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ABSTRACT. Archaeology "has as its central task the responsibility to understand humanity through time and space" (Wright 1985:431). This message, together with a call for more analytic rigor, reverberates throughout the 50th Anniversary issue of *American Antiquity* (Watson 1985). How have we been doing in Massachusetts during the past five years? Quite well, I find, with a substantial increase in the use of state-of-the-art methodology, in the development of processual theory, in rigor, and, best of all, in publication. We have reached a point where new environmental data is front page news for many archaeologists, where a number of us use the computer as a friendly and efficient tool, and where generation of alternative hypotheses and their testing is producing new insights with a high confidence level. The result of all this activity has been an increase in the complexity perceived in the archaeological record. Therefore, although I can report an increase in understanding prehistoric humanity in Massachusetts, the behavior of these ancient folk was no more simple than is ours today in the commonwealth.

INTRODUCTION.

Bill Englebrecht has asked us to prepare a history of prehistoric archaeology in our states for the past five years, without trying to cover everything. Therefore, I have felt free to confine my comments to issues and ideas that especially interest me, and that I see as important directions of which the ESAF membership should be aware. However, the limitation to
archaeology of the past five years requires me to note that Massachusetts archaeologists of the 1980's stand on the shoulders of pioneers such as Maurice Robbins, Benjamin Smith, R. Moffet, F. Kemp, H.F. Howe, W.C. Cote, B.D. Keith, W. Eldridge, J. Vaccaro, W.F. Bowman, G.D. Zeoli, W. Gookin, D.S. Scothorne, J.A. Mansfield N. Olney Dunham, E. Brooks, W. S. Fowler, J. Brewer, G. Mellgren, W. B. Taylor, W. J. Howes, L. F. Hallett, W. Ritchie, F. Johnson, R. P. Bullen, D. S. Byers, D. F. Dincauze, W. Simmons, D. Snow (1980), and many more. Speaking less flamboyantly, we are building on the publications of these scholars, which are cited by most of my sources.

SOURCES.

In order to obtain an overview of archaeological activities in the state (Appendix A), I first interviewed representatives of several categories of archaeology, such as Barbara Luedtke, for university archaeology, John Pretola, for museum archaeology, and Brona Simon, for CRM studies. I also visited the UMass Field School in Northampton, and communicated by mail with Doc Robbins, Tom Lux, and Dena Dincauze, about Massachusetts archaeology before 1980. After the time available for such communication ran out, I turned to the published record (Appendix B). Carrying copies of these journals around with me, I spent my summer reading the large amount of Massachusetts archaeological work published in the past five years.

SITE REPORTS.

Because excavation destroys a site, ethical archaeological principles

METHODOLOGY.

The Massachusetts literature of the past five years shows the increasing use of several methodologies. Chronological artifact classification systems (MHC 1984b) developed for cataloguing collections in Massachusetts support efforts to interview collectors and other informants and to record collections and sites. A number of researchers have analyzed, reported, and exhibited collections (Pretola 1983, 1985; Barber 1981, 1984; Ritchie 1980, 1983; Johnson and Mahlstedt 1984a, 1984b, 1985; Largy 1985b; Mansfield 1985; McManamon 1980; MHC 1981, 1982a,b, 1984a, 1985a; Warfield 1984; Hoffman 1979a, 1980, 1984b; Brierly and Cohen 1980; Towl 1983, 1984; Little 1980a; Blancke and Robinson 1985). Several studies show that regional comparisons of recorded site locations or of adequately curated collections can be an
exciting avenue of research (Curran 1984; Grimes et al. 1984; Towle 1984; Borstel 1984b; Mulholland 1984). As yet, however, little work has been reported to define types and correct the inaccuracies believed to exist in these systems (Hoffman 1980, 1983b; Painter 1984, 1985).

Some methodologies show increasing local use: statistical field sampling (McManamon 1981a,b, 1982, 1984a), flotation (Fitzgerald 1984; Largy 1984, 1985a; Bradley et al. 1983), seasonality determinations from floral and faunal remains (Hancock 1984; Luedtke 1980b), and thermoluminescent and radiocarbon dating (Eteson 1985; Mulholland 1984; Hoffman 1983b, 1985b; Borstel 1984b; Kra 1985). The use of resistivity measurements for site locations enjoys a boomlet of testing following publication of a circuit diagram for an inexpensive meter (Williams 1984:110-114; Gumacer et al. 1984), and, as to be expected, the use of the computer in archaeology is growing (Mulholland 1984; Hoffman 1983b, 1985b; Thorbahn 1984a,b; Salwen and A.-M. Cantwell 1985; Simon 1984).

Predictive surveying, practiced since 1976 in Massachusetts, requires the formulation of hypotheses and their testing in the field (Dincauze and Eldridge 1984; Moore and Root 1979; Mulholland 1979; Ritchie 1980; McManamon 1981a; Gallagher and Davin 1983; Little 1983; Wobst 1983; Simon 1984; Salwen & Cantwell 1985; Thorbahn, Loparto, Cox, and Simon 1980; Goldstein 1984). Because it forces us explicitly to rationalize and quantify our methods, it has great potential for adding rigor to our results (Wobst 1983; King 1984).

NEW ENVIRONMENTAL DATA.

Pollen studies (Winkler 1985; Davis et al. 1980), sea level data (Oldale and O'Hara 1980; Oldale 1985a,b), surficial and bedrock geology (USGS maps;
Larson and Stone 1982; Oldale 1982; Zen 1983), soil studies (Borstel 1984a), climate data (Bradley 1985; Lamb 1982; Little 1985), historical ecological data (Cronon 1983; Russell 1980; Johnson 1983; Little 1979-81; Mitchell 1984), cultural ecology (Butzer 1982), etc. (Dincauze 1981), have increasingly become front page news for Massachusetts archaeologists. A number of researchers have looked for cultural correlations with environmental changes, but most causal relations are not yet established (Mulholland 1984; Hoffman 1983b).

STRONG INFERENCE AND ANALYSIS OF PROCESS.

Massachusetts archaeologists increasingly employ strong inference (Platt 1964) and analysis of process to seek answers to how and why questions. Even more use of such scientific procedures would be beneficial, because the building and testing of hypotheses is a powerful tool for seeking to answer tough and interesting questions relevant to the world in 1985 (Dincauze 1980, 1984a,b; Wobst 1983).

Binford (1981) has presented a great example of this approach to the science of archaeology. Instead of assuming that the cause of all linear marks on bone is butchering by humans, he generates possible alternatives such as butchering, carnivore chewing, or root growth on bone surfaces. By comparing the effects of these processes on bone with a given linear mark of unknown cause, one can eliminate a number of possible causes. By means of this sort of analysis Moeller and Shipman have recently redefined as vascular grooves, the "cut marks" on a newly discovered Massachusetts mastodon bone (Moeller 1984; Goldstein 1984; Parrish et al. 1983).

A similar approach to hunter/gatherer settlement systems and site
formation (Binford 1980) could produce valuable insights for Massachusetts archaeological sites. Were our shell middens formed by small work parties preparing shellfish for consumption at large sites elsewhere, or where they the refuse of small groups of campers repeatedly using the same site?

Archaeologists are applying these methods to Massachusetts archaeology broadly, using in conjunction with excavation, replication, including knapping (Boudreau 1981; Shea 1985; Ritchie 1981; Cross 1983), studies of ethnohistory and ethnology (Brenner 1984; Little and Andrews 1982; Chase 1984; Gammisa 1984; Weinstein 1983, 1985), caribou bone identification (Spiess, Curran and Grimes 1985) and site taphonomy (Taylor 1981; Strauss 1981, 1985; Hoffman 1982a), with satisfying and even elegant results (Spiess et al. 1985).

ACTIVE RESEARCH AREAS IN MASSACHUSETTS ARCHAEOLOGY TODAY.

Hypothesis generation and testing is increasingly employed in studies of prehistoric adaptations in Massachusetts, specifically in the areas of chronology, ceremonialism, economics, lithic sources, long distance trade, ceramics, sedentism and seasonality (Luedtke 1980a, 1980b, 1983; McManamon 1984a; Borstel 1984b,c; Hancock 1984; Childs 1984a, 1984b; Fitzgerald 1984; Fairbanks 1980; Little 1985).

Fluted points, defined as Clovis and Folsom in the west, have recently been surveyed in the east, and large numbers of fluted points have been added to the record (Brennan 1982; Gramly 1983, 1984). Massachusetts reports a certainly inadequate 25-30 fluted points in addition to about 400 from Bull Brook. We can best answer questions raised by this survey about the process and timing of the spread of fluted points and variations over the North
American continent, by the formation and testing of hypotheses with careful C-14 dating control in both the east and the west (Haynes 1983, Haynes et al. 1984; Butler 1983; Storck 1983; Curran 1979, 1984; Grimes and Grimes 1985).

Answers to cultural questions about the development of ranked societies in Massachusetts, about social boundaries and transfer of ideas, about ceremonialism, and kinship, etc., are scarce in the Massachusetts literature, possibly because much of Massachusetts' ethnohistoric documentation was written early and by Europeans with a European bias (Simmons 1981). From sources such as documents written by Indians, folklore, lithic source analysis, and Contact Period archaeology, by using multiple hypothesis testing, we begin to see alternative views of the social dimensions of Contact Period Algonquian life, with potential relevance to prehistoric archaeological questions (Robbins nda,b,c,d; Thomas 1979; Axtell 1981; Simmons 1982, 1985; Bragdon 1981a,b,c; Bradley et al. 1982; Aubin 1980; Goddard 1981; Haaker 1984; Little 1980b, 1979-81, 1981, 1982, 1984a; Salisbury 1982; Blancke 1983; Thorbahn 1984a,b; Hoffman 1983b, 1985a; Brenner 1981, 1984; Starbuck 1984; Paynter 1984; Dincauze 1985; Blancke & Robinson 1985; McNamoon 1984b).

New kinds of studies of human osteological remains produce data on prehistoric diet, nutrition, health, and classes of trauma, which can contribute significantly to such archaeological questions as the importance of marine foods, the existence and variations of ranking, and the chronology and cultural importance of maize (Ceci 1982). Although much development of the technique has taken place at UMass., Amherst, studies of this kind have yet to be carried out for prehistoric Massachusetts inhabitants (Huss-Ashmore et al. 1982; Bumsted 1984; Martin et al. 1981; Schindler 1981; Talmage 1982; Trinkaus 1982).
CULTURAL RESOURCE MANAGEMENT.

Cultural resource management, administered by the Massachusetts Historical Commission, has had a productive five years (Simon 1984; 1985 personal communication). The goals of MHC's survey and planning are to increase the state's data base, to evaluate it, and to preserve it (Cole 1981; Bradley et al. 1983; Bower, et al. 1984; Mrozowski 1985; MCH 1979, 1981, 1982a,b, 1984a,b, 1985a,b). MHC files in 1979 contained 1500 prehistoric sites with related reports. Since that date, the State Archaeologist has instituted new permitting and survey procedures, with notable improvement in report quality. In 1985, the number of recorded sites exceeds 5000 and there have been over 600 CRM survey reports deposited at the MHC. A periodically updated publication (MHC 1985b) available from the Massachusetts Historical Commission lists all unpublished archaeological survey and site reports for Massachusetts which have been submitted to the MHC. At the present time the MHC and the archaeological community of Massachusetts are conducting an interactive dialogue for the purpose of articulating goals and strategies for the next five years.

FUTURE DIRECTIONS: A WISH LIST.

Reviewers (Wobst 1983; Dincauze 1980, 1984a; Dincauze et al. 1981) of Massachusetts archaeological survey reports written before 1980 recommended quantitative definitions of archaeological units, data recovery from sources beyond archaeological excavation, including local informants (Naylor 1981), ethnohistory, and paleoenvironmental studies, more use of strong inference, and publication. Although these areas show substantial gains, the recommendations still hold not only for contract reports but for all
archaeological studies.

After reading publications of 1980-1985, I have an additional wish list. I would wish for field studies to answer some of the questions raised by theoretical papers and vice versa (Starbuck 1984), I would wish for improved curation of prehistoric artifacts, and I would ask archaeologists to join together to help stamp out the use of jargon.

Most of all, I would like to see published many of the presently unpublished archaeological 'research reports', by which I do not mean PhD and MA theses, which are usually available to the public. Research has as its aim the revision of accepted conclusions in the light of newly discovered facts. But, unless the established conclusions are available to researchers, they cannot be falsified. Papers presented orally at meetings and CRM reports usually are difficult to obtain in hard copy form, although some which I was able to skim are highly worthy of publication, in whole or revised form (Huntington 1982; Thorbahn 1982). As for how to advertise, market, and distribute state, local, or organizational archaeological publications, Roger Moeller (1985) has recently initiated a most wonderful catalogue of eastern archaeological best-sellers. Let's make our reports and articles available to our colleagues, as well as to future students of Massachusetts archaeology.

In conclusion, Massachusetts archaeologists have reached a point where environmental data is routinely incorporated into the archaeological context, where a number of us use the computer as a friendly and efficient tool, and where generation of alternative hypotheses and their testing is producing new insights into prehistoric cultures with a high confidence level.
APPENDIX A.

ORGANIZATIONS SPONSORING PREHISTORIC STUDIES IN MASSACHUSETTS.

Organizations which carry out archaeological activities to varying degrees and contact persons (see also Goldstein 1981, 1984, 1985; Conference on Northeast Archaeology Newsletter; Paynter 1984):

Massachusetts Archaeological Society, Inc., 8 North Main St., Attleboro 02703, Sponsors Semi-annual meetings for presentation of research results, J. Weeks MAS Bulletin (Site Reports, etc.), B. Luedtke, editor Matching Funds for radiocarbon dating, C. Nelson Site recording and conservation activities Bronson Museum, 8 North Main St., Attleboro, 02703, T. Lux MAS Chapters: Norwottuck, South Shore, Cape Cod, Ekblaw, Chester, Massasoit, North River, Cohasset.

APPENDIX B. PUBLICATIONS CONTAINING STUDIES OF MASSACHUSETTS PREHISTORY WITH
INITIAL PUBLICATION DATE] OR INITIAL MASSACHUSETTS PAPER DATE*.

American Antiquity. Society for American Archaeology. [1936]
Massachusetts Archaeological Society Bulletin, Attleboro, MA 02703. [1940]
Papers of the R.S. Peabody Foundation for Archaeology. Andover. [1940]
Ethnohistory. American Society for Ethnohistory. [1954]
Papers of the Algonquian Conferences, edited by William Cowan, Carleton University, Ottawa, Canada. [1970]
Man in the Northeast, Department of Anthropology, SUNY, Albany. [1971]
Journal of Field Archaeology. Boston University, Boston 02215. [1974]
Occasional Publications in Northeastern Anthropology. Anthropology Department, Franklin Pierce College, Rindge, NH 03461. [1976]
Peabody Museum Monographs. Harvard University, Cambridge. 1976*
Archaeological Quarterly Eckblaw Chapter, Massachusetts Archaeological Society, Worcester, MA. [1979]
North American Archaeologist, Archaeological Services, Bethlehem, CT [1979]
Cultural Resources Management Studies. Division of Cultural Resources, National Park Service, 15 State St., Boston, MA 02109. [1979]
Research Reports. Department of Anthropology, University of Massachusetts, Amherst, MA 01003. 1979*
Conference on New England Archaeology Newsletter. [1981]
Nantucket Archaeological Studies, Nantucket Historical Association. [1983]
Archaeological Collections Management Project Series. Division of Cultural Resources, National Park Service, 15 State St., Boston, MA 02109. [1983]
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1981 True Blades in Massachusetts. Massachusetts Archaeological Society

1982 The Wheeler's Site: A Specialized Shellfish Processing Station on the

1983 Diversity in Shell Middens: The View from Morrill Point. Man in the

1984 Treasures in the Peabody's Basement: A Button Mold with an Extraordinary
Incised Figure. Massachusetts Archaeological Society 45:49-51.

Binford, L. R.
1980 Willow Smoke and Dogs' Tails: Hunter Gatherer Settlement Systems and


Blancke, S.
1983 Concord and Native First People. In New Perspectives on Concord's
History. Massachusetts Foundation for Humanities and Public Policy, Concord.

Blancke, S., and B. Robinson
1985 From Musketaquid to Concord: The Native and European Experience.
Concord Antiquarian Museum, Concord.

Borstel, C.L.
1984a Stratigraphy and Archeological Context of Prehistoric Sites at Cape
Cod National Seashore. In Chapters in the Archeology of Cape Cod, I, edited


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1983 Archaeology of the Bostonian Hotel Site. Occasional Publications in Archaeology and History #2. Massachusetts Historical Commission, Office of the Massachusetts Secretary of State, Boston.

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Brennan, L. A.
Brenner, Elise


Brierly, W. B., and D.E. Cohen

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Butler, B.R

Butzer, K.W.

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