

## Earle Radcliffe Caley (1900–1984)



Earle Radcliffe Caley was born in Cleveland, Ohio, on May 14, 1900. While completing his pre-college education in Cleveland schools he became fascinated with chemistry in the classes of his high school science teacher. He entered Case Institute of Technology but after two years transferred to Baldwin-Wallace College where he took his B.S. in 1923. He served as a student assistant in chemistry while at Baldwin-Wallace. After a year as a high school science teacher he undertook graduate work at Ohio State University, taking his M.S. in 1925 and his Ph.D. in analytical chemistry in 1928, working on the direct determination of sodium, under Charles W. Foulk.

The next fourteen years were spent with the analytical faculty at Princeton and it was through an archeologist friend at Princeton that his interest in archeology developed. In 1937 he was a chemist with the staff excavating the Agora in Athens. In Greece he learned that the tin content of Greek coins fell off with age while the

lead content increased.

During the war years Caley was an industrial chemist with Wallace Laboratories, New Brunswick, New Jersey, while also teaching engineering science, defense management, and war training at Princeton. In 1946 he returned to academia as associate professor at Ohio State. He soon became professor and remained until his retirement as emeritus professor in 1970. Over the years he carried out research on analytical problems, giving particular attention to analysis of the elements of periodic groups I and II and to the use of hydriodic acid in the analysis of poorly soluble compounds.

His particular interest over the years was the application of analytical chemistry to a better understanding of the history of early civilizations. He analyzed ancient coins, statues, glassware, and pigments, primarily from the Mediterranean regions, but he also made studies of artifacts from Latin America, Afghanistan, Arabia, and India. Caley, as an analytical chemist, kept abreast of new instrumentation and methodologies which he could apply to the analysis of archeological specimens.

Caley was the author or coauthor of approximately 250 publications, about 60 of them on archeological chemistry. Most of the latter papers appeared in numismatic, classical, archeological and museum journals, but a few are in *Ohio Journal of Science*, *Journal of Chemical Education*, *Chemical and Engineering News* and *Transactions of the American Philosophical Society*. Caley's books are: *Analytical Factors and Their Logarithms* (1932); *The Composition of Ancient Greek Bronze Coins* (1939); *Theophrastus on Stones* (a translation with J.F. Richards, 1956); *Orichalcum and Related Ancient Alloys: Origin, Composition and Manufacture With Special Reference to the Coinage Of The Roman Empire* (1964); *Analysis of Ancient Metals* (1964); *Metrological Tables* (1965); and *History of the Department of Chemistry of the Ohio State University* (1970).

Caley was honored with the [John Frederick] Lewis Prize of the American Philosophical Society in 1940 [for *The Composition of Ancient Greek Bronze Coins*], the Ohio Journal of Science Research Prize in 1952, and the Citation of the American Classical League in 1954. His alma

mater Baldwin-Wallace College gave him an honorary D.Sc. in 1967. Earle R. Caley received the Dexter Award in 1966 for his longtime use of analytical chemistry as a tool for better understanding of archeological problems.

Caley died at his home in Columbus, Ohio in February 1984.

### **Sources**

The preceding text is taken from Aaron J. Ihde, *A Quarter Century of Dexter Awards*, 1981, unpublished manuscript. Copy in the University of Pennsylvania Library, QD21 .Q8 1981a; an abridged version can be found in *Bulletin for the History of Chemistry* 3 (1989): 11.

Anon., "Caley Cited by History of Chemistry Division", *Chemical & Engineering News*, September 26 (1966) 113.

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