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THE MIDDLE MISSOURI TRADITION IN RETROSPECT

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The "culture history" of the Missouri trench in North and South Dakota has been phrased in climatological parameters. The life cycle of the Middle Missouri Tradition in particular seems to correlate closely with the Neo-Atlantic episode, yet the interpretation is speculative because appropriate climatic data are not available.

† † †

After more than a half century of systematic research, prehistoric studies in the Plains might appear to have achieved a degree of maturity. We know, or think we know, a good bit about the regional archeology. We have a sense of time and space and a long-standing concern with the relationships between man and the natural world. Thus, at this time we can speak of many things with confidence, yet reconstruction and interpretation have been remarkably one dimensional. Recently this has come to rest primarily upon an assessment of climatic vagaries. Indeed, much of the recent literature has been concerned with climate as a cultural dynamic of one sort or another (Caldwell and Jensen, 1969; Lehmer, 1970). It is the thesis here that our confidence is misplaced, at least insofar as it has rested upon climatological data, because those data are so scarce and so inexact. The first hand experience and persisting concern of the writer has been with the Middle Missouri so that the remarks in this chapter will focus there. Nonetheless, I believe that my contention applies to other areas of the Plains in considerable degree.

Although the term "Middle Missouri" is well understood by regional prehistorians, a word of explanation is warranted for a less specialized audience. To the uninitiated, the terminology of the Plains archeologist can be confusing indeed. Middle Missouri, as used presently, has two meanings:

1. A geographical area, as originally conceived, consisting of the Missouri River trench between the

Nebraska border and the mouth of the Yellowstone River (Lehmer, 1954; Lehmer and Caldwell, 1966).

2. An archeologically defined tradition that is found within the Middle Missouri area but, as now known, is not limited to it (Lehmer, 1954).

The Middle Missouri tradition, in its developed form, includes several facies, but the nature of relationships among them, the age, life span, and extent of temporal overlap are matters of disagreement. The taxonomic framework now in vogue initially assumed a sequence—first an Initial Horizon, then an Extended, and, finally, a Terminal Horizon (Lehmer and Caldwell, 1966). Today the linearity of the sequence is unclear, and by fiat, horizons have become variants (Lehmer, 1971), but the essential conceptual scheme is still lively.

The sites of the Middle Missouri Tradition are complex village communities. Typically they include a large group of distinctive semi-subterranean houses arranged in a more or less regular pattern within a fortified perimeter. In its most spectacular form the latter consists of dry moat, curtain wall, and numbers of defensive bastions. Most villages are on terraces above the flood plain and often are mantled by thick accumulations of loess. Although evidence of cultigens is not abundant, the Middle Missouri Tradition is believed to have been supported by a combined maize horticulture hunting-gathering subsistence base.

Historically, the Middle Missouri Tradition and subsequent occupations of the Middle Missouri region have been viewed from the vantage of the Central Plains (essentially Nebraska) (Lehmer, 1954; Spaulding, 1956), and in the context of the putative climatic episodes that have characterized the region (Lehmer, 1954). The writer's work in the Big Bend country of the Missouri Trench in central South Dakota

is symptomatic of the pattern and relates to the Middle Missouri area as a whole (Caldwell and Jensen, 1969). Within the Big Bend Locality, the Tradition is represented by a group of sites and components (coherent units within sites) (Wiley and Phillips, 1962) that seem to have been sequential between the years AD 1000 ± and 1250 (or perhaps somewhat later) (Caldwell and Jensen, 1969). The earliest, component B at the Pretty Head site, has been attributed by the writer to the Over Phase which is most closely related to sites toward the south and east, and ultimately, to the Mill Creek complex of northwestern Iowa. It was succeeded by Pretty Head A, the Langdeau site and component B of the Jiggs Thompson site. Together, these three occupations constitute the Grand Detour Phase within the locality (Caldwell and Jensen, 1969).

The settlement plan of the Over Phase village was casual and irregular but subsequent villages appear to have been planned with care. Houses were arranged in perceptible ranks rather similar to street rows. At Pretty Head and Langdeau the plan is open and spacious. At Jiggs Thompson the village was compact and tightly constructed. The Pretty Head and Jiggs Thompson components were fortified, the former with a rectilinear moat armed with bastions, the latter by a simple ditch detaching the terrace spur upon which the village was situated.

Some years ago the author chose to manipulate the data from the Big Bend within a climatological model based upon a variety of sources but most strongly influenced by tree ring studies as they then existed in Nebraska and the Dakotas (Caldwell, 1968; Caldwell and Jensen, 1969). Initially, the writer saw the establishment and growth of the Middle Missouri Tradition as a function of a period of "more adequate and equitable distribution of rainfall" in the western plains, and increased warmth in the upper Mississippi Valley as hypothesized by Griffith for the interval of the eighth-thirteenth centuries (Griffith, 1961). The period seemed to have been ended by an extremely dry period roughly paralleling the "Great Pueblo drought" of the 1200's.

The timing seemed correct, at least generally. It was in agreement with available radiocarbon data, and more important, it fit the writer's preconceptions rather well. Moreover, because the progenitors of the Middle Missouri Tradition were believed to have lived to the east and southeast, it was easy to argue for a dynamic farming frontier advancing westward and northwestward as cropping conditions improved. Thus the tradition arrived in the Big Bend country as the Over Phase, developed (Pretty Head B), flourished (Langdeau), declined (Jiggs Thompson), and ultimately, disappeared with the degradation of the horticultural environment. The locality seemed to have been abandoned, at least by regular residents, before AD 1300 and was not reoccupied until the fifteenth century. By then it had become a cockpit for survivors of the old tradition emerging from the north, and the carriers of a new pattern, the Coalescent Tradition, moving from the south.

The reporting of work at the Phipps Site, a long-occupied village of the Mill Creek complex in northwestern Iowa, provided a comparative wealth of environmental data for a portion of the Plains border (Baerreis and Bryson, 1967). The Phipps climatological sequence provided a baseline for a series of papers by Baerreis, Bryson and Wendland (1970), in various combinations and permutations, discussing climate, change and sequence in mid-continent. Their work has had a major impact among Plains' prehistorians. Among other contributions, they introduced a version of the Blytt-Sernander terminology and correlated the climatic episodes so named with radiocarbon dates corrected for calendar years. Thus, the author discovered that he had been talking about the Neo-Atlantic and succeeding episodes without realizing it, and he subsequently applied that terminology and concept in an interpretation of Middle Missouri prehistory (Caldwell and Jensen, 1969). Later Lehmer and others did the same. Now there has grown a widespread notion that climatic episodes are major operants in the ebb and flow of Middle Missouri complexes. Indeed, Lehmer carried such reductionist arguments to a natural conclusion, *viz.*, a cause and effect relationship (Lehmer, 1970).

Before an assessment of the data supporting the climatological model in the Middle Missouri is made, a degression is necessary.

During the past decade or more, there has grown a new awareness that much more data can be derived from archeological sites than was believed possible. We know now that archeological evidence permits analyses of kinship, status, and a variety of societal relationships. Recrudescence with methodology of field recovery and analytical techniques have brought new climate-oriented data in a bewildering abundance. Concurrently, there has emerged a "New Archeology" which insists that prehistorians must be scientists, relying upon the methodologies of science to determine and test the realities of the past. The results have been laudable despite the extreme positions of some proponents. Thus we have witnessed the emergence of a new discipline that is confident, self-reliant, and widely ranging. The prehistorian now sees new problems and envisages new ways to solve them. Unfortunately for the archeoclimatologist, the bulk of research in the Middle Missouri was done before the methodological renaissance. Moreover, much of it was done under salvage conditions which placed severe restrictions upon the fieldworker and precluded the "total recovery" now in vogue. For instance, there is a vast weight of excavated animal bone much of which might have served as climatic indicators, but it was collected selectively, culled in the field and again in the laboratory so that it is not a random sample and cannot be shown even to be representative of the creatures included within the site. Much of it was not adequately identified, at least by present standards, and most of it was from large animals, notably the bison. Little effort was made to collect remains of small animals, rodents, mollusca and the like, that demand narrow environmental

zones and thus closely reflect temperature and moisture and perhaps other factors.

Until recently, there was a relative dearth of botanical remains excavated from the archeological sites of the Middle Missouri, largely because there was little systematic collecting. Cache pits, post moulds, house fill, and other features were known to hold seeds, seed pods, shells, and other vegetal remains, but since a regular plan of screening was lacking, only the more obvious remains were recovered and they served little analytical purpose.

Pollen has been collected at a number of stations in the central and northern plains. Pollen columns dated by radiocarbon are available, but they have not been suitable for study of the Middle Missouri. Efforts to collect pollen from local contexts in the Big Bend and Grand Moreau areas have been marginally successful.

Dendrochronological research has a long history in the Plains. Perhaps the work of Harry Weakly (1946, 1949, 1950) in Nebraska is the best known, but George Will's "master plot" from the Bismark area of North Dakota has been equally important (1946). Both were applied to archeological contexts (H. Weakly, 1946; Will, 1948), and both provided time perspectives that were not otherwise available, but neither provided a basis for clear climatic assessment. Also, neither body of work is in the modern mode. Analysis was often impressionistic, and the results are not amenable to mensuration and statistical manipulation.

In sum, we have scant and inconclusive data upon which to base a climatological dynamic. At this point, we have created an edifice of assumption and hypothesis, and no more. Current research in the Middle Missouri has been formulated to remedy some of the deficits and focuses on technologies and theoretical positions that were unknown or unfeasible in the past. Recently, tree ring studies have been renewed in the Middle Missouri (W. Weakly, 1971) and present work in Nebraska is developing dendrochronologies that will serve to reconstruct past climatic variability. Analyses of micro- and macrofauna and botanical remains from South Dakota and Wyoming are creating a data base for a methodologically sound reconstruction of recent climatic sequence and chronology that can be far more sophisticated than anything done in the past.

Surely the current advance cannot be taken as an indictment of the past. The author was part of it but there will be no *mea culpa* from him. The environmental manipulation and speculation in the Middle Missouri typified the state of the art and the same is true elsewhere in the Plains. Prehistory is different now, and the stage is set for new and different sorts of analyses in the plains. We are at the point of a new beginning.

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