

Memorial to Herbert Edgar Wright Jr. 1917–2015

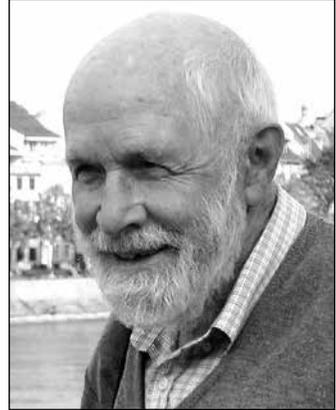
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On 12 November 2015, the fields of glacial geology, paleoecology, paleoclimatology, archaeology, peatland ecology, and wilderness conservation lost one of their grand patriarchs when H.E. Wright Jr. passed away at the age of 98. The “H.E.” stood for “Herbert Edgar,” although the running joke among Herb’s friends and colleagues was that the initials really stood for “Hardly Ever.” If the joke got old, Herb never let on, and it always brought a sparkle to his eyes. He was, of course, rarely wrong. Herb’s career spanned nearly 70 years, from his first publication in 1943 to his last in 2014, comprising more than 250 articles and 20 edited books and special issues of journals. His professional life was characterized by quiet personal determinism coupled with dogged encouragement of students and colleagues. Tales of fieldwork adventures abound from boreal and montane climes across the world. Herb loved the stories of polar exploration, and if the Shackleton family motto were “by endurance we conquer,” then that of Herb Wright would surely be “by perseverance we set forth and publish.”



To maintain the geologic theme that anchored Herb’s life, we here recount his story as though it were a geologic column, beginning with the “pre-Herboreal” interval (1917–1950). Herb was born on 13 September 1917 in Malden, Massachusetts. His mother was a nurse and his father an osteopath, who died when Herb was two during the influenza pandemic of 1919. He and his sister Helena were raised by their mother, and, by his personal account, times were tough. Herb earned money from a paper route and by selling newspapers (at two cents a piece) to businessmen heading for the commuter train to Boston. On Saturday mornings, his mother would make a big batch of doughnuts, which Herb would sell to some of his paper route customers. His sister went to Radcliffe and majored in biology. Herb followed to Harvard two years later, with the aid of \$200 awarded by a local men’s club (the tuition was \$400 in those days). He also first majored in biology but got discouraged with the microscope work in histology. Instead, stimulated by an auto trip with a cousin to all the national parks west of the Mississippi River, Herb transferred to geology and never looked back.

Herb graduated magna cum laude with a B.A. in geology in 1939. He remained at Harvard for his both his M.A. and Ph.D. in geology, graduating in 1941 and 1943, respectively. During his university years, he and his mother lived in an apartment in Cambridge, where they took in roomers to help pay the rent. Meanwhile, he worked as a parking lot attendant and at various other small jobs in the neighborhood at 50 cents an hour through the student-employment office. He moved into a dormitory for the last year and continued in graduate school in this mode,

sharing an upstairs apartment with a fellow graduate student. By this time he was manager of the parking lot and had one full meal of leftovers a day at the student luncheon club, where he was a waiter. For diversion, Herb sang in a joint Harvard-Radcliffe choir, where he met his wife-to-be, Rhea Hahn.

This was his lifestyle up until 1942, when to avoid the draft he enlisted in the Army Air Corps as an air cadet. He arranged with the Geology Department that when the call to duty came he could defend his dissertation, which he had been writing after two field seasons in New Mexico. He put the final touches on it in boot camp in Nashville. After six months of flight training in various air bases in Florida, Georgia, and South Carolina, he received his wings, earned his Ph.D., and married Rhea all in the month of June 1943. Then he shipped out for four-engine flight training in Pyote, west Texas. The next step was to travel to Grand Island, Nebraska, with a crew of 10, where they picked up a B-17 and headed to England by way of Goose Bay, Labrador. They didn't quite make it: two engines failed over the Atlantic, and under tense conditions Herb made an emergency landing in Northern Ireland, skidding off the runway where he had his first encounter with Irish peat. His subsequent flights were out of England during two tours of duty comprising 48 combat missions, including during D-Day and the Battle of the Bulge. He achieved the rank of major, winning the Air Medal six times, the Distinguished Flying Cross twice, and the Croix de Guerre from Charles de Gaulle. Perhaps his favorite mission was dropping a load of potatoes and other foodstuffs onto a marked field in Holland surrounded by cheering residents, who had survived the oppressive German occupation during the winter of 1945. He trained on B-29s, but the war ended before he was deployed to the Pacific front.

Herb was discharged in the summer of 1945 and soon returned to Cambridge to get academically reoriented. His Ph.D. studies at Harvard had been in arid region geomorphology under Kirk Bryan, who became his academic mentor. Jobs were not difficult to find then, because with the GI bill the universities were hiring faculty. He was at Brown University, then a liberal-arts college, from 1946 to 1947. By that time (according to Herb), Bryan had finally read Herb's dissertation opus, and in 1946 he arranged to have it published in near-entirety in the *Geological Society of America Bulletin*, Herb's first major publication. In 1947, Herb moved on to the University of Minnesota, where he remained for the rest of his career. In this land of kettle lakes, wetlands, and moraines, Herb shifted gears to rework the glacial history and geomorphology of the state in collaboration with the Minnesota Geological Survey.

During the "Lower Herboreal" interval (1950–1970), Herb continued his study of glacial geology but also began work that characterized his academic role throughout his career, namely as a nexus in multidisciplinary studies amidst a wide array of colleagues from across the United States and Europe. Winchell and Upham had done the foundational work on the glacial history of Minnesota by canoe and horseback in the late nineteenth and early twentieth centuries, but by the 1950s and 1960s Herb and his students at least had elevations and exposures along railroad grades and the interstate highway routes just under construction at the time. His multidisciplinary work germinated when he joined the Braidwood (University of Chicago) expeditions to the Kurdish regions of Iraq and Iran to determine the environmental backdrop for the origins of agriculture. Radiocarbon dating was in its infancy in the lab of Braidwood's colleague Libby, and Herb recognized its huge value in determining an absolute chronology for late- and post-glacial environmental history studies based on organic matter in lake sediments. Herb then cultivated relationships with pollen, vegetation, and peat and lake-sediment specialists in Britain, Germany, and Scandinavia. In 1958, Magnus Fries (Sweden) visited Herb's lab to teach palynological methods to his students, four of whom—Bob Bright, Ed Cushing, Lou Maher, and Jock McAndrews—became cornerstones in paleoecology because of their own far-reaching

influence. In 1959, Herb established the Limnological Research Center (originally “Station”), thus launching the “LRC” as an internationally recognized hub of paleoecological research. The 1960s brought another dozen visitors from England, Ireland, Scandinavia, Germany, Poland, and the Netherlands. These colleagues, in concert with Herb’s students, helped unfold the post-glacial history of the Minnesota landscape: the ice retreated, spruce gave way to pine, prairies had border disputes with forest, and peatland crept over the northern lowlands. These foundational works set the framework for paleoecological research in the Upper Midwest for decades to come.

By the “Middle Herboreal” interval (1970–1988), Herb’s interests had spread both deeper and wider as his circle of colleagues and students continued to expand. He deepened his understanding of glacial processes through work on the Klutlan Glacier in the Yukon’s St. Elias Mountains. Work in Labrador sharpened his sense of young boreal landscapes as a surrogate for late glacial environments in Minnesota. Collaboration with Miron (Bud) Heinselman of the U.S. Forest Service on the development of the vast peatlands in northern Minnesota and on the fire ecology of the canoe-country landscape led to environmental advocacy work that culminated in the creation of the Boundary Waters Canoe Area Wilderness (BWCA) by congressional act in 1978. Meanwhile, a cadre of students worked out further details of the Quaternary in Minnesota, in terms of both glacial geomorphology and vegetation change inferred from pollen analysis. Given that climate controlled both glacial retreat and vegetation change, Herb widened his reach to include paleoclimatology through his guidance as a co–principal investigator of the large National Science Foundation–funded COHMAP (Climate of the Holocene Mapping) Project. This pivotal project collated global data sets of late- and post-glacial proxies of continental climate change and rigorously compared these data sets against paleoclimate output from super-computer-powered general circulation models (GCMs) of global climate under paleo-boundary conditions. Herb maintained involvement in multidisciplinary studies, this time in the Peruvian Andes to study the impact of glacial fluctuations on settlement patterns. The Middle Herboreal interval continued the tradition of hosting visiting scholars, again from Britain, Ireland, Sweden, and the Netherlands. The mixing of visiting scholars, students, and post-docs in Herb’s lab resulted in a highly branched network of collaborative friends that knitted together the paleoenvironmental communities across North America and Europe. Rumor has it that Herb retired in 1988, and although his stoic nature showed little outward change in demeanor, it was a tragic year for Herb and his family. He lost both his wife Rhea and son Rex to cancer, within a week of each other.

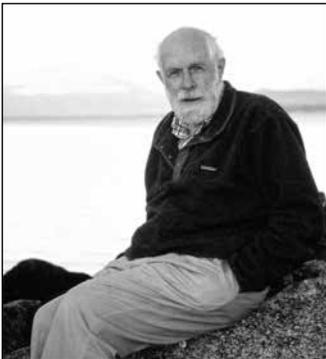
The “Upper Herboreal” interval (1989–2015) brought structural changes to the LRC but only a gradual tapering off of Herb’s academic endeavors. The reins of the LRC were first passed along to Kerry Kelts, who sadly died of Hodgkin’s lymphoma in 2001, and thereafter to Emi Ito. Foreign scholars continued to come for doctoral and post-doctoral studies, from Germany, Spain, China, and even exotic Canada, among others. Meanwhile, Herb joined field expeditions to Alaska, Ireland, Sweden, East Africa, South America, Bulgaria, the Georgian Caucasus, and the Siberian Altai, often accompanied by his long-time friends and colleagues Brigitta Ammann and Ivanka (“Vania”) Stefanova. Brigitta organized decadal birthday symposiums in Herb’s honor, the first in 1997 in Wengen, Switzerland for his 80th birthday, and the second in 2007 in Sils, Switzerland, for his 90th. In 2009, Herb attended the 70th reunion of his college class, finding himself among 18 old-timers lined up for a photograph, all looking pretty spry. During the last years of Herb’s life, Vania became a devoted companion, allowing him to remain at home to the very end.

Herb’s family life was happy, despite the time limitations imposed by one who has dedicated his life to academia. After Herb and Rhea married in 1943, they produced six red-haired boys

in fairly rapid succession: Richard, Peter, John, Rex, Andy, and Jeffrey. Summers were spent in rustic cottages on an island in Lake Minnetonka just west of Minneapolis, and winters included cross-country ski trips with neighbors. Peter was lost as a boy to a drowning accident while accompanying his father on one of the Kurdish expeditions in 1954. Rhea was a delight, full of intellectual and artistic energy that filled the gaps while Herb was away on this expedition or that. Even during her last year while battling cancer, she continued to study French, just for fun.

Our personal memories of Herb are spread over decades for both of us, but that would be true of the many dozens of Herb's other friends and colleagues. Our fondness for Herb is therefore not unique, but merely representative. JEA remembers long days in the field with Herb in Glacier Bay, Alaska, while doing post-doctoral work with Dan Engstrom and Sheri Fritz. Also accompanying us was the late Geoff Seltzer, who was at the beginning of his graduate career. Geoff was cut of similar cloth as Herb, and it was a pleasure to see them in the field together. In addition, a few transatlantic plane rides together were spent by Herb regaling JEA with tales of driving and camping across Europe and the Middle East in the 1950s, in a Land Cruiser filled with Rhea and the boys, en route to Kurdistan. Pounding piezometers through perched Swedish bogs and taking saunas at the family home of Svante Bjorck added to the unforgettable memories. CEJ remembers field work in Andes of Peru with Geoff Seltzer and Christine Hastorf's archeological team that was more exciting than bargained for and more placid days in the field in Minnesota, some outcrops illuminated by headlights. She carries on his glacial geology work by having mapped with the Minnesota Geological Survey and bringing the advances in understanding into the Glacial Geology class and its weekend field trips, a course Herb developed and taught for over 50 years and she has covered for the past 22 years.

Several experiences were seminal in setting the trajectory for Herb's life and career. The first was being a student of Kirk Bryan, who was the role model for academic mentorship that Herb emulated. Bryan hosted weekly seminars in his home, a tradition that Herb established soon upon arriving at the University of Minnesota. The date of the first seminar has escaped us, but they certainly have taken place for more than 50 years—and they continue to this day in the same house, now hosted by Vania Stefanova. These seminars have been the stage on which Herb has brought together so many of his colleagues over the years. The second experience heavily influencing Herb's life was that of being a bomber pilot. Avoiding anti-aircraft fire was largely out of the hands of the pilots despite their skill, and survival a matter of chance. These flights engendered a philosophy of stoic fatalism and perseverance that Herb carried forth in his many field expeditions, and that perhaps inspired a fearlessness in his writing as well.



H.E. Wright at the Straits of Magellan in 1996.

A list of Herb's honors and awards is humbling:

- Wenner-Gren Fellow, 1951, 1954–1955
- Guggenheim Fellow, 1954–1955
- National Academy of Sciences, 1977
- Honorary President, International Quaternary Association 16th Congress, 2003
- Career awards:
 - Pomerance Award, Archaeological Institute of America, 1985
 - Geological Society of America Archeological Geology Division, 1989
 - Science Museum of Minnesota, 1990
 - Geological Society of America Quaternary Geology and Geomorphology Division, 1992

- Fryxell Award, Society for American Archaeology, 1993
- American Quaternary Association, 1996
- International Paleolimnological Association, 2009
- Minnesota High-Tech Association, Hall of Fame, 2010
- Honorary degrees:
 - D.Sc. Trinity College, Dublin, 1966
 - Ph.D. Lund University, Sweden, 1987
 - D.Sc. University of Minnesota, 1996

Herb's legacy for his students includes a series of personal traits we would all do well to consider. He was an undeniably quiet man who used the written word to speak his truths loudly and clearly. He believed that small actions every day matter, such as arising early and writing a few more paragraphs for a manuscript before breakfast. He encouraged his students and colleagues by setting an example and giving them freedom to succeed. And, more than occasionally, he finished the work they had begun and yet still gave them the credit. He believed that ingenuity in the field trumped preparation—although Herb would agree that he had the good fortune to work with colleagues whose preparedness ensured the success of many of his exploits. Herb felt that writing was thinking: if you haven't written it, you haven't thought it. And, above all, Herb persevered. He remained the tough old pilot to the end.

The authors gratefully acknowledge the work by John and Hilary Birks in organizing much of Herb's history into a coherent story that helped fill the gaps in our account. In addition, Brigitta Ammann and Paul Glaser provided photographs and unearthed long-buried facts when needed. We apologize to the many dozens of Herb's friends and colleagues whom we could have attempted to weave into the story. There are just too many to be comprehensive. The "Selected Bibliography" is organized according to categories as suggested by John and Hilary Birks.

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