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OFFICE OF PLANNING  
DEPT. OF TRANSPORTATION

COLLEGE OF ARTS & SCIENCE  
DEPARTMENT OF ANTHROPOLOGY

October 11, 1981

Dear Kevin:

Thank you for the opportunity to comment upon Susan Henry's proposed "Delaware Historic Research Design". Because I am not trained as a historic archaeologist I have not commented upon these aspects of the proposed research design. However, because the fundamental applications of many of the locational models have a common basis in prehistoric and historic archaeology I have included some comments on these aspects of the research design. Also, over the years I have been involved in the study of historic settlement patterns in southeastern Pennsylvania and I am familiar with Lemon's work that is cited in many places in this research design. Where appropriate I have included comments on this topic. Finally, you asked me specifically about possible statistical tests of the generalizations offered in the research design and the methods proposed at the end of the design. I have also provided these comments.

My specific comments on the proposed research design are as follows:

- page 1, line 9 - Lemon also stresses the role of available natural resources such as soils, mineral resources, etc. These factors are not addressed in this model.
- page 1, line 20 - I doubt that topographic uniformity or homogeneity of resources applies to the Delaware Coastal Plain or Piedmont physiographic zones. Especially given the varied estuarine settings.
- page 3, line 2 - see comments for page 1, line 20.
- page 4, line 7 - Russ Handsman has shown that our ideas about how present market economies work are not always accurate assessments of how past market economies have worked. (For copies of Russ's work write to him at the American Indian Archaeological Institute, Washington, CT).
- page 5, last line - I think that this is a misreading of Lemon's work. The earliest settlements of Lancaster and Chester Counties was associated with mineral resources, namely the Welsh mining communities.
- page 6, line 23 - I don not think that it is at all definite that the southeastern Pennsylvania data fits Hudson's model. For example, Jennings' studies of Logan's policies in the Indian trade have shown that these policies greatly affected settlement patterns in large portions of Lancaster County.
- page 7, line 6 - It is not at all clear that variables of ethnic/religious affiliation are more readily apparent in internal settlement patterning. In the previous sentence Lemon's data is cited; however, Lemon's study clearly showed that regional settlement pattern differences in Lancaster County correlated with religious groups such as Quakers, Anabaptists, and ethnic groups such as the Welsh. The cited literature is inappropriate for the general statements presented!

page 20, line 23 - There are major problems with the nearest neighbor statistic as documented in a series of articles in recent issues of American Antiquity. The problems with applying it to this research designs are data controls, time controls, intervening variables, and transformations of distance measures.

page 21, line 4 - It is not at all clear from Steve Plog's study that the gravity model works. Jochim's work also shows problems (IMPORTANT PROBLEMS) with this approach.

page 21, line 16 - It seems as if many years' work on historic settlement pattern studies in Delaware have been ignored.

In addition to these specific comments I would like to make a few general observations. First, the major weakness of this research design is that it is too superficial and general. It ignores almost all of the previous historical archaeological research in Delaware. (There are only two citations of Delaware studies in the references cited section!). All of Delaware south of Route 95 seems to have been ignored. Even more seriously, there seems to be a complete disregard of the cultural variability and cultural context of the locational data. This is especially true in the use of Lemon's data.

With regard to the locational analyses, there is a certain "fuzziness" in the presentation of the concepts that indicates a "fuzziness" on the part of the understanding of the author. The quantitative methods appear to be a "grab-bag" of approaches obtained from a simple perusal of Flannery's Early Mesoamerican Village.

I hate to be completely negative, but I find it difficult to say much good about this research design. It looks like an "F&S" job, fast and sloppy. I do not think that it will even serve the needs of your short-term research projects for the Route 4 project. I think a more complete review of existing data and analyses in Delaware is needed and coordination with Dan Griffith's office is essential. Dan and I have worked out a format for the prehistoric resources that is applicable in its general outline to many of your problems. Also, it is necessary to comply with the Federal RP3 guidelines and this research design does not even come close. I am sure Dan can help you out with this.

If I can provide any further assistance, please let me know.

Sincerely,

  
Jay F. Custer, Ph.D.  
Assistant Professor of Anthropology