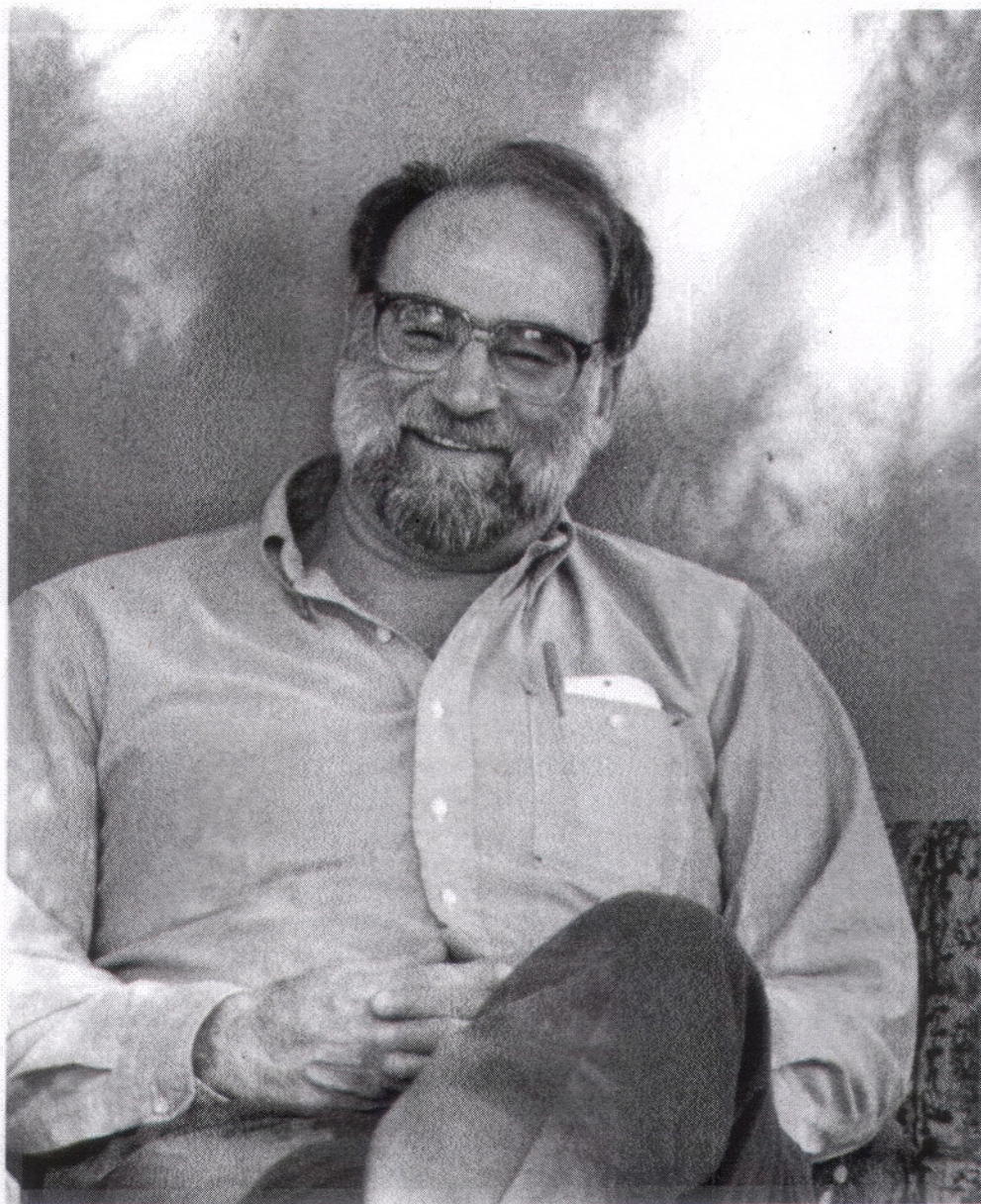


DANIEL WOLFMAN, 1939-1994

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On November 25, 1994, Daniel Wolfman died unexpectedly of heart failure in Santa Fe, New Mexico at the age of 55. Dan was at the forefront of archaeomagnetic research in the U.S. and for the past two decades was the principal "mover and shaker" in establishing master curves for Mesoamerica and Peru.

His name and bushy, mottled beard may stir up a certain image, but we knew Dan as a congenial, tireless worker in the field, always eager to collect new archaeomagnetic samples. He devoted much of his professional career to establishing master archaeomagnetic curves for various regions in the New World and a

self-supporting, state-of-the-art laboratory of his own at the Museum of New Mexico, Office of Archaeological Studies in Santa Fe (1988-1994). His methodology and results have been described in a series of important articles (Wolfman n.d., 1984, 1990a; 1990b; Wolfman and Dodson 1998). He loved Latin America, its archaeology, people, and food, and he projected a return trip to Peru in the near future.

Dan was born in New York City on February 8, 1939, and received a B.A. with Distinction in Mathematics from the University of Rochester in 1959. His undergraduate education in science would provide a strong basis for his research in archaeomagnetism and archaeometry in general. His interest in archaeology was triggered in 1959-60 while at the University of Chicago pursuing mathematics as a Woodrow Wilson Fellow. In 1960, with the support of an NSF Summer Training Fellowship, Dan attended field school in Oaxaca directed by John Paddock of Mexico City College. He gained additional archaeological field experience as an assistant in the Wetherill Mesa Project at Mesa Verde and in the Navajo Dam Project, both in 1961. Dan began his graduate training at the University of Colorado in February, 1962, and received his M.A. in anthropology in 1963. He was employed as the Field Director of the Picuris Archaeological Project (1962-1966) in New Mexico, sponsored by the Fort Burgwin Research Centers in Taos, and taught as an assistant professor of anthropology at the University of the Americas in Mexico from 1966 to 1968. He returned to the U.S. and in 1969 worked as an archaeologist for the Nevada Archaeological Survey.

It was during 1968-1973, when he worked under Robert L. DuBois as a Research Associate at the University of Oklahoma Archaeomagnetism Laboratory, that Dan decided to dedicate himself to archaeomagnetic dating and the attendant slow process of establishing master sequences in various regions of the New World. It was an opportune moment for Dan because the technique of archaeomagnetic dating was

increasingly recognized in archaeology as an important complement to the rapidly burgeoning radiocarbon dating technique. Recent improvements in computers made processing and publication of data quite manageable. DuBois and Dan collaborated in presenting and publishing a series of joint papers on archaeomagnetic dating of Latin American materials. In 1973, Dan presented his doctoral thesis entitled *A Re-Evaluation of Mesoamerican Chronology: A.D. 1-1200*. This study effectively demonstrated the value of archaeomagnetic dating.

Dan was firmly convinced of the value of archaeomagnetic dating as a reliable and reasonably inexpensive technique for both relative and absolute dating. This technique requires independent calibration, commonly with radiocarbon dating, for the establishment of a regional master curve. However, once the curve is constructed, it can serve to evaluate the relative merits of conflicting radiocarbon dates. That its samples derive from baked features that are highly durable and closely linked to specific human activities increases its value to the field of archaeology. At the same time, recognizing that his primary research goal of establishing archaeomagnetic curves in Latin America could not be accomplished without the awareness and collaboration of archaeological colleagues, Dan quizzed us tirelessly at professional meetings to keep abreast of current and future field work that might provide archaeomagnetic samples. With many colleagues single-mindedly focused on collection of radiocarbon samples and diagnostic ceramics, Dan worked hard to make them aware of archaeomagnetic samples and dating. In Peru, for example, he eagerly gave talks to interested archaeologists illuminating the virtues of archaeomagnetic dating, and trained several American and Peruvian students (e.g., Alvaro Higuera and Glenn Russell) to collect samples. In 1986, he received a travel grant to Peru from the United States Information Agency, Academic Specialist Program to conduct seminars on archaeomagnetic dating techniques and train local archaeologists for sample collection. This effort was preceded

and followed by similar trips to Guatemala and Mexico in 1985 and 1987, respectively.

Because of its numerous sites with well-preserved adobe, *quincha* (wattle and daub) and other clay-bearing constructions and floor features, and long occupation spans, Dan recognized the great archaeomagnetic potential of coastal Peru. Most important in the effort to establish the master archaeomagnetic curve for Peru was Dan's collaboration with R. E. Dodson, then geochronologist at the Rock Magnetism Laboratory, University of California at Santa Barbara. Supported by a grant from the National Science Foundation in 1982-83, Wolfman and Dodson collected samples from archaeological sites on the coast and in the highlands. During this time, 134 samples were collected at 37 sites, with 22 sites on the North Coast contributing 102 samples. This work provided the basis for an archaeomagnetic curve spanning ca. A.D. 650-1500 presented in their important reference work (Wolfman and Dodson 1998). Members of the Sicán Archaeological Project have fond memories of Dan extolling the virtues of archaeomagnetic dating while working against the clock to collect 24 samples at the site of Huaca del Pueblo Batán Grande. The site has a "textbook stratigraphy" (ca. A.D. 500 to the present) with at least 42 occupational floors, many associated with well-preserved hearths, arsenical bronze smelters, and other burnt clay features suited for archaeomagnetic dating. During their various stays with us in Batán Grande, Dan and Rich surprised us with welcome gifts of beef tenderloin brought in from the nearby city of Chiclayo. Their congeniality and comments reflecting their broad scientific and archaeometric experience enriched our otherwise routine field work. Dan returned to Batán Grande in 1989 to collect additional samples from superimposed ceramic kilns in Poma Canal that would push back the archaeomagnetic curve to ca. 1000 B.C. (Wolfman *et al.* n.d.).

Though Dan was best known to us as an archaeomagnetic specialist, his interests and expertise covered many dating techniques. He was an energetic promoter of the integration of archaeometry in archaeological research,

both in and out of field. From the 1980s to the time of his death, he served as a member of the Executive Committee of the Society for Archaeological Sciences, Advisory Committee of the Southern Methodist University Radiocarbon Laboratory (then directed by Herbert Haas), and the National Science Foundation Advisory Council for Archaeometric Technology. His untimely death was a great loss not only to the nascent field of archaeomagnetic dating in Latin America, but also to broader archaeometry and archaeology.

Dan's proudest achievement and long-time dream came true in 1993 when the Archaeomagnetic Dating Laboratory under his direction opened its doors at the Museum of New Mexico in Santa Fe. Being able to live in scenic Santa Fe was the icing on the cake. For many years he struggled on a shoe-string budget to keep his archaeomagnetic research going while teaching at Arkansas Technical University (Assistant Professor of Anthropology, 1973-80; Associate Professor, 1980-85; Professor, 1985-1988) and at the University of Arkansas (Assistant Professor of Anthropology, 1973-79; Associate Professor, 1979-85; Professor, 1985-1988). At the time of his death, he and his assistant, J. Royce Cox, were busy processing samples to refine and extend the archaeomagnetic curves for Peru, Mesoamerica, and the U.S. Southwest.

Clearly, Dan left his long-lasting imprint on American archaeology in his sustained commitment to improve dating techniques, particularly archaeomagnetic dating, and better integrate archaeometry in our research in and out of field (see also the obituaries by Schaafsma and Schaafsma [1996], with a complete Wolfman bibliography, and by Sternberg [1996]). The Archaeomagnetic Dating Laboratory in Santa Fe is his most noteworthy legacy and Dan's long-term effort to establish the master archaeomagnetic curve for Peru will be carried on by J. R. Cox. It is an effort that both Andeans and Andeanists should continue to support.

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