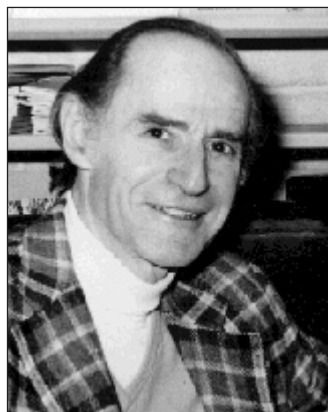


Memorial to Charles Edward Stearns (1920–2010)

JOHN C. RIDGE

Tufts University, Medford, Massachusetts, USA

Charles Edward Stearns, a long-time professor, administrator, and academic pillar of Tufts University, died of natural causes on 27 June 2010, in Ann Arbor, Michigan. Born on 20 January 1920 in Billerica, Massachusetts, he enrolled at Tufts College at age 15 intending to study music. He soon discovered geology, which became his passion and career. In 1939, he graduated summa cum laude with an A.B. in geology. Charlie married Helen L. Hurley (Tufts Jackson College, 1939) on 17 December 1942. He pursued graduate work in geology at the California Institute of Technology and later at Harvard University (A.M., 1942; Ph.D., 1950), where he was a student of Kirk Bryan. Between his advanced degrees, Charlie served in the Pacific during World War II with the U.S. Navy, reaching the rank of lieutenant.



Charlie's professional career in geology began in 1941 as a lab assistant and then instructor at Tufts University. Following the war, Tufts hired Charlie as an assistant professor in the Department of Geology. After Kirk Bryan's death, Charlie was hired as an assistant professor at Harvard University (1951–1954) before returning to Tufts first as an associate professor (1954–1957) and then full professor (1957–1985). During this time, Charlie was appointed the Henry Bromfield Pearson Professor of Natural Sciences. Charlie also served as Tufts University's dean of the College of Liberal Arts (1954–1969), and briefly as an acting provost, thoughtfully guiding Tufts through its transition from a college to a university. His wisdom and administrative skills along with his ability to recruit talented faculty were extremely important in establishing the diverse intellectual atmosphere that exists at Tufts today. He was an honored emeritus professor upon his retirement in 1985.

Charlie was a member of Sigma Xi and Phi Beta Kappa for which he served as secretary and president of the Tufts chapter. He was a member of the American Academy of Arts and Sciences, a fellow of the American Association for the Advancement of Science, a fellow of the Geological Society of America, and a member of the International Quaternary Association, the Association Senegalaise pour l'Etude Quaternaire, the Instituto Italiano di Paleontologia Umana, and the Deutsche Quartärvereinigung.

A wide range of fields in geology appealed to Charlie. He combined a grasp of many sub-disciplines in geology (geomorphology, Quaternary geology, radiometric dating, tectonics, volcanology, stratigraphy, and geoarchaeology) with a keen curiosity and an almost uncanny ability to apply interdisciplinary solutions to major problems. His early work as a student built a foundation for the rest of his career as he developed an understanding of the geomorphology of volcanic features and terranes while studying with Robert L. Nichols at Tufts. During his graduate study at Harvard, and later with support from the New Mexico Bureau of Mines and Mineral Resources, he recognized the tectonic significance of the Rio Grande Depression prior to the formulation of plate tectonics. His landmark Ph.D. work, a careful and detailed

documentation of Neogene rifting in the valley through the study of geomorphic features and the Tertiary stratigraphic history of the basin and its precursors, is one of the original works in tectonic geomorphology in North America. This came at a time when his primary disciplines, Quaternary geology and geomorphology, were highly descriptive.

A passion for applying science to big picture problems is also apparent in Charlie's pioneering work on Pliocene-Pleistocene strandlines in the Mediterranean Sea and along the Atlantic coast of Morocco. It is these studies for which Charlie is most widely recognized. The scope of this work includes documenting global sea level and crustal movement while also developing a record of paleo-climate from the region's geology. His work bridged the world of archaeology and geology, a claim made by few at the time, and he became the "trusted" geologist among archaeologists in several European and African countries. Charlie was among the first to incorporate uranium-thorium dating of ancient strandlines into sea-level studies. His work was highly regarded, and resulted in his participation in two International Quaternary Association sub-commissions, one for Mediterranean and Black Sea shorelines and another for defining the Pliocene-Pleistocene Boundary.

Charlie's wisdom is legendary among those who worked and taught with him as well as among his students. His quiet, insightful, and carefully delivered opinions were the inspirations and turning points for many students and colleagues, who today look back with loving admiration on Charlie's encouragement and direction. Many of his students and colleagues recall his appreciation for the natural world and how his teaching focused on learning to think critically and logically, while being able to synthesize and teach oneself. He was genuinely interested in the welfare of his colleagues on a professional as well as personal level and opened his home and heart to them. His wisdom and prospection were much sought after and he frequently served as a reviewer for professional journals. Charlie also authored many book reviews, notably for the *American Journal of Science*, *The American Scientist*, and *American Antiquity*.

Outside of academia Charlie was dedicated to his family and his beloved community of Billerica, Massachusetts, where he was a tenth generation resident. Charlie and Helen had five daughters (Martha, Carola, Rebecca, Jeremie, and Kate), two of whom are geologists, and a son (Jonathan). Charlie was an accomplished pianist who also had an appreciation for the study of art, literature, and a rich understanding and ability with the English language. He was known for his involvement in local history and was an active member of the Billerica Historical Society (president), the Billerica Historical Commission (chairman), and the Colonial Society of Massachusetts. He also served as a member and president of the Bennett Public Library Association. Charlie was a long-term member of the Examiner Club of Boston, serving as its secretary for 30 years.

Charlie will be remembered as a prescient geologist, a wise and caring mentor, and also as a true friend.

SELECTED BIBLIOGRAPHY OF CHARLES E. STEARNS

- 1938 (with Nichols, R.L.) Fissure eruptions near Bend, Oregon (abstract): Geological Society of America Bulletin, v. 49, p. 1894.
- 1940 (with Nichols, R.L.) Grooved lava in the cross-section of Big Craters, Idaho: American Journal of Science, v. 238, p. 22–31.
- 1942 A fossil marmot from New Mexico and its climatic significance: American Journal of Science, v. 240, p. 867–878.
- 1943 The Galisteo Formation of north-central New Mexico: Journal of Geology, v. 51, p. 301–319.

- 1948 Pleistocene geology of the Atlantic coast of northern Morocco (abstract): Geological Society of America Bulletin, v. 59, p. 1354.
- 1953 Early Tertiary volcanism in the Galisteo-Tonque area, north-central New Mexico: American Journal of Science, v. 251, p. 415–452.
- 1953 Tertiary geology of the Galisteo-Tonque area, north-central New Mexico: Geological Society of America Bulletin, v. 64, p. 459–508.
- 1953 Upper Cretaceous rocks of Galisteo-Tonque area, north-central New Mexico: American Association of Petroleum Geologists Bulletin, v. 37, p. 961–974.
- 1954 Review of: Penck, W., Die Morphologische Analyze: American Journal of Science, v. 252, p. 510–511.
- 1955 (with Howe, B.) Geology and Archaeology of Cape Ashakar, Tangier, Morocco: I Congreso Arqueologico del Marruecos Español Actas, p. 39–51.
- 1956 Evidence for strand lines 4 m below and 2 m above sea level at Tangier, Morocco, and Tipasa, Algeria: Quaternaria, v. 3, p. 173–178.
- 1956 Review of: Bryan, K., The geology of Chaco Canyon, New Mexico: American Antiquity, v. 21, p. 324.
- 1956 Review of: Wendorf, F., Krieger, A.D., and Albritton, C.C., The Midland Discovery: A report on the Pleistocene human remains from Midland, Texas: American Antiquity, v. 22, p. 197–198.
- 1956 San Augustin Plains—The geologic setting: Science, v. 124, p. 539.
- 1962 Geology of the north half of the Pelona Quadrangle, Catron County, New Mexico: New Mexico Bureau of Mines Bulletin no. 78, 46 p.
- 1963 Remarks on the geology of Kouali Point, in Briggs, L.C., ed., Archaeological Investigations near Tipasa, Algeria: American School of Prehistoric Research Bulletin, no. 21, p. 26–28.
- 1964 Review of: Cook, S.F., Erosion morphology and occupational history in western Mexico (Anthropological Records, v. 17, no. 3, 1963): American Antiquity, v. 30, p. 111–112.
- 1965 Review of: Butzer, K.W., Environment and Archeology: An introduction to Pleistocene geography (Aldine Publishing Co., 1964): American Scientist, v. 53, p. 394A–395A.
- 1965 (and Thurber, D.L.) Th²³⁰/U²³⁴ dates of late Pleistocene marine fossils from the Mediterranean and Moroccan littorals: Quaternaria, v. 7, p. 29–42.
- 1965 (with Thurber, D.L., and Broecker, W.S.) Th²³⁰/U²³⁴ chronology of high sea stands in the Mediterranean Sea (abstract): Geological Society of America Programs, Annual Meeting, p. 173.
- 1967 Pleistocene geology of Cape Ashakar and vicinity, in Howe, B., ed., The Palaeolithic of Tangier, Morocco. Excavations at Cape Ashakar, 1939–1947: American School of Prehistoric Research Bulletin no. 22, p. 6–35.
- 1967 (and Thurber, D.L.) Th²³⁰/U²³⁴ dates of late Pleistocene marine fossils from the Mediterranean and Moroccan littorals: Progress in Oceanography, v. 4, p. 293–305.
- 1968 Review of: Butzer, K.W., and Hansen, C.L., Desert and River in Nubia (University of Wisconsin Press, 1968, 562 p.): American Scientist, v. 56, p. 501A.
- 1970 Observations on the Mughara el-Asfourieh and on the littoral between Halat and Amchit (region of Jbail): Bulletin Musée de Beyrouth, v. 23, p. 129–134.
- 1975 Dates for the Middle Stone Age of East Africa: A discussion: Science, v. 190, p. 809–810.
- 1976 Estimates of the position of sea level between 140,000 and 75,000 years ago: Quaternary Research, v. 6, p. 445–449.
- 1976 The wind directions of the Pleistocene dunes near Essaouira, Morocco: A discussion: Palaeogeography, Palaeoclimatology, Palaeoecology, v. 19, p. 255–256.

- 1977 Review of: Wendorf, F., and Schild, R., *Prehistory of the Nile Valley* (Academic Press, 1976) and Butzer, K., *Early Hydraulic Civilization in Egypt* (University of Chicago Press, 1976): *Science*, v. 196, p. 971–972.
- 1977 (and Dai Pra, G., and di Taranto, S.T.) *Datazioni su coralli con il metodo del $\text{Th}^{230}/\text{U}^{234}$* : *Geologica Romana*, v. 16, p. 231–242.
- 1978 Pliocene-Pleistocene emergence of the Moroccan Meseta: *Geological Society of America Bulletin*, v. 89, p. 1630–1644.
- 1978 Review of: Kelley, V.C., *Geology of Albuquerque Basin, New Mexico*, New Mexico Bureau of Mines and Mineral Resources, Memoir no. 33: *American Scientist*, v. 66, p. 622.
- 1979 New K-Ar dates and the late Pliocene to Holocene geomorphic history of the central Rio Grande region, New Mexico: A discussion: *Geological Society of America Bulletin*, v. 90, p. 799–800.
- 1981 Emergent littoral deposits on the eastern Canary Islands: *Quaternary Research*, v. 15, p. 199–208.
- 1982 A molluscan revival?, *Actes du Colloque: Niveaux marins et tectonique quaternaires dans l'aire Méditerranéenne: CNRS-Université de Paris I*, p. 15–26.
- 1982 Kirk Bryan 1888–1950, Dedication of 33rd Annual Guidebook: *New Mexico Geological Society*.
- 1982 Mediterranean shore lines from a Moroccan point of view, *Actes du Colloque: Niveaux marins et tectonique quaternaires dans l'aire Méditerranéenne: CNRS-Université de Paris I*, p. 439–447.
- 1984 Uranium-series dating and the history of sea level, *in Mahaney W.C., ed., Quaternary Dating Methods*: Amsterdam, Elsevier, p. 53–66.
- 1985 Los ratios $^{230}\text{Th}/^{234}\text{U}$ de los moluscos mallorquines revisitados, *in Homenaje a Juan Cuerda*: Universitat de Valencia, p. 185–196.
- 1986 (with Hearty, P.J., Miller, G.H., and Szabo, B.J.) Aminostratigraphy of Quaternary Shorelines around the Mediterranean Basin: *Geological Society of America Bulletin*, v. 97, p. 850–858.
- 1986 (with Miller, G.H., and Paskoff, R.) Amino acid geochronology of Pleistocene littoral deposits in Tunisia: *Zeitschrift für Geomorphologie, Suppl. Band 62*, p. 197–207.

