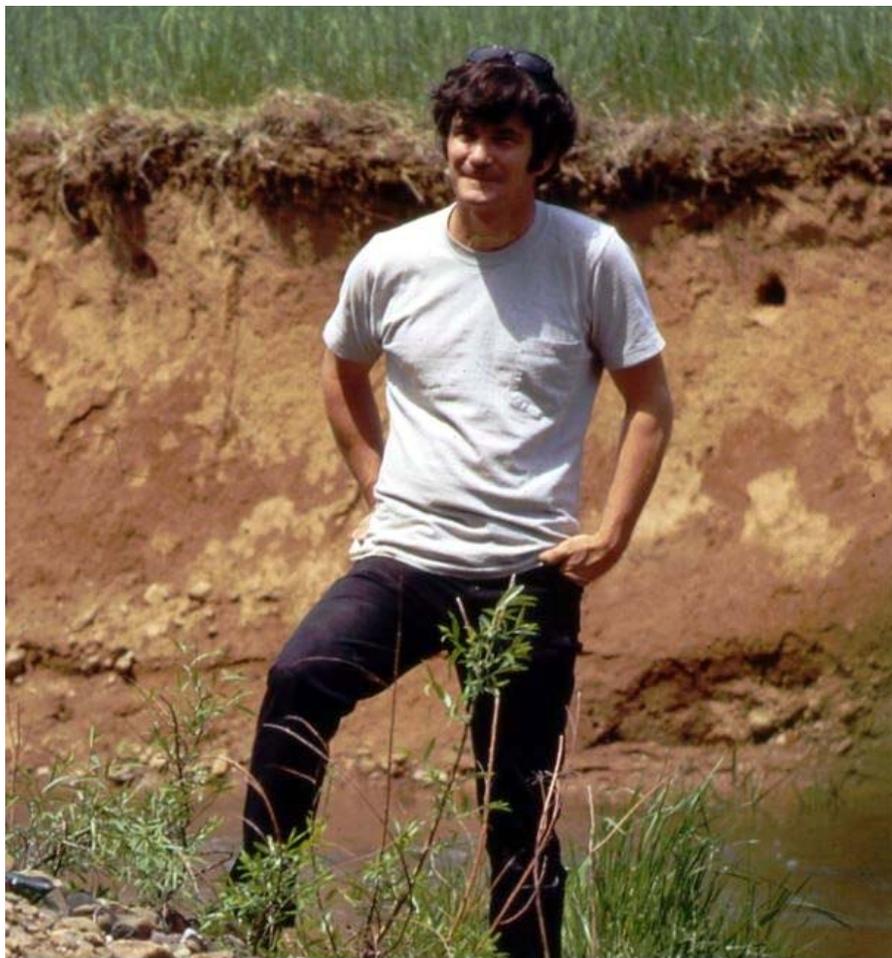


**THE INESCAPABLE SIGNIFICANCE OF CULTURAL ECOLOGY AND  
ENVIRONMENTAL SCIENCES IN ARCHAEOLOGY:  
PAPERS IN HONOR OF WILLIAM M. GARDNER**

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Bill Gardner was a Middle Atlantic archaeologist from 1967 until 2002, teaching at The Catholic University of America, forming and directing the Thunderbird Research Corporation as a not-for-profit research organization, and founding Thunderbird Archaeological Associates as a cultural resources management firm. His approach to cultural ecology and implementation of environmental sciences in archaeology have been formative to Middle Atlantic archaeology. Most of the papers included in this special section of *JMAA* 29 were drafted for a 2008 two-day symposium to honor Bill's archaeological interests and legacies. Organized by the editors and R. Michael Stewart and supported by the Middle Atlantic Archaeological Conference and Thunderbird Research Corporation, the gathering at the National

Conservation Center in Shepherdstown, West Virginia allowed former students, colleagues, and friends to consider the impact of Bill's career on Middle Atlantic archaeology and beyond. It had been almost six years since his passing, and while his absence was keenly felt, we believed it was time to attempt the difficult task of assessing what he had given us: a body of work that spanned the entire region and then some; a model for conducting research in a compliance context; an abiding focus on the 'human-environment dynamic;' and the tools for studying that dynamic.

A session on cultural ecology, with the same title as this special section, was created for the 2008 symposium and the 2012 Society for American Archaeology meeting as a way of acknowledging Bill's primary approach to archaeological explanation: cultural ecology. Following a tradition of *JMAA* to publish widely-circulated papers of Bill's, we are fortunate to have his own review of the role cultural ecology played in his thinking and practice. We begin with his 1982 treatise – partly a romp through his own education, partly a review of the roots of cultural ecology and processual archaeology, partly an essay on *why* he chose cultural ecology (or, after reading it, you may think that it chose him). In his own words,

Cultural ecology, in my framework, can be divided into two somewhat distinct but closely interrelated types of investigations. The first might be called environmental archeology; the second, archeological anthropology. In a simplistic sense, the former seeks to reconstruct the environment in which any cultural system operated and to discover the relevant or effective environmental variables which influenced that system. The latter is concerned with the results of this interplay.

Bill's way of dealing with the nature-culture duality and the environmental determinism that bedeviled the early formulations of cultural ecology was to move between scales of analysis. As comfortable with deeply contextual field methods as with his far ranging regional settlement pattern reconstructions, he was always looking for a way to conjoin the most discrete piece of environmental evidence with the broadest questions of social process. From his earliest days at Catholic University, Bill had a talent for bringing together researchers from related disciplines to build an understanding of environmental process and change, a research area not fully appreciated or explored in the early 1970s, but now *de rigueur* and 'inescapable.'

In addition to Bill's overview, Moeller's paper considers the strength of cultural ecology as a framework for understanding archaeological, historical, and contemporary societies. Foss offers an overview of his journey into the developing field of geoarchaeology, beginning with his work at the Flint Run Complex. Stewart takes an interdisciplinary approach, employing experimental archaeology, fire and soils research, and feature morphology to evaluate hearth basin formation and archaeological explanation. Using archaeological, ethnographic, and paleoenvironmental data, Custer re-evaluates models of Woodland period culture systems of the Delaware Coastal Plain to challenge the more commonly-accepted interpretations of large, concentrated semi-sedentary communities. Schindler combines research into migratory fish behavior, ecological factors of the Lower and Middle Delaware Valley, and archaeological site data to model prehistoric fishing site locations. Wholey applies the ecological transect model and population ecology to the study of Archaic period population dynamics. With landscape ecology and fine-grained archaeological studies, Handsman examines the Mashantucket Pequot household ecologies that engendered survival through the historic period.

Bill Gardner shaped a research tradition in the Middle Atlantic that continues to develop; that we all as Middle Atlantic cultural ecologists and environmental archaeologists stand on his shoulders is seen in each of the papers in this section.

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