs steadily for more than 40 years. Perhaps a better description was that Clark had many apprentices. He was a great boon to the observational learner—he didn't direct so much as give you the rope to go hang yourself. But he could always see clearly the connections between what you did and the bigger whole. As a result, he didn't direct students to answer a small piece of his particular passion. He waited until they found theirs. Sometimes such an undirected process meant his students took extra time to finish, but we were enriched for it by the end. Clark trained by example (all that pulling together), and he trained by opportunity. Clark made it possible to pursue your piece of the puzzle. He offered space, and time, and connections. He extracted some tolls, but not many. Every so often you would find on your desk a small note, sometimes on blue UCB memo paper, sometimes on those little phone message tags, "Susie, could you please…" make this cast, copy this thing, always signed "Thanks, $1x10^6$, FCH". It was little enough to ask. The larger things he asked in person—"Honey, do you think this pre-eminent paleoanthropologist might stay with you for a day or two…". And occasionally you'd find a small treat—a pen, a candy, a mug—a sign he'd been thinking of you in some time of need. One such unexpected item sits on my desk to this day—a constant reminder of his support.

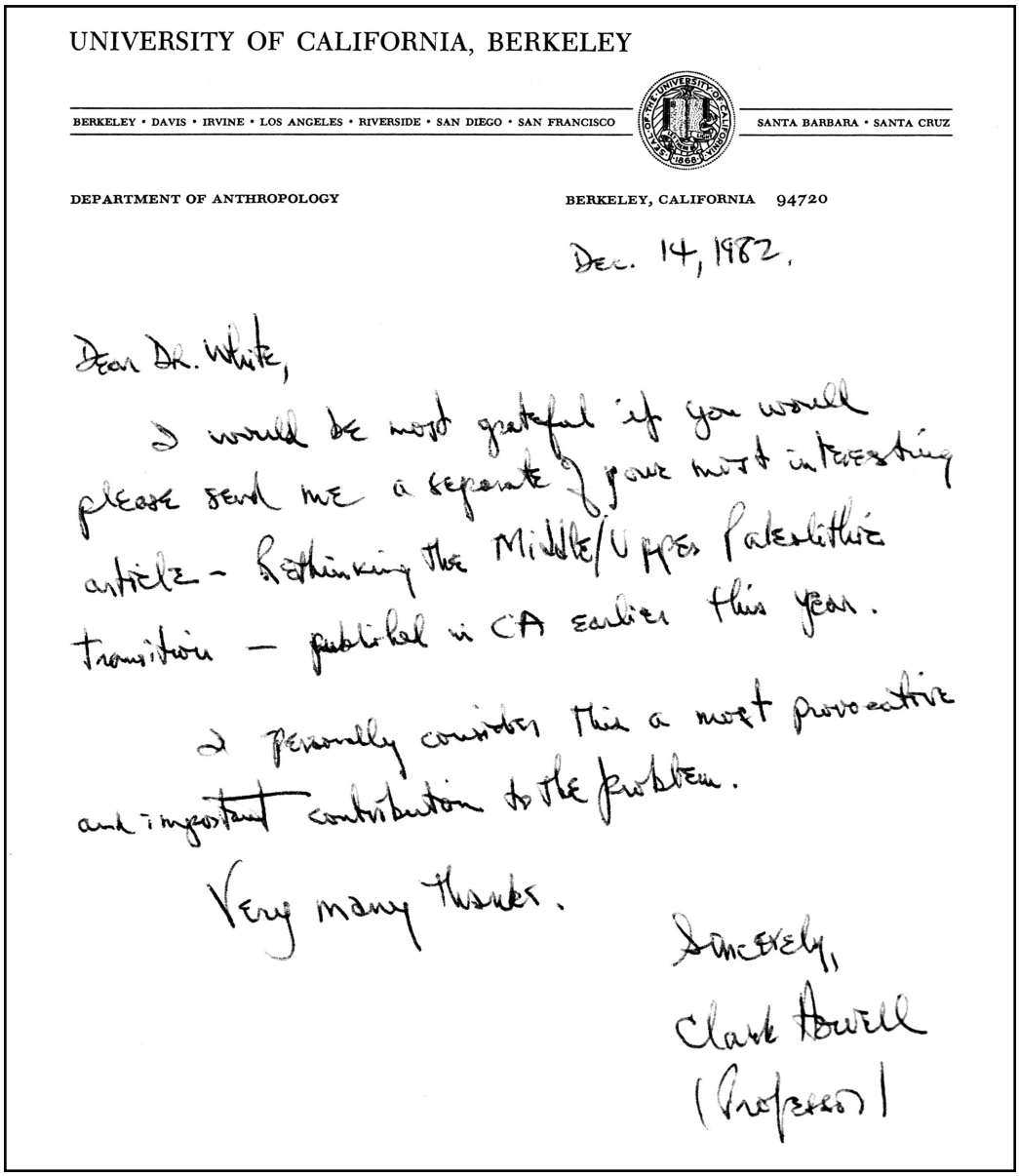
As a result of all this possibility and Clark's synthetic vision, he oversaw theses in New and Old World archaeology (his first three students, Freeman, Plog, and Klein wrote archaeology dissertations), human variation, paleoanthropology, primate anatomy, vertebrate paleontology, taphonomy, and more. It is the case that he didn't think they were all equally sensible or interesting undertakings. And it is the case that he may sometimes have been wrong in that judgment. But he almost always made things possible. Under Clark's direction 21 students from the University of Chicago and University of California–Berkeley completed Ph.Ds. Many others completed M.A. and undergraduate honors theses (a few of us completed all three with Clark), and he sat on many, many more committees at all these levels in the USA and abroad. Clark's first student (Freeman) started in the graduate program at the University of Chicago in 1959, four years after Clark joined the Chicago faculty. His last to matriculate (Antón) entered the graduate program at UC–Berkeley in 1987, just four years before he retired. Clark never, of course, really retired. He would continue to chair Ph.D. committees until his death in 2007.

Of course Clark's influence extended far beyond these formal committees to all of those in whom he saw a hopeful spark. Clark was a personal mentor for many, and these students and colleagues are his intellectual protégés. Indeed, Clark maintained the habit of hand-writing encouraging words to young scholars on the eve of a particular publication or event—and these letters, such as the one he sent to Randy White 25 years ago (Figure 6), have become prized possessions of noted professionals in archaeology, paleoanthropology, functional morphology, etc. Each letter offered some set of congratulations and encouragement. The depth of Clark's appreciation for the breadth of these topics, speaks patently of his integrative and wide ranging intellect. The generosity of spirit he expressed harks back to his great appreciation for the opportunities others had afforded him. And, as Nina Jablonski so aptly put it in her eulogy, Clark was "…a person aware of what was new, potentially important, but fragile—and always ready to acknowledge and encourage it…" Unlike so many folks today, Clark did not seem to consider life a zero-sum game. One could be happy in others' success, even if one did not know them well, had no vested interest, or future plan.

Clark's own formal training began post WWII when, courtesy of the GI Bill, he entered the University of Chicago as an undergraduate. Until the end of his life, Clark maintained a reverent appreciation for the opportunities the GI Bill had afforded him, 'a kid from a farm,' realizing that the rest of his career turned on those opportunities. He seemed to pay it back in kind by the letters, the many opportunities he afforded his students, and by the generosity he extended to students and colleagues alike. I cannot tell you the number of notables who have reflected in recent months on how important Clark's support was for them at some key time, and how unexpected they found it that he would have both the time and inclination be so supportive of '…someone he barely knew' or 'knew not at all.'

Clark took his undergraduate degree in 1949 and his M.A. in 1951, both in Anthropology. He would finish his dissertation on "*Cranial Base Structure in Man*" in June of 1953 under the direction of Sherry Washburn (1911–2000)—a student of Earnest Hooton's (1887–1954)—with significant input from R.J. Braidwood (1908–2003; Old World Archaeology) and E.C. Olson (1910–1993; Paleontology). His influences would be multidisciplinary and integrative from the start.

Clark published his first set of papers on Neandertal cranial evolution while a graduate student (Howell 1951, 1952). He took the reasonable, but at the time revolutionary, position that understanding human evolution required understanding the local context in which hominids evolved and required considering the fossils in temporally and geographically appropriate groups. In his early papers, Clark worked largely from published descriptions and measurements, and he noted that "Unfortunately casts were available to me for only a few of the specimens." (Howell 1951: 382). One supposes that this was the beginning of his dedication to building the great cast collection. In these papers and his subsequent 1957 synthesis, he presented all the interwoven contextual clues that would later be his hallmark. He would review the basic evidence with an eye toward variation and contextual correlates. He would reassess groups first by assessing local (temporal and geographic) variation, then by looking across groups for regional and climatic patterns. He would look to ontogeny and anatomy for clues to differences and to geology and paleontology for clues to climate and time. Based on these reassessments, Clark recognized an early Neandertal group and argued for a gradual east-west cline in cranial morphology and for geographic variation that was established early in ontog-



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DEPARTMENT OF ANTHROPOLOGY — BERKELEY, CALIFORNIA 94720

Dec. 14, 1982.

Dear Dr. White,

I would be most grateful if you would please send me a reprint of your most interesting article - Rethinking the Middle/Upper Paleolithic transition — published in CA earlier this year.

I personally consider this a most provocative and important contribution to the problem.

Very many thanks.

Sincerely,
Clark Howell
(Professor)

Figure 6. Handwritten note from Clark to Randy White in 1982 in reference to Randy's paper, "Rethinking the Middle/Upper Paleolithic Transition," in Current Anthropology *23: 169.*

eny. He also recognized a classic (later) Neandertal group in which the previously identified cline was modified and exaggerated, especially in western Europe. And he correlated this exaggeration with genetic isolation during glacial advance (Wurm I). As a result, with a highly nuanced argument couched in evolutionary theory, he came down squarely in the middle of the ongoing debate on the place of 'Neandertal Man' in human evolution. He argued that one segment of these geographic lineages in the Near East had given rise to modern humans, and the other had become sidelined in western Europe and gone extinct (Figure 7). Later changes to the chronological framework of the fossil record would upend some of this. But the idea of direct or indirect climatic influence on Neandertal morphology remains in play, as does the 'western Neandertal as culde-sac.' Fittingly, in the summer of 2006, Clark was the keynote speaker at the celebratory conference "*150 years of Neanderthal Discoveries*" in Bonn, Germany; he had come full circle.

Although his research focus was undeniably different than Washburn's—you can see the seeds of the Hooton/Washburn line flourish in some of Clark's work. In particular, Clark's emphasis on the individuals and demes, rather than the 'types' of fossil hominids may perhaps be foreshadowed by Hooton's emphasis on variation and environment in recent humans. Likewise, Washburn's emphasis on the evolutionary synthesis flourished in Clark's emphasis on context in primate and human evolution. But Clark and Washburn (Figure 8), although close for many years, especially after they both moved to Berkeley, were also very different. Both were synthesizers and framers of big questions in their own ways, and both were central figures in shifting paradigms and practices in their fields. Clark was a detail guy who built the big picture from the ground up—from the

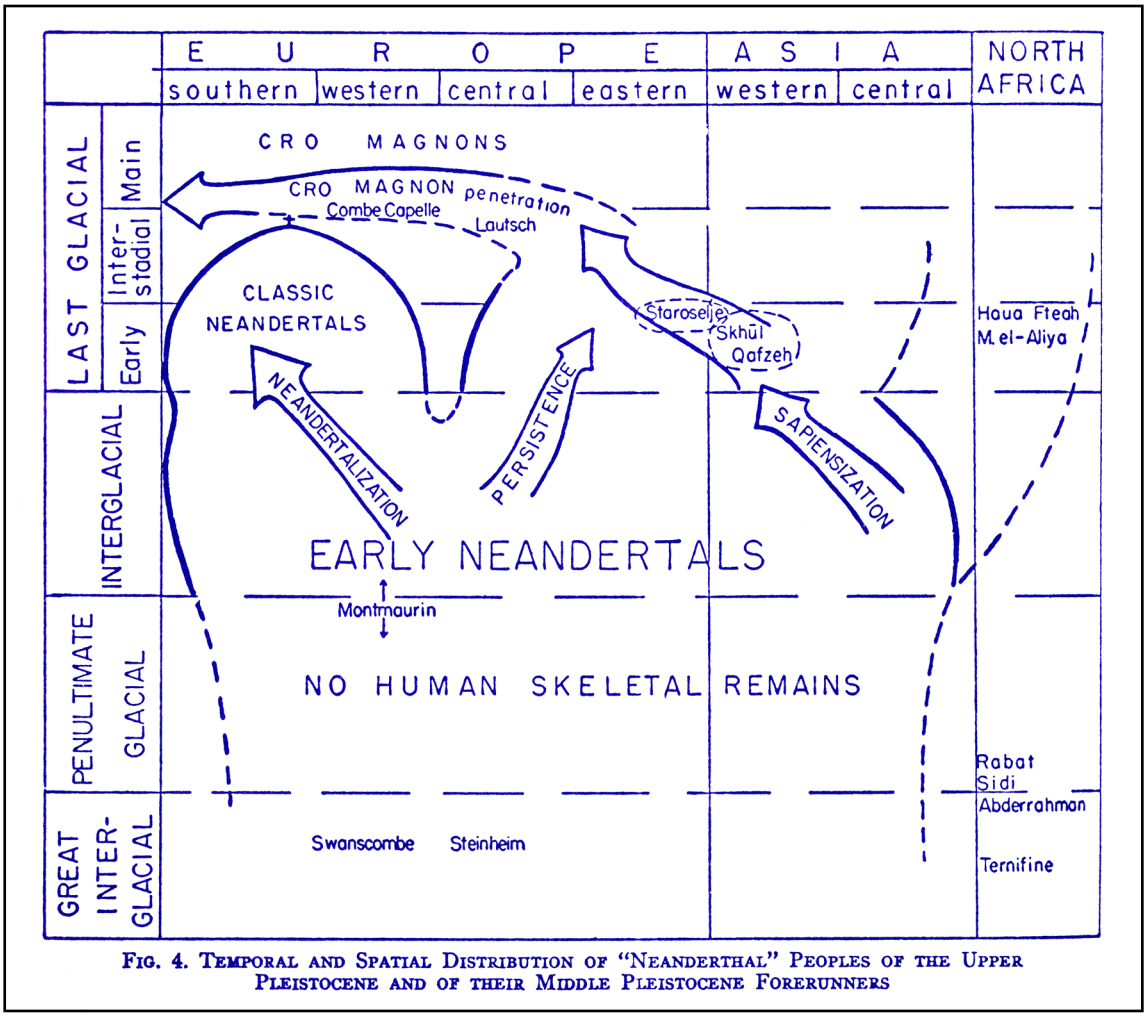

FIG. 4. TEMPORAL AND SPATIAL DISTRIBUTION OF "NEANDERTHAL" PEOPLES OF THE UPPER PLEISTOCENE AND OF THEIR MIDDLE PLEISTOCENE FORERUNNERS

Figure 7. Clark's depiction of the place of Neandertals in human evolution from his 1957 paper, "The Evolutionary significance of variation and varieties of "Neanderthal" man."

local and provincial—while never losing site of the larger focus. Clark's forte was both depth and breadth, drawing together many substantial strings. And he built a broad and deep corpus of work in his chosen paleoanthropology. That he was in large part responsible for shifting the focus away from typological thinking and toward an integrative, evolutionary, scientific discipline of paleoanthropology was in most ways because he led by example rather than by proclamation. Because he was a bridge-builder. Washburn, by Clark's own recollection, was "…neither shy nor deferential; the postures he assumed and the stances and beliefs he opposed were always serious, even pressing matters and thus warranted outright proselytism on his part." (Howell 2004: 363). Alternatively, Clark was not a man who much coveted the spotlight, and although he thought deeply and strongly on many topics, he did not proselytize. He led by example. He led by becoming part of the atmosphere.

After graduating, Clark spent a short time teaching anatomy at the medical school at Washington University in St. Louis. His boss was Mildred Trotter (1899–1991), who would become president of the American Association of Physical Anthropology (AAPA) from 1955–1957, and who had been the anthropologist for the Central Identification Laboratory, Hawaii (CILHI), in 1948 and 1949, in charge of identification of military personnel killed in WWII, especially in the Pacific. Trotter and Howell had both grown up on farms, Clark in the Midwest, Trotter in Pennsylvania, and apparently shared a certain plain spokenness. Clark remarked that whenever they met in later years, she never let him forget who was in charge. According to a typed addendum to his 1951 Neandertal paper, Clark also had substantial contact with the CIL's first anthropologist, Charles Snow. Snow had allowed Clark access to a reconstruction of the Skhūl V cranium that was important for Clark's work. His early associations with CIL personnel show how much more tightly intertwined the subdisciplines of physical anthropology were at that time. And these professional associations were also somewhat ironic given that Clark was a Navy signalman in the Pacific during WWII[1]; that is, he could just as easily have been the subject of their identification work as their professional postwar colleague. For reasons both personal and professional we can all be grateful this was not the case.

From St. Louis, Clark quickly moved on to the University of Chicago in 1955. He would spend the next 25 years in the Anthropology Department. He earned full

Figure 8. Clark (distant left) and Sherry Washburn (distant right) and Desmond and Betty Clark (near left and right) at dinner in 1961 at the Wenner-Gren symposium "African Ecology and Human Evolution" in Burg-Wartenstein (photo courtesy of Laurie Obbink and Wenner-Gren).

professorship in 1962, when he was in his mid thirties. He eventually served as department chair, and during these years he was deeply involved in the national professional societies—American Anthropological Association (AAA) and AAPA. More importantly, in 1955 he would marry his sweetheart Betty Tomsen, a nurse he had met in St. Louis (Figure 9)—the sister of his best friend's girl. Betty and Clark formed an enduring partnership for more than 50 years, crossing many continents, two institutions, and raising two children, Brian and Jennifer.

It is hardly possible to think how Clark had time to breathe during his early Chicago years. He was newly married and enjoyed life, including Chicago jazz. He continued to publish papers on morphology and archaeology, many of which brought together strands of data from other areas. He began to lead his own field expeditions—first in Tanzania at Isimila (1956) and then in Acheulian sites in Spain, to which he would return again in the 1980s (Figure 10; Howell 1960a, 1961, 1965a). He read widely and published a plethora of book reviews on topics from prehistoric archaeology, to geochronology, the Piltdown forgery, and prehistoric fossil hominids of Africa and Europe, to name a few (e.g., Howell 1955, 1956a,b, 1957b, 1960b, 1962, 1965b, 1968a,b,c). These reviews ranged from a paragraph to several pages—and at their best brought new advances of their own. For example, in his review of Oakley's 1964 volume on *Frameworks for Dating Fossil Man*, he provided corrections and comments on his stratigraphic scheme (that is the equivalences of the subdivisions of the Pleistocene and various glacial stages), the age and distribution of fossil carnivores and certain hominids, and various issues relating to the Mousterian complex. These addenda really require the review be kept with the book. Clark understood this about the best reviews, and in his library one often found published reviews tucked inside a book's cover—a habit I've inherited. It is possible to get a sense through Clark's reviews of what he thought intellectually important—we glean, for example, from his review of McBurney's Haua Fteah volume, that sampling is crucial, that local context is all, and that it is good to be gracious. Despite any critiques he might level, there was not a single one of these reviews that did not end on a note about the volume's strengths and with a word of praise. Clark knew early on that it never hurts to be gracious.

One might think that to approach Clark's papers—or anyone's—in chronological sequence might reveal the intellectual development of the scholar. That the earlier might be smaller or more trivial in scope. But in Clark's case, he seemed almost to burst fully formed onto the publishing scene. His early research papers are integrative and

Figure 9. Betty and Clark Howell (near left and right) at breakfast during an early Wenner-Gren conference (photo courtesy of Laurie Obbink and Wenner-Gren).

Figure 10. Torralba warehouse (photo courtesy of Randy White).

synthetic. And they are diverse. In the first five years after his Ph.D. he wrote on Neandertal anatomy and evolution, *Australopithecus,* the peoples of the Asian Mousterian, the Early Paleolithic of Europe, geochronology, and relatively recent African archaeology. His first *Science* paper was published in 1959. These works contain the Howellian charts and correlative tables for which he is known at a far later date, handwritten versions of which were always around the lab as he constructed and reconstructed them for various undertakings throughout his career. As witnessed by his fieldwork and scientific papers, his primary focus was on contextualizing and integrating the information on the Pleistocene occupation of Europe with a special emphasis on trying to understand the timing and context. He focused heavily on the Villafranchian faunas in this effort, and on understanding the relationship and function of the Acheulian technocomplex and the biological evolution of its makers. But he entered a discipline that was in need of synthesis at a large scale. And his writings reflect his efforts to organize the mess that he found. By word and figure, they each draw together disparate lines of evidence, synthesize, and make sense of things.

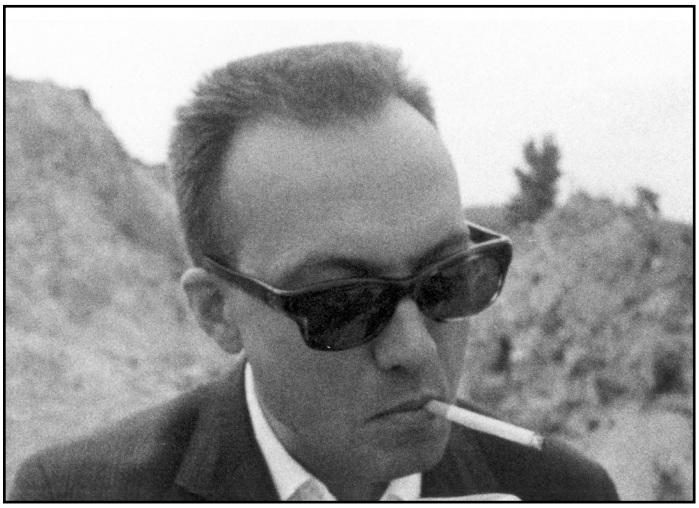

Figure 11. Clark at Burg-Wartenstein in the 1960s (photo courtesy of Laurie Obbink and Wenner-Gren).

Beyond his individual efforts at contextualizing human evolution, early in his career Clark would be involved in two important Wenner-Gren symposia (1961 and 1965; Figure 11)[2]. He organized the first "*African Ecology and Human Evolution*" symposium with French ecologist Francois Bourlière (1913–1993) in which they brought together archaeologists, paleoanthropologists, geologists, and primatologists to discuss a synthetic approach for integrating hominids into their ecological context (Howell and Bourlière 1963). And he would form part of the 'base group' and write the post conference appraisal of the second symposium, "*Systematic Investigation of the African Later Tertiary and Quaternary,*" that led to the edited volume, *Background to Evolution in Africa*, edited by W.W. Bishop (1931–1977) and J.D. Clark (1916–2002; Figure 12). These two volumes were critical for establishing the temporal, stratigraphic, ecological, and archeological context for hominid evolution in Africa and the process by which future investigations should proceed. At the conference, participants would struggle with recommending frameworks for investigating and interpreting the chronostratigraphic context at paleoanthropological sites, recognizing the move in geological sciences away from paleoclimatic correlations (i.e., pluvials) to lithostratigraphic sequences (that might be later evaluated for ecological signals). They also would work toward a framework for understanding, naming, and correlating technocomplexes from archaeological assemblages. The latter conference would, for example, recommend the use of four hierarchical categories for cultural-stratigraphic nomenclature—Horizon/Occurrence, Phase(s), Industry, and Industrial Complex (Howell 1967a). After this contextualization, the conference participants would then move on to placing hominid morphology in context. In each case the groups worked from local and provincial to regional phenomena. Just as earlier systematic work in biology led to the grouping of fossil hominids into biological units rather than individually named objects, so too would the emphasis on correlations between local and provincial lithostratigraphic units lead to regional correlative stratigraphies, and understanding local stone tool variability would lead to a sensible framework for understanding larger patterns of behavioral evolution. Clark would teach his own courses in human paleontology much the same way—starting first with stratigraphy and always with definitions of 'bed' and 'formation' and the meaning and importance of lithostratigraphic units. Only later was this followed by locating hominids and their behavioral remnants in temporal and ecological context.

Clark and his cadre were opening new directions in research with new techniques and a focus on understanding the stage on which human evolution occurred in Europe and in Africa. But Clark was appreciative of the need to not overlook previously amassed evidence—even when it had not been collected to modern standards. He noted with regard to the scope of the new studies that:

> "Studies of this sort, however different in approach and in scope, must somehow take some heed of the endeavors of the past. This is perhaps especially the case in Europe where paleoanthropology began, over a century ago, and where curious and active amateurs, sometimes gifted and discerning, sometimes unfortunately neither, as well as professional individuals of several disciplines, contributed to the development of the field. When artifacts have been not merely acquired, often through purchase from workmen in gravel and sand pits or brickyards, but more thoughtfully and thoroughly collected, even from essentially undisturbed and sealed-in situations, at least partial assemblages may be preserved for future comparative study. With such sorts of evidence, and minimal displacement or redistribution of the occurrences by natural agencies, only the associational aspect revealed at some sites by current excavational procedures is really wholly lacking. Moreover the data, such as it may be, is basic to any appraisal of spatial distributions and, hopefully, environmental correlatives, if any." (Howell 1966: 88-89).

Figure 12. Group photo from the 1965 Wenner-Gren conference. Clark is fourth from the left, first row (photo courtesy of Laurie Obbink and Wenner-Gren).

Based on this view he carefully amassed and utilized these data—why reinvent the wheel—with a critical gaze. To this end, he published a series of big review papers throughout his career. In 1966, he wrote a compendium on *Observations on the Earlier Phases of the European Lower Paleolithic*—in which he set out to consider the evidence for the early and middle Pleistocene occupation of Europe and the industries therein based largely on previous work. In 1994, he wrote a similar but far shorter piece covering the *Chronostratigraphic and Taxonomic Framework for the Origin of Modern Humans*, that, despite its title, focused in large part on the earliest occupation of Asia. Perhaps the most famous is his 1978 chapter in the Maglio and Cooke volume, *Evolution of African Mammals*, entitled simply *Hominidae*, in which he synthesized earlier work, but also injected his own sense of order and reason to the chaos.Clark followed that piece with his 1981 compilation, *Evolution of Hominidae in Africa*, in Desmond Clark's *The Cambridge History of Africa* (volume 1). Nearly 30 years on, these pieces loom large as useful and standard references despite newer fossil finds. Each of his overviews amassed not only data on their supposed target—but also explored ancillary, important lines of evidence as well. His 1966 paper offered an overview and critique of the various definitions of the Plio-Pleistocene boundary (arguing in the end for a four phase scheme of basal, lower, middle, and upper Pleistocene; Figure 13), in addition to the targeted description of the lithics and site stratigraphy. However, integration was a key to all Clark's writing and precisely because of this, it is difficult, of course, to make a definitive list of his reviews. Even his introductions and forewards were exhaustive and synthetic, peppered with footnotes and specific data.

In 1965, along with a plethora of research papers on his work in Spain and Africa, Clark and Maitland Edey would publish, through Time Life, a slim book called *Early Man* that presented human evolution for the lay public. Jay Matternes created the illustrations—the most famous of which is undoubtedly the montage of the running and evolving humans that continues to significantly influence public images of evolution today. The book encouraged many would-be-paleoanthropologists to pursue the career. This was Clark's first big foray into public education. Throughout his career he facilitated public education in many ways, most notably on the scientific advisory board of the California Academy of Sciences (CAS) in San Francisco, which he would serve as president and from which he would receive the academy's highest honor (Medalist) in 1990. As chief scientific advisor, Clark would mold an exhibit on human evolution for CAS in the early 1970s; sharing the experience with his eleven-year-old son, Brian (http://fchowell.blogspot.com/2007_05_01_archive.html). Later, his field work at the Omo River would be featured in the well-received documentary, *The Man Hunters*, produced by MGM for NBC. Clark and Philip Tobias were the film's scientific consultants. Through the Leakey Foundation he would support high school curricula on human evolution. The

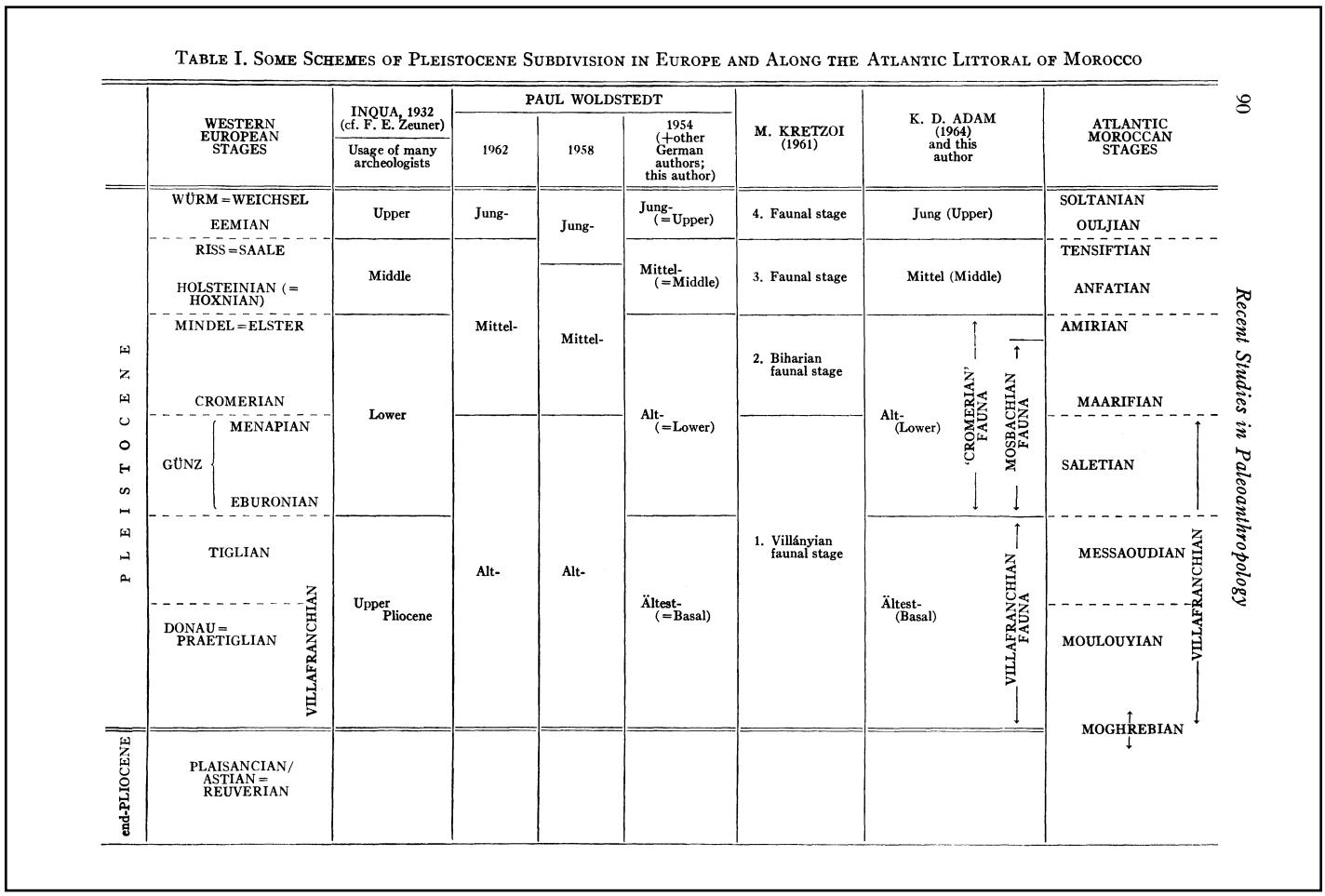

TABLE I. SOME SCHEMES OF PLEISTOCENE SUBDIVISION IN EUROPE AND ALONG THE ATLANTIC LITTORAL OF MOROCCO

	WESTERN EUROPEAN STAGES	INQUA, 1932 (cf. F. E. Zeuner) Usage of many archeologists	PAUL WOLDSTEDT 1962	PAUL WOLDSTEDT 1958	PAUL WOLDSTEDT 1954 (+other German authors; this author)	M. KRETZOI (1961)	K. D. ADAM (1964) and this author	ATLANTIC MOROCCAN STAGES
PLEISTOCENE	WÜRM = WEICHSEL	Upper	Jung-	Jung-	Jung- (=Upper)	4. Faunal stage	Jung (Upper)	SOLTANIAN
	EEMIAN							OULJIAN
	RISS = SAALE	Middle	Mittel-		Mittel- (=Middle)	3. Faunal stage	Mittel (Middle)	TENSIFTIAN
	HOLSTEINIAN (= HOXNIAN)			Mittel-				ANFATIAN
	MINDEL = ELSTER	Lower			Alt- (=Lower)	2. Biharian faunal stage	Alt- (Lower) 'CROMERIAN' FAUNA / MOSBACHIAN FAUNA	AMIRIAN
	CROMERIAN							MAARIFIAN
	GÜNZ: MENAPIAN		Alt-	Alt-		1. Villányian faunal stage		SALETIAN
	GÜNZ: EBURONIAN							
	TIGLIAN	Upper Pliocene			Ältest- (=Basal)		Ältest- (Basal) VILLAFRANCHIAN FAUNA	MESSAOUDIAN
	DONAU = PRAETIGLIAN — VILLAFRANCHIAN							MOULOUYIAN
								MOGHREBIAN
end-PLIOCENE	PLAISANCIAN/ ASTIAN = REUVERIAN							

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Figure 13. Clark's correlation of published schemes of the subdivisions of the Pleistocene. Table I of his 1966 "Observations on the Earlier Phases of the European Lower Paleolithic."

Time Life book would see many iterations and Clark remained committed to public education throughout his life. But Clark was also a most pragmatic man, and in the mid-1960s he had a growing family and two young children. As he remarked to me earlier this year, whatever else it may have done, a critically important part of the first Time Life book project for him was that it helped to cover the family's ever growing bills.

In addition to supporting public education, Clark worked hard to support funding for scholarly research. His personable style made him a favorite of benefactors and he was intimately involved in the development of the Leakey Foundation in 1968. He would sit on its board and serve as the longtime chairman of its scientific executive committee. The foundation funds laboratory and museum research and field programs in primatology and paleoanthropology, as well as providing training grants for African students (http://www.leakeyfoundation.org/foundation/)[3].

Clark's truly interdisciplinary field crews would yield immensely important contextual and archaeological evidence—but Clark was always somewhat unlucky in finding fossil hominids. In the late 1960s, he began his signature work at the Omo along with a French team headed by Camille Arambourg (1885–1969) and Yves Coppens, and, for one season, a Kenyan team headed by L.S.B. Leakey (1903–1975) and R.E.F. Leakey—although their work would soon move to the more productive Koobi Fora region. Clark's Omo field crews would be massive and interdisciplinary in scope; nearly a quarter of his Ph.D. students would write dissertations on some aspect of the Omo. Clark would find some hominids (e.g., Howell 1969; Boaz and Howell 1977; Howell and Coppens 1973, 1974; Howell and Wood 1974; Rak and Howell 1978), but, probably because the Omo had been a large perennial river (rather than a delta or more marginal stream system), the finds would be fewer and scrappier than those to come from Koobi Fora. Clark and Isaac (1976: 475) would note with respect to the entire basin that:

> "…the significance of the Rudolf basin hominid finds does not lie merely in their number or time span. Between the Omo and East Rudolf, large sectors of ancient landscapes can be explored.…The papers in this volume seem to hold out promise that patient researches will eventually be rewarded by vivid factual reconstructions both of the bodily forms of early men and of how they used the varied world in which they lived."

Although I'm sure that Clark would have welcomed fabulous, complete hominid fossils—patient contextual research was his hallmark well before Omo and I am sure that pattern would have remained even if iconic pieces, such as those from Koobi Fora, had been forthcoming. The Omo would be most important for establishing context and scientific protocol and for expanding the vision of what paleoanthropological expeditions could be. And it is a testament to Clark's remarkable abilities that even without iconic fossils he would be such a lasting force in the field.

At Omo, as in his earlier work, vertebrate paleontological studies, particularly of carnivores—and often to understand the context of hominid sites—were a passion of Clark's (e.g., Howell et al. 1969; Howell and Petter 1976, 1985). He kept a cast collection of fossil carnivores in LHES, and handwritten faunal lists and correlative charts were a ubiquitous component of his neat desktop stacks (Figure 14). Many of my lab memories are of Clark working not on hominids but on fauna, especially carnivores, often with Germaine Petter with whom he published a series of papers in the 1970's and 1980s. His emphasis on vertebrate paleontology is probably best reflected on the number of nonprimate species (six) named for him. While it may seem standard practice today to look at fauna for ecological context and to carnivores for analogs to hominid/faunal interactions—it bears remembering that Clark began this quest in the late 1950s, and that the by-now-mundane nature of the enterprise speaks to the success with which the standard paradigm has been shifted. Clark and his ways have become an unquestioned part of the atmosphere of how we do business.

In September of 1973, Clark, Yves Coppens, Glynn Isaac (1937–1985), and Richard Leakey would convene a Wenner-Gren/National Geographic Society-sponsored symposium in Kenya that brought together some 40 scientists working on the then Lake Rudolf Basin. The group would hash out and correlate results between projects, and the resulting volume, *Earliest Man and Environments in the Lake Rudolf Basin* (Coppens et al. 1976), presented the latest news and views from the projects.[4] Despite the explicitly multidisciplinary theme of the projects, the main set of recommendations from the conference involved even greater integration of earth sciences into paleoanthropology projects, particularly at the level of project strategy (Butzer and Freeman 1976; Coppens et al. 1976). Arguably, this type of true integration has yet to be fully realized today, a result of the different emphases and goals of earth scientists and paleoanthropologists. But great strides have been made incorporating additional geological techniques (e.g., tephro and microstratigraphy, isotopic analysis, etc.) into projects, although with increasing specialization we run the ever-growing risk of isolating ourselves, and I fear that serious cross-training is today the exception rather than the rule.

In 1970, in the midst of the Omo project, Clark moved to UC–Berkeley to accept the position vacated by the sudden death of T.D. McCown (1908–1969), the original describer of the Mt. Carmel hominids that had been so critical to Clark's earliest musings on Neandertal evolution. Clark's move was a natural extension of his long term collaborations with Desmond Clark and, of course, Washburn—and the move formed a particularly strong nucleus of African paleoanthropology (Howell, Clark, and Isaac) at UCB. At Berkeley, Clark would start the LHES. He was 44 years old.

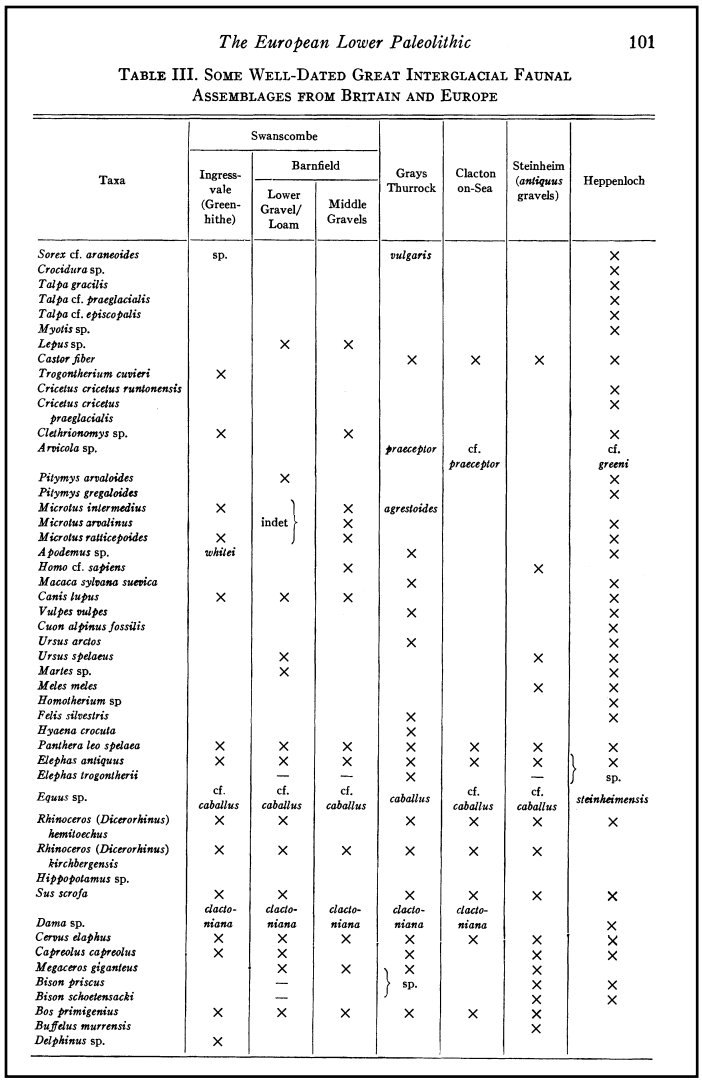

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TABLE III. SOME WELL-DATED GREAT INTERGLACIAL FAUNAL ASSEMBLAGES FROM BRITAIN AND EUROPE

Taxa	Swanscombe: Ingress-vale (Green-hithe)	Swanscombe: Barnfield: Lower Gravel/ Loam	Swanscombe: Barnfield: Middle Gravels	Grays Thurrock	Clacton on-Sea	Steinheim (*antiquus* gravels)	Heppenloch
Sorex cf. *araneoides*	sp.			*vulgaris*			×
Crocidura sp.							×
Talpa gracilis							×
Talpa cf. *praeglacialis*							×
Talpa cf. *episcopalis*							×
Myotis sp.							×
Lepus sp.		×	×				
Castor fiber				×	×	×	×
Trogontherium cuvieri	×						
Cricetus cricetus runtonensis							×
Cricetus cricetus praeglacialis							×
Clethrionomys sp.	×		×				×
Arvicola sp.				*praeceptor*	cf. *praeceptor*		cf. *greeni*
Pitymys arvaloides		×					×
Pitymys gregaloides							×
Microtus intermedius	×	indet	×	*agrestoides*			
Microtus arvalinus			×				×
Microtus ratticepoides	×		×				×
Apodemus sp.	*whitei*			×			×
Homo cf. *sapiens*			×			×	
Macaca sylvana suevica				×			×
Canis lupus	×	×	×				×
Vulpes vulpes				×			×
Cuon alpinus fossilis							×
Ursus arctos				×			×
Ursus spelaeus		×				×	×
Martes sp.		×					×
Meles meles						×	×
Homotherium sp							×
Felis silvestris				×			×
Hyaena crocuta				×			
Panthera leo spelaea	×	×	×	×	×	×	×
Elephas antiquus	×	×	×	×	×	×	×
Elephas trogontherii		—	—	×		—	sp.
Equus sp.	cf. *caballus*	cf. *caballus*	cf. *caballus*	*caballus*	cf. *caballus*	cf. *caballus*	*steinheimensis*
Rhinoceros (*Dicerorhinus*) *hemitoechus*	×	×		×	×	×	×
Rhinoceros (*Dicerorhinus*) *kirchbergensis*	×	×	×	×	×	×	
Hippopotamus sp.							
Sus scrofa	× *clacto-niana*	× *clacto-niana*	*clacto-niana*	× *clacto-niana*	× *clacto-niana*	×	×
Dama sp.							×
Cervus elaphus	×	×	×	×	×	×	×
Capreolus capreolus	×	×		×		×	×
Megaceros giganteus		×	×	×		×	
Bison priscus		—		sp.		×	×
Bison schoetensacki		—				×	×
Bos primigenius	×	×	×	×	×	×	
Buffelus murrensis						×	
Delphinus sp.	×						

Figure 14. Clark's faunal table (III) from his 1966 "Observations on the Earlier Phases of the European Lower Paleolithic."

Two years later, Clark would be elected a lifetime member of the National Academy of Sciences (1972). He would receive many other awards—honorary fellow of the Royal Anthropological Institute of Great Britain and Ireland, the Acadamie des Sciences Française, and the Royal Society of South Africa, to name a few. True to his character, he didn't make a big deal of any of these—we always learned from someone else, if we learned at all. In 1998, the year he won the Charles Darwin Lifetime Achievement Award for Physical Anthropology from AAPA (and the Leakey Prize from the Leakey Foundation). I was surprised to see him in the hall of the AAPA meetings. (By then he didn't usually attend, although he had been actively involved during his Chicago days, a member of the editorial board, and

vice president in the 1960s). When I expressed my delight (and surprise) he downplayed why he was there—only later admitting the honor he was to receive. Except for a chance meeting in the hall, I might have missed him and his musings about the importance of chance opportunity and mentors in his intellectual development. I was thrilled not to have, and he didn't understand what all the fuss was about.

Figure 15. Clark Howell and Tim White in Turkey in 1993. Also pictured are Henry Gilbert (far left) and Carl Swisher (center).

The hub of African paleoanthropological activity that characterized the UCB department would flourish for some time. In 1977, it expanded to include a second human paleontologist, Tim White. And, of course, Dick Hay (1926–2006) and Garniss Curtiss in geology provided training opportunities and intellectual interchange as well. But Clark also would continue his fascination with the rest of the Old World. He would return with Les Freeman to field work in Ambrona in the early 1980s. And he would, with White and Erksin Guleç, begin fieldwork in eastern Anatolia, particularly at Yarimburgaz, but also identifying early Pleistocene sites such as Dursunlu (Figure 15). On reconnaissance surveys in eastern Turkey in 1993, we would encounter Kangal dogs protecting sheep and coal mines (Figure 16)—and Clark, seeing how smitten I was, would encourage me to import a puppy and start breeding. It was, at the time, a preposterous proposition—I hadn't finished my dissertation and had no time, no permanent job, and an uncertain future. But Clark understood that life was bigger than one's research, and to him it wasn't an unreasonable thought. For him it was quite possible—even necessary—to hold deep passions and commitments to more than one's research. One of Clark's most enduring influences on my life was planting that seed; after some years, we happily find ourselves raising Anatolian Shepherd Dogs. Clark's

Figure 16. Male and female 'Kangal' dogs. This mother and son team guarded a coal mine in eastern Turkey.

recognition of this bond is one of my greatest debts to him. Brian Howell put it well when he commented on his dad's "…remarkable ability for recognizing our talents and skills, and for helping us—deeply wanting us—to make the most of them." (http://fchowell.blogspot.com/2007_05_01_archive.html).

I don't know when Clark started the habit of lunching at the middle lab table—but it was a pretty regular affair by the time I came around. He'd lay out several industrial looking paper towels over the blue indoor/outdoor carpeting that clad the table (to protect the casts) and open his sandwich and chips, maybe a soup. Usually it was on the late side for lunch, maybe 1:00 or 1:30. He always had something to read, but most days he didn't seem to mind company. And every once in a while, especially after he discovered I parked on campus, he might walk in and ask "Have you eaten yet?" Well, more often than not I had, but I knew what was coming and wouldn't pass it up. So I'd say no and he'd suggest we go for lunch. So one or two of us would head with Clark to "Emil Villa's Hickory Pit" in Oakland. They made a tasty BBQ pork sandwich, but Clark really came for the pecan pie. Clark was notorious for his sweet tooth, but his love for pecan pie reached another order of magnitude. The only pecan pie I'll eat is my mother's, so I never joined in. But years later, having mastered her recipe, I thought of his comfort food, and I made one for our last meal together. It was a gift to see such delight in his eyes at the prospect of pecan pie—and with some astonishment he learned that this wasn't just a happy coincidence but that I actually knew of his addiction. This is how Clark lived in the world—he simply had no idea how big an influence he was on us, how much we learned from him by observing, how much we cared, and I suspect he couldn't imagine that we paid that much attention.

Clark officially retired in 1991—although he continued to work everyday. In the lab nothing much changed except that, without the teaching responsibility, you could never quite anticipate when he might be off on an extended international research trip. So, you planned ahead if you needed things signed. In 1992, his former students, Bob Corrucini and Russ Ciochon, organized a festschrift in Clark's honor at the AAA in San Francisco (Corrucini and Ciochon 1994). I was slated in as a last minute replacement for Philip Tobias who had been in a car accident and couldn't travel. It was my first paleoanthropology talk, and it was on the Neandertal face. What I remember most about the day was Clark's impromptu remarks at the close of the symposium. It was here he quipped about having joined the Navy because he didn't like dirt, and here he grumbled that festschrifts were for when you died. And I will always regret not having had a tape recorder as he laid out the path of how he had gotten where he was, his philosophy of life, and how he saw the world. I remember thinking, yes—that's exactly how you are in the world, exactly what I've learned about you watching you all these years. He gave an accurate and honest account of himself. It was pure Clark.

In the mid 1990s most of the physical anthropologists at UCB moved across campus to the Department of Integrative Biology in the Life Sciences building. LHES became the Human Evolution Research Center (HERC; http://herc.berkeley.edu/); 55 Kroeber Hall was vacated. Although already retired, Clark moved into a new bookshelf-lined enclave, with handcrafted cabinets (courtesy of his Angels), and tables of neatly stacked papers and projects. He had windows. He went to the lab daily. He made bad coffee.

Despite his great accomplishments, Clark was to the end a man of great humility, who believed himself, in the words of his son (http://fchowell.blogspot.com/2007_04_01_archive.html), "….no different, no better, no more deserving of praise than anyone else." (Figure 17). This view, in and of itself, of course, makes him all the more remarkable. Sure, he valued trying to answer important biological questions to the best of his ability—and to Clark this meant multidisciplinary, integrative, and exhaustive—and that was all he asked of anyone else. But he felt strongly that there was also more to life than this. He expected that a scholar worth his or her salt should also have a rich set of relationships and take a keen sense of pleasure in outside interests. He knew from experience that part of it was about putting food on the table, loving your family and friends, taking interest in all kinds of things (because everything is connected), giving back, watching 'Jeopardy', being gracious, managing expectations, eating Stouffer's mac and cheese, and, of course, pecan pie.

Figure 17. Clark Howell in Turkey, 1993.

Clark lived life with this inclusive perspective. He was constantly drawing scientific evidence together; a myriad of things influenced the evolution of hominids, so anatomy, archaeology, and geology couldn't be studied in isolation. Paleoanthropology, by Clark's definition, was inclusive not just of the physical remains, but of the cultural and contextual remains as well. Clark brought disciplines and knowledge together. But more importantly, Clark brought people together. More often than not Clark played the mediator—and because of his graciousness, and cautious, considered approach, most everyone trusted him. There were of course instances (documented elsewhere) when Clark took sides—this is, after all, paleoanthropology. And there were friendships that were broken. But, most everyone who knew Clark held him in special regard and felt they had some special link to him. And the beauty of Clark was that he made us each feel that he held us in that regard as well. Of course, he liked some people more than others—but even those of us that did not work with him as closely, know him as well, or for as long—felt warmly encompassed as his voice brightened on the other end of the phone. We are each immeasurably better for having him a part of our atmosphere. If, along with the science that he taught us, we each take forward the humility and good-nature by which he lived, paleoanthropology will be a better place.

ACKNOWLEDGEMENTS

My thanks to Clark's family, especially Betty, for sharing him with us through his career, and especially during the last months of his life. I am grateful to Harold Dibble for the invitation to write—the opportunity means a great deal to me. I have relied for most of this on my experiences with Clark since 1984, and his published work. However, other retrospectives were also helpful, especially the preface of the 1992 festschrift volume. Russ Tuttle and Ann Chi'en of the University of Chicago provided data on Clark's U. of C. students. Rosemary Joyce and the UCB Anthropology library database provided data on Clark's Berkeley students and his publications. The HERC database was also helpful in locating publications. Nina Jablonski and Phyllis Dolhinow provided ancillary information, and Nina graciously shared the text of her eulogy and her empathy. Bernard Wood offered discussion. Laurie Obbink and Mark Mahoney at the Wenner-Gren provided photos, as did Randy White and Carl Swisher. I am grateful to Deb Olszewski for copyediting and typesetting the ms. with such speed and care. Emma Hite provided editorial assistance.

Ultimately, my deep and heartfelt thanks to F. Clark Howell, who I now like to imagine sitting with Desmond Clark and Dick Hay, smoking cigars and drinking whiskey, over deep and nuanced discussions as the sun goes down, our dog Taş contentedly at his feet.

ENDNOTES

1. In his comments to the AAA symposium in his honor in 1992, Clark remarked that he had enlisted in the Navy because, having grown up on a farm, he didn't much like dirt.
2. He attended and organized other earlier Wenner-Gren Conferences, but these two in the early 1960's had the greatest impact.
3. Clark's family has asked that any memorial donations be made to the Leakey Foundation.
4. Clark would translate all but one of the French papers to the volume.

REFERENCES

Andrews, P. 2007. Professor F. Clark Howell: Palaeoanthropologist who steered multidisciplinary scientific studies of human evolution. *The Independent*, 29 March 2007. http://news.independent.co.uk/people/obituaries/article2401684.ece

Boaz, N. T. and F. C. Howell. 1977. A gracile hominid cranium from upper Member G of the Shungura Formation, Ethiopia. *American Journal of Physical Anthropology* 46: 93–108.

Butzer K.W. and R.G. Klein. 2007. Obituary: F. Clark Howell (1925–2007). *Journal of Archaeological Science* 34: 1552–1554.

Coppens, Y., F. C. Howell, G.L. Isaac, and R.E.F. Leakey (eds.). 1976. *Earliest Man and Environments in the Lake Rudolf Basin. Stratigraphy, Paleoecology, and Evolution*. Chicago, University of Chicago Press.

Howell, F. C. 1951. The place of Neanderthal man in human evolution. *American Journal of Physical Anthropology* 9: 379–416.

Howell, F. C. 1952. Pleistocene glacial ecology and the evolution of "classic Neanderthal" man. *Southwestern Journal of Anthropology* 8: 337–410.

Howell, F.C. 1955. Review of Method in Prehistory: An Introduction to the Discipline of prehistoric archaeology with special reference to South African conditions by A.J.H. Goodwin. *American Anthropologist* 57: 161–162.

Howell, F.C. 1956a. Review of: Stone age Races of Northwest Africa by L. C. Briggs. *American Anthropologist* 58: 584–585.

Howell, F.C. 1956b. Review of: The Piltdown Forgery by J.S. Weiner. *American Anthropologist* 58: 395–396.

Howell, F. C. 1957a. The evolutionary significance of variation and varieties of "Neanderthal" man. *Quarterly Review of Biology* 32: 330–347.

Howell, F.C. 1957b. Review of: Meeting Prehistoric Men by G.H.R. von Koenigswald. *American Anthropologist* 59: 933.

Howell, F. C. 1959. The Villafranchian and human origins. *Science* 130: 831–844.

Howell, F. C. 1960a. Excavations at thte Acheulean occupation site of Isimila, Iringa highlands, southern Tanganyika. *American Philosophical Society Yearbook* 1959: 481–485.

Howell, F.C. 1960b. Review of: The Antecedents of Man by W.E. Le Gros Clark. *American Anthropologist* 62: 1111–1112.

Howell, F. C. 1961. Isimila. A Paleolithic site in Africa. *Scientific American* 205: 118–129.

Howell, F.C. 1962. Review of: The Progress of Evolution of Man in Africa by L.S.B. Leakey. *American Anthropologist* 64: 1128–1129.

Howell, F. C. 1965a. Yacimiento Acheulense de Ambrona. *Noticiario Arqueologico Hispanico, Madrid* 7(1–3): 7–23.

Howell, F.C. 1965b. Review of: Frameworks for dating fossil man by K.P. Oakley. *American Anthropologist* 67: 1043–1048.

Howell, F. C. 1966. Observations on the earlier phases of the European Lower Paleolithic. *American Anthropologist* 68: 88–201.

Howell, F. C. (1967a). Observations on later Cenozoic studies in Africa, with particular reference to paleoanthropology. In *Background to Evolution in Africa*, W. W. Bishop and J. D. Clark (eds.), pp. 903–922. Chicago, University of Chicago Press.

Howell, F. C. 1967b. Recent advances in human evolutionary studies. *Quarterly Review of Biology* 42: 471–513.

Howell, F.C. 1968a. Review of: The Haua Fteah (Cyrenaica) and the Stone Age of the South-East Mediterranean by C.B.M. McBurney. *American Anthropologist* 70: 1227–1231.

Howell, F.C. 1968b. Review of: Olduvai Gorge. Volume 2 by P.V.T. Tobias and L.S.B. Leakey. *American Anthropologist* 70: 1028–1030.

Howell, F.C. 1968c. Review of: Early Stone Tools by The University of California Extension Media Center. *American Anthropologist* 70: 436–437.

Howell, F. C. 1969. Hominid teeth from White Sands and Brown Sands localities, lower Omo basin, Ethiopia. *Quaternaria* 11: 47–64.

Howell, F. C. 1978. Hominidae. In *Evolution of African Mammals*, H. B. S. Cooke and V. J. Maglio (eds.), pp. 154–248. Cambridge, Harvard University Press.

Howell, F. C. 1981. Evolution of Hominidae in Africa. In *Cambridge History of Africa, From the Earliest Times to ca. 500 B.C.*, J. D. Clark (ed.), 1: 70–156, 981–1003. Cambridge, Cambridge University Press.

Howell, F. C. 1994. Towards a chronostratigraphic and taxonomic framework of the origins of Modern Humans. In *Origins of Anatomically Modern Humans*, M. H. Nitecki and D. V. Nitecki (eds.), pp. 253–308. New York, Plenum Press.

Howell, F.C. 1999. Paleo-Demes, Species Clades, and Extinctions in the Pleistocene Hominin Record. Jo*urnal of Anthropological Research* 55: 191–243.

Howell, F.C. 2004. Sherwood Larned Washburn: November 26, 1911 – April 16, 2000. *National Academy of Sciences Biographical Memoirs* vol. 84: 349–370.

Howell, F.C. and Bourliere, F. (eds.). 1963. *African Ecology and Human Evolution*. Viking Fund Publications in Anthropology No. 36; Aldine, Chicago.

Howell, F. C. and Y. Coppens. 1973. Deciduous teeth of Hominidae from Pliocene-Pleistocene of lower Omo Basin, Ethiopia. *Journal of Human Evolution* 2: 461–472.

Howell, F. C. and Y. Coppens. 1974. Inventory of remains of Hominidae from Pliocene-Pleistocene formations of lower Omo Basin, Ethiopia (1967-1972). *American Journal of Physical Anthropology* 40: 1–16.

Howell, F. C. and M. Edey. 1965. *Early Man*. New York, Time-Life.

Howell, F. C., L. S. Fichter, and G.G. Eck. 1969. Vertebrate assemblages from the Usno formation, White Sands and Brown Sands localities, lower Omo basin, Ethiopia. *Quaternaria* 11: 65–88.

Howell, F. C. and G. L. Isaac. 1976. Introduction: Paleoanthropology. In *Earliest Man and Environments in the Lake Rudolf Basin. Stratigraphy, Paleoecology and Evolution*, Y. Coppens, F. C. Howell, G. L. Isaac and R. E. F. Leakey (eds.), pp. 471–475. Chicago and London, Universtiy of Chicago Press.

Howell, F. C. and G. Petter. 1976. Carnivora from Omo Group formations, southern Ethiopia. In *Earliest Man and Environments in the Lake Rudolf Basin. Stratigraphy, Paleoecology and Evolution*, Y. Coppens, F. C. Howell, G. L. Isaac and R. E. F. Leakey (eds.), pp. 314–331. Chicago and London, University of Chicago Press.

Howell, F. C. and G. Petter. 1985. Comparative observations on some middle and upper Miocene hyaenids. Genera: Percrocuta Kretzoi, Allohyaena Kretzoi, Adcrocuta Kretzoi (Mammalia, Carnivora, Hyaenidae). *Geobios* 18: 419–476.

Howell, F. C. and B. A. Wood. 1974. An early hominid ulna from the Omo Basin, Ethiopia. *Nature* 249(5453): 174–176.

Johanson, D.C. and M. Edey. 1981. *Lucy: The beginnings of humankind*. New York, Simon and Schuster.

Leakey, R.E.F. and R. Lewin. 1978. *People of the Lake*. New York, Anchor Press/Doubleday.

Marshall, C. 2007. Alfred H. Peet, 87, Dies; Leader of a Coffee Revolution. *New York Times*, September 3rd, 2007.

Perlman, D. 2007. F. Clark Howell—famed UC anthropologist, expedition chief. *San Francisco Chronicle*, 14 March 2007. http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2007/03/14/BAGP7OKP131.DTL

Rak, Y. and F. C. Howell. 1978. Cranium of a juvenile *Australopithecus boisei* from the lower Omo basin, Ethiopia. *American Journal of Physical Anthropology* 48: 345–366.

Stein, P.L. and B.M. Rowe. 1982. *Physical Anthropology*, 3rd Edition. New York, McGraw Hill.

Tobias, P.V. 2007. Retrospective: Francis Clark Howell (1925–2007). *Science* 316: 995.

White, T.D. 2007. Obituary: F. Clark Howell (1925–2007): paleoanthropologist who defined a discipline. *Nature* 447: 52.