

## THE COMPUTERIZATION OF ROCK ART IN THE INTERMOUNTAIN ANTIQUITIES COMPUTER SYSTEM

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In the past, archaeologists have tended to neglect the study of rock art. Various reasons have been given for the lack of interest, ranging from imprecise dating to ambiguous cultural significance. Yet slowly, archaeologists are realizing the study of petroglyphs and pictographs may play an important role in better understanding the past.

A major problem in the study of rock art has been the lack of synthesized information concerning it. Without a central body of data available to scholars, the process of investigation becomes quite difficult. Although many books, papers and articles have been authored on the subject, no one main data base exists.

The data base should contain information about the site, such as location, type and condition. It should be available for study by qualified researchers; and, most importantly, it should be computerized for ease of use and access.

Although it is possible to develop such a system on a home computer, there are several limitations. The first is memory and processing considerations. Most home computers under \$3,000 lack the memory and processing speed to efficiently handle large bodies of data. Even with a larger computer, there is a problem of accessibility. If a machine is located in a home, this restricts the usage of site data to other individuals.

A solution to the development of a data base system for rock art information, is to adopt the Intermountain Antiquities Computer System (IMACS). IMACS is a multi-state cooperative system that retains archaeological site information. A standardized site form is used, with information encoded for computer applications. Once site forms are filled out, the encoded information is sent out to be key punched on magnetic tape. The magnetic tape is then downloaded onto a large mainframe computer, where data can be manipulated with a variety of programs. Currently, IMACS information covers 40,000 sites from Utah, Nevada, Wyoming and Idaho.

The problem with using IMACS in conjunction with rock art research is the lack of encoding information for the site. The only area mentioning rock art on the current site form, is included under archaeological features, which lists pictographs and petroglyphs. Other than this one entry, the only place on the form where rock art data could be entered, is under miscellaneous descriptions or comments.

The solution to this limitation, is the development of a specific rock art site form to be used in conjunction with the IMACS form. A rock art site would be recorded with the regular IMACS form, and a specific sheet dealing with rock art would be attached. The information would then be encoded, and accessible by computer.

Due to the fairly large number of state participants in the IMACS Executive Council, it is initially unlikely that a rock art site form could be instituted on a regional basis. However, the Division of State History, Antiquities Section has expressed interest in seeing the development of such a form used within the state of Utah. If successful, it is reasonable to assume that such a form could be introduced on a regional IMACS level.

Several considerations exist for the creation of such a form. The first is the cooperation of professional and amateur archaeologists in establishing its format. The site form must be able to meet both groups' criteria. In addition, there must be a spirit of cooperation in using the site form. Enough people must use it to assure a sufficient data base for research.

Once a data base system is set up, it would be accessed by computer programs for a variety of purposes. Locations of sites could be determined by entering appropriate township and range coordinates, distribution of specific styles could be traced, and comparisons could be made of different site

characteristics. In all, a number of significant questions could be addressed that would take years of research without the aid of a computer.

The idea of setting up a data base system with specific rock art site forms seems like a valid proposition. However, a large amount of cooperation and work must be involved before such a system could be implemented. But considering the benefits that would be gained, the creation of an IMACS style cooperative data base would be invaluable to both professional archaeologists and rock art enthusiasts.

NOTE: Under the direction of Steven Manning, an IMACS Rock Art Supplement form was developed, and it is currently in use in a four-state area. The encoding of the information into the data base, however, has never been accomplished. The reason for this is principally the lack of a sufficient number of archaeologists who would use such a data base. There are simply not enough people, who would use the information, to justify the cost of entering and maintaining a data base.