

LAWRENCE KAPLAN (14 APRIL 1926–6 MARCH 2018)

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*Lawrence and Lucy Kaplan during fieldwork in 1954, Pinotepa Nacional, Oaxaca, Mexico.
Photo courtesy of Emily Kaplan*

During a career that spanned more than fifty years, Lawrence Kaplan was recognized as the world's foremost authority on the origins and domestication of beans (*Phaseolus* spp.) in the Americas (Kaplan 1984, 1987, Sauer and Kaplan 1969). Beans recovered from archeological sites were often sent to Kaplan for identification and his analyses were included in site reports and other research publications. Kaplan made

significant contributions at three major excavations in Mexico: Ocampo Caves, the Tehuacan Valley (Kaplan 1967; Kaplan and MacNeish 1960), and Guila Naquitz (Kaplan 1986). These pivotal studies provided the groundwork for an understanding of *Phaseolus* domestication in the Americas. Kaplan collaborated with numerous archaeologists working in the Andes, participating in a series of re-

search efforts that helped to further elucidate the domestication of *Phaseolus*, particularly in regard to the contributions of gene pools from both Central and South America. Notably, he collaborated with Duccio Bonavia for their “Bibliography of American Archaeological Plant Remains” (Bonavia and Kaplan 1990).

Kaplan’s methods included morphological analysis, as well as optical and electron microscopy, and he was a pioneer in AMS radiocarbon dating of archaeological botanical remains (Kaplan 1994, 2004; Kaplan and Lynch 1999). Paleoenvironmental reconstructions using phytolith (Kaplan *et al.* 1992) and pollen evidence (Sneddon and Kaplan 1987) were a long-term interest. He identified beans from archaeological contexts including important Andean sites such as Guitarrero Cave (Kaplan 1980; Kaplan *et al.* 1992), Paracas, Cerro del Oro and Cahuachi, Los Gavilanes in the Huarmey Valley (Kaplan 1982), Guatacondo in the Casma Valley, and sites in the Virú Valley, in the Chilca Canyon, and Huacaloma, Pichasca, San Pedro Viejo, Cerro Azul (Kaplan 2016), Marcavalle, and Piruru (Bonnier *et al.* 1983). Kaplan also studied specimens in various museum collections including the Museo Nacional de Arqueología, Antropología e Historia del Perú, the Phoebe A. Hearst Museum of Anthropology, and the Harvard Botanical Museum.

Kaplan received his B.A. (1949) and M.S. (1951) in botany from the State University of Iowa and his Ph.D. (1956) from the University of Chicago. He was born in Chicago, the younger of two sons of Fannie (Eisen) Kaplan and Herman Kaplan. He met his future wife, Lucille Nobler (Lucy), in high school. During World War II, he served in the U.S. Navy in the Pacific as a pharmacist’s mate, third class from 15 April 1944 to 1 June 1946. Lawrence and Lucy married on August 25, 1946, and moved to Iowa City where they attended the University of Iowa. Lawrence’s M.S. thesis

focused on the study of fungal membranes (Kaplan 1951). Returning to Chicago, Kaplan began doctoral work in botany at the University of Chicago. His doctoral research, supported by a fellowship from the Field Museum, focused on the use of beans by the prehistoric inhabitants of the southwestern United States and northern Mexico (Kaplan 1956a, 1956b, 1963, 1965b, 1981; Kaemlein and Kaplan 1963; Kaplan and MacNeish 1960). In 1955, he took a position as an Associate Curator at the Missouri Botanical Garden in the Museum of Useful Plants. After receiving his doctorate, he obtained his first postgraduate position, as an instructor in botany at Wright College (now Wilbur Wright Community College in Chicago) in 1956 and 1957. Later, as a research associate at the University of Chicago anthropology department, he conducted ethnobotanical fieldwork in Chiapas, Mexico, where he and Lucy spent summers in 1956, 1957, and 1958. He and Lucy later conducted fieldwork in Oaxaca. Kaplan taught at Roosevelt University in Chicago from 1957 to 1965.

As Kaplan recalled:

My first encounter with the field of economic botany was in the Chemistry-Botany library at the State University of Iowa sometime about 1950. After my undergraduate degree in botany I specialized in mycology and worked on the chemical makeup of hyphal walls in the major taxonomic groupings of the fungi. For a periodic change of pace I browsed the library. And there on the reading room shelf were the fledgling issues of *Economic Botany*. This was fascinating stuff. Many of the longer articles were based on the field experience of botanists and foresters who had worked during the late 1930s and the war years (1940–1945) [sic] to locate exploitable sources of plant products, rubber and fiber, for example,

that could substitute for the sources that had been closed off because of the war. These articles and the literature abstracts of Edmund Fulling of the New York Botanical Garden were fascinating tidbits that could have guided young botanists into long term research on economic plants. In my case, that's what happened. On another library shelf, one set aside for large format books, sat the 1940 facsimile of the Badianus Manuscript, the 1552 Aztec herbal. After my M.S. at Iowa and Lucy's award of a fellowship to continue her graduate work in anthropology at Northwestern University, I entered the botany department at the University of Chicago to work for a Ph.D. in botany. Hugh Cutler, then curator of economic botany at the Field Museum, agreed to be my dissertation adviser and got me involved in ongoing work on archaeological analysis of plant remains from sites in New Mexico and elsewhere in the Southwest. This, in short order led to my specializing in archaeological beans. Hugh and Edgar Anderson were already working on archaeological corn; Cutler and [Thomas W.] Whitaker were working on cucurbits (undated personal recollection "SEB and Me" in the possession of the author).

In 1965 Kaplan was recruited to serve as a founding member of the University of Massachusetts Boston campus where he helped to establish the biology department, which he went on to chair three times. Lucy was hired by the University of Massachusetts Boston in 1966 and taught as a lecturer in the department of social relations (later anthropology) for the next twenty-five years. Kaplan served three terms on the Society for Economic Botany (SEB) council, also serving as the Society's president (1987–1988) and as the reviews editor (1988–1990), associate editor (1980–1989), and editor of the journal of *Economic Botany*

(1990–1999). He was elected Fellow of the American Association for the Advancement of Science in 1989. He served as Faculty Associate for the Center for Materials Research in Archaeology and Ethnology at the Massachusetts Institute of Technology from 1976 until 1994.

Kaplan retired from teaching in 1995 and became a professor emeritus. He continued to conduct research until late in his life. His last project was at the Late Classic Maya site of Ceren in central El Salvador (Kaplan *et al.* 2015; Lentz *et al.* 1996). The preservation of plant remains there was extraordinary, and beans were found in great abundance, an unusual occurrence in Mesoamerica. When asked, Kaplan agreed to help sort things out and quickly recognized that the Ceren occupants were using not only two species of domesticated beans (*P. vulgaris* and *P. lunatus*), but also populations of wild *Phaseolus* species. This co-occurrence had not been documented before, and the observed process of using domesticates in the close proximity of wild species helps to explain how the broad genetic diversity of this genus came about.

Kaplan was preceded in death by Lucy, his wife of 69 years. He is survived by three daughters: Martha Kaplan, who is the wife of John D. Kelly and a professor of anthropology at Vassar College; Emily Kaplan, a conservator at the Smithsonian National Museum of the American Indian; and Elisabeth Kaplan, the wife of Bob Horton and an archivist and librarian, and by grandchildren Neil Kaplan-Kelly, a graduate student in anthropology at the University of California Irvine, and by Rose Kaplan-Kelly, a graduate student in mathematics at Temple University.

Kaplan's papers and field slides are archived in the University Archives at the University of Massachusetts, Boston <https://openarchives.umb.edu/digital/collectio/p15774coll8/id/413/rec/1> (accessed 27

March 2022). His type specimens and field collections are housed in museums in the United States (Smithsonian National Museum of Natural History, Smithsonian Tropical Research Institute, University of Southern California, Mesa Verde National Park, Museum of Northern Arizona, Natural History Museum of Utah, Field Museum), and in Peru (Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Lima.)

WORKS BY LAWRENCE KAPLAN

- 1951 *Studies on Fungal Membranes*. M.S. Thesis, University of Iowa, Iowa City.
- 1956a *The Cultivated Beans of the Prehistoric Southwest*. Ph.D. Dissertation, University of Chicago, Chicago, Illinois.
- 1956b The Cultivated Beans of the Prehistoric Southwest. *Annals of the Missouri Botanical Garden* 43(2):189–251.
- 1963 Archeoethnobotany of Cordova Cave, New Mexico. *Economic Botany* 17(4):350–359.
- 1965a Archeology and Domestication in American *Phaseolus* (Beans). *Economic Botany* 19(4):358–368.
- 1965b Beans of Wetherill Mesa. *Memoirs of the Society for American Archaeology* 19:153–55.
- 1967 Archaeological *Phaseolus* from Tehuacan. In: *The Prehistory of the Tehuacan Valley*, edited by Douglas S. Byers, Volume 1. *Environment and Subsistence*. Austin: University of Texas Press.
- 1970a Beans. In: *Blain Village and the Fort Ancient Tradition in Ohio*, edited by Olaf H. Prufer and Orrin C. Shane, Volume 1. Kent, Ohio: Kent State University Press.
- 1970b Mescal. In: *Encyclopaedia Britannica*, Volume 15:201–202. Chicago, Illinois: Encyclopaedia Britannica, Inc.
- 1970c Tequila. In: *Encyclopaedia Britannica*, Volume 21:860.
- 1971 *Phaseolus*: Diffusion and Centers of Origin. In: *Man across the Sea: Problems of Pre-Columbian Contacts*, edited by Carroll L. Riley, J. Charles Kelley, Campbell W. Pennington, and Robert L. Rands, pp. 416–427. Austin: University of Texas Press.
- 1973 Ethnobotanical and Nutritional Factors in the Domestication of American Beans. In: *Man and His Foods: Papers International Botanical Congress*, edited by Claude Earle Smith, pp. 75–85. University, Alabama: Alabama University Press.
- 1980 Variation in the Cultivated Beans. In: *Guitarrero Cave: Early Man in the Andes*, edited by Thomas F. Lynch, 145–148. New York: Academic Press.
- 1981 What Is the Origin of the Common Bean? *Economic Botany* 35(2):240–254.
- 1982 Pallar (*Phaseolus luteatus*). In: *Pre-ceramic Peruano: Los Gavilanes; Mar, desierto y oasis en la historia del hombre*, edited by Duccio Bonavia, pp. 181–182. Lima: Editorial Ausonia–Talleres Gráficos.
- 1986 Pre-ceramic *Phaseolus* from Guila Naquitz. In: *Guila Naquitz: Archaic Foraging and Early Agriculture in Oaxaca, Mexico*, edited by Kent Flannery, pp. 281–284. Orlando, Florida: Academic Press.
- 1987 The Domestication of *Phaseolus*: A Supplementary Crop in Prehistory. In: *Studies in the Neolithic and Urban Revolution: The V. Gordon Childe Colloquium, Mexico 1986*, pp. 137–153. Oxford: British Archaeological Reports (BAR), International Series 349.
- 1989 Life Span, Plants. In: *The New Encyclopaedia Britannica, Macropaedia*, 15th Edition, Volume 10:914–915. Chicago, Illinois: Encyclopaedia Britannica, Inc.
- 1994 Accelerator Mass Spectrometry Dates and the Antiquity of *Phaseolus* Cultivation. *Bean Improvement Cooperative Annual Report (USA)*, pp. 131–132.
- 2001 Beans, Peas, and Lentils. In: *The Cambridge World History of Food*, edited by Kenneth F. Kiple and Kriemhild Coneè Ornelas, Volume 1:271–281. Cambridge: Cambridge University Press.
- 2003 Review of *Taxonomy, Distribution, and Ecology of the Genus Phaseolus (Leguminosae-Papilionoideae) in North America, Mexico, and Central America* by G.F. Freytag and D.G. Debouck. *Economic Botany* 57(3):421.
- 2004 Archaeobotanical Remains: New Dating Methods. In: *Encyclopedia of Plant and Crop Science*, pp. 55–57. New York: Marcel Dekker.
- 2008 Legumes in the History of Human Nutrition. In: *The World of Soy*, edited by Christine M. Du Bois, Chee Beng Tan, and Sidney Wilfred Mintz, pp. 27–44. Urbana: University of Illinois Press.
- 2016 *Phaseolus* and *Erythrina* from Cerro Azul. In: *Coastal Ecosystems and Economic Strategies at Cerro Azul, Peru: The Study of a Late Intermediate Kingdom*, edited by Joyce Marcus, pp. 254–261. *Studies in Latin American Ethnohistory* 23

- Archaeology XII, *Memoirs of the Museum of Anthropology* 59. Ann Arbor: Regents of the University of Michigan, The Museum of Anthropology.
- Bonavia, Duccio and Lawrence Kaplan
1990 Bibliography of American Archaeological Plant Remains (II). *Economic Botany* 44(1): 114–128.
- Bonnier, Elisabeth, Rosaleen Howard, Lawrence Kaplan, and Catherine Rozenberg
1983 Recherches archéologiques, paléobotaniques et ethnolinguistiques dans une vallée du haut Marañon (Pérou): Le projet Tantamayo Piruru. *Bulletin de l'Institut Français d'Études Andines* 12(1–2):103–133.
- Brooks, Richard H., Lawrence Kaplan, Hugh C. Cutler, and Thomas W. Whitaker
1962 Plant Material from a Cave on the Rio Zape, Durango, Mexico. *American Antiquity* 27(3/2): 356–369.
- Cutler, Hugh C. and Lawrence Kaplan
1981 Some Plant Remains from Montezuma Castle and Nearby Caves (NA 4007 B and C on Dry Beaver Creek). *Platea* 28(4):98–100.
- Damp, Jonathan E., Deborah M. Pearsall, and Lawrence Kaplan
1981 Beans for Valdivia. *Science* 212(4496):811–312.
- Dudek, Martin G., Lawrence Kaplan, and Marie Mansfield King
1998 Botanical Remains from a Seventeenth-Century Privy at the Cross Street Back Lot Site. *Historical Archaeology* 32(3):63–71.
- Kaemlein, Wilma and Lawrence Kaplan
1963 A Prehistoric Twined-Woven Bag from the Trigo Mountains, Arizona: Identification and Comments on Bean Seeds (Appendix). *Kiva* 28(3):1–13.
- Kaplan, Lawrence, Thomas F. Lynch, and C. Earle Smith
1973 Early Cultivated Beans (*Phaseolus vulgaris*) from an Intermontane Peruvian Valley. *Science* 179(4068):76–77.
- Kaplan, Lawrence and Elisabeth Bonnier
1986 Piruru: A Preliminary Report on the Archaeological Botany of a Highland Andean Site. In: *Economic Prehistory of the Central Andes*, edited by Elizabeth Wing and Jane Wheeler, pp. 148–151. 427. Oxford: British Archaeological Report (BAR) International 427.
- Kaplan, Lawrence and Lucille N. Kaplan
1992 Beans of the Americas. In: *Chilies to Chocolate: Food the Americas Gave the World*, edited by Nelson Foster and Linda S. Cordell, pp. 61–79. Tucson: University of Arizona Press.
- 1988 *Phaseolus* in Archaeology. In: *Genetic Resources of Phaseolus Beans*, by Paul L. Gepts, pp. 125–142. Dordrecht: Springer Netherlands.
- Kaplan, Lawrence, David L. Lentz, Venicia Slotten, Payson Sheets, and Angela N. Hood
2015 *Phaseolus* from Cerén—A Late Classic Maya Site. *Economic Botany* 69(2):150–60.
- Kaplan, Lawrence and Thomas F. Lynch
1999 *Phaseolus* (Fabaceae) in Archaeology: AMS Radiocarbon Dates and Their Significance for Pre-Colombian Agriculture. *Economic Botany* 53(3):261–272.
- Kaplan, Lawrence, and Richard S. MacNeish
1960 Prehistoric Bean Remains from Caves in the Ocampo Region of Tamaulipas, Mexico. *Botanical Museum Leaflets, Harvard University* 19(2):33–56.
- Kaplan, Lawrence and Shirley L. Maina
1977 Archeological Botany of the Apple Creek Site, Illinois [*Chenopodium*, *Iva*]. *Journal of Seed Technology* 2(2):40–53.
- Kaplan, Lawrence, Mary B. Smith, and Lesley Ann Sneddon
1992 Cereal Grain Phytoliths of Southwest Asia and Europe. In: *Phytolith Systematics: Emerging Issues*, edited by George Rapp and Susan C. Mulholland, pp. 149–74. Advances in Archaeological and Museum Science. Boston, Massachusetts: Springer US.
- Kaplan, Lucille N. and Lawrence Kaplan
1960 Food Use as Related to Health and Disease in Coastal Oaxaca. In: *Men and Cultures: Selected Papers*, edited by Anthony F. C. Wallace, pp. 452–59. Philadelphia: University of Pennsylvania Press.
- Lentz, David L., Marilyn P. Beaudry-Corbett, Maria Luisa Reyna de Aguilar, and Lawrence Kaplan
1996 Foodstuffs, Forests, Fields, and Shelter: A Paleoethnobotanical Analysis of Vessel Contents from the Cerén Site, El Salvador. *Latin American Antiquity* 7(3):247–262.
- Petersen, James B., Brian S. Robinson, Daniel F. Belknap, James Stark, and Lawrence Kaplan
1994 An Archaic and Woodland Period Fish Weir Complex in Central Maine. *Archaeology of Eastern North America* 22:197–222.
- Sauer, Jonathan and Lawrence Kaplan
1969 *Canavalia* Beans in American Prehistory. *American Antiquity* 34(4):417–424.
- Smith, C. Earle, Eric O. Callen, Hugh C. Cutler, Walton C. Galinat, Lawrence Kaplan, Thomas W. Whitaker, and Richard A. Yarnell
1966 Bibliography of American Archaeological Plant Remains. *Economic Botany* 20(4):446–460.

Sneddon, Leslie and Lawrence Kaplan
1987 Pollen Analysis from Cedar Swamp Pond,
Westborough, Massachusetts. *Archaeology*
Quarterly 9(2):1–15.