

Experience with the National Inventory Programme of Canada

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In 1974 I had the opportunity to report upon computer usage in the province of British Columbia Canada. At that time, the main use was seen in artifact analysis -- principally the use of clustering based upon similarity/distance matrices. The problems addressed were fundamental ones; the establishment of cultural sequences and the investigation of inter- and intrasite variation. In addition, the National Inventory of collections was just beginning and my museum had opted to convert its collections records into that system. We believed at the time that our collections were relatively well documented, and that the system touted by the National Inventory System was suitable to our needs.

We have subsequently learned that our collections' data were appalling, and that the simplistic view we took of our computer needs was only the tip of the iceberg. During the past 8 years my division has been working toward the full recataloguing of our existing 170,000 artifact collection. To date we have 70,000 records on line and another 20,000 records to be entered into the system during the next year. During the process of recataloguing, we also embarked on a total reinventory of our collections.

The main problem at the beginning lay in the variety of catalogues created over the years by numerous registrars. In addition to our need to standardize our own records, there was a need to agree upon data standards on a national basis. Over a three year period a set of national standards was drawn up by a panel of archaeologists and museum curators. These standards concern the main headings and comprise 67 different types of information believed to be needed to completely describe an excavated artifact. Specific to our collection, a set of standards for data relating to each entry heading was created. A dictionary of terms was established and a syntax and grammar created for the orderly use of these terms. The terms specific to the description of artifacts were chosen to reflect morphology and not attributed function. These terms were derived from accepted and meaningful names in use in British Columbia archaeology, and specific shape terms and modifiers of these class terms were established by analysis of 2 to 3 hundred numbered 100 terms; over the past 5 years of using our standards, we have added only about 20 terms and deleted only three.

In addition to artifact records, we have converted our entire site file of about 13,500 presently known site locations. The process of standardization of headings and internal

descriptive standards has paralleled our developments in the artifact collections. The site file has 76 different fields; each site must be recorded on a printed form. The form has a guide to instruct the field archaeologist in the proper manner of recording data. It is the responsibility of each field archaeologist to turn in to the Provincial Archaeologist a correct and complete form.

In addition to standardization of information going into the computer there is an attendant standardization of procedures for the future accessioning of collections data. In fact, our efforts to ensure that we will never have to recatalogue our collections in the future have created a system of collections management. Early in the recataloguing of our collection we realized that not only could the computerized data base provide us with quick answers to our own and the profession's questions about the collection, but we could use the system to our advantage in managing the collection itself. Primary to this management is the ability to list artifact locations in storage along with the artifact description information on the record. This facility permitted us to emphasize the storage requirements of the collections from the conservation point of view over the sheer need to organize the collection to facilitate the locating of the artifacts. By having our collection storage highly controlled we can now compress the collection; in the past year we have begun this process and have already gained 20% more storage room.

One of the biggest realizations we came to was that our museum oriented data base would not be a strictly suitable research database. Our primary use of the data would be to answer specific questions about what artifacts we have, where are they from, what are they made of, and where are they located in storage. In fact the data base is a management tool and not strictly a research tool. Research is facilitated because the data can be used to quickly address preliminary analytical questions and narrow the range of potentially useful artifacts. It is clear to us now that a large collections database designed for museum use will not usher in the period of the automated dissertation.

The national aspects of this system are yet to be tested; the promise of retrieval of information from distant parts of a country as large as Canada is still attractive and viable. Nevertheless, there is a powerful bias against computerization of collections on the part of museum curators. The majority of Canadian museums is still using 19th century registration techniques on this, the threshold of the 21st century. In part this reluctance to cleave to new technology reflects an ignorance and hence suspicion of the technology; and disappointment over the very long development time of the National Inventory Programme.

Initially, NIP was predicated upon the belief that once entered, collections data would be static and furthermore that what was needed were fast catalogues that could be queried quickly. As we began our work recataloguing and redesigning our registration procedures, it became evident that the NIP was a far more powerful tool than initially thought.

In response to the applications of computerized catalogue and collections management to individual institutions collections, the NIP came to recognize that their original system ISIS was inadequate to the tasks demanded by the client museums. Last year at about this time CDC corporation and the National Museums entered into a joint project to supplant ISIS with their newly developed PARIS database management system.

This new system will permit us to fully use the data within our computerized catalogue. PARIS allows us full control over our data including editing and updating at our own schedule. Inquiries into the national system will abstract a subset of our data for inclusion into a global database. This database can be searched by any system user. Access to our full database by another institution comes only, after we have assigned a read-only, one-use-only, password.

The PARIS system gives us a powerful search language that includes all the Boolean operators plus full output formatting for each retrieval.

Our current record length comprises 67 fields with a nominal limit of 30,000 characters per field. The system is entirely word based and each field is essentially unformatted. Data entry is currently done on a dedicated and specially written programme DEAP which runs on a PDP11. In the near future we will have the data entry processor within the PARIS system which will feature automatic field filling, thesaurus look-ups, automatic error checking. The data entry programmes will do conversions between UTM map coordinates and latitude and longitude coordinates. At present some simple descriptive statistical routines are supported by the system. In future, SPSS will be fully supported by the retrieval system.

At present our collection consists of about 200,000 artifacts, probably a million or so associated faunal remains, soil samples and level detritus bags. It is our hope to eventually integrate all our study and auxiliary collections into the database. As of February of this year we have about 70,000 records in the system accounting for about 9,000,000 words. Shortly we will be accessioning a collection for which an existing research oriented database is available. This collection may amount to 70,000 more records and will be electronically integrated into our main catalogue. We anticipate having our full collection in the computer within 3 more years.