

**ELECTRONIC CULTURAL ATLAS**  
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The electronic cultural atlas project is aimed at the creation of a database which will combine mapping, cultural features, and texts. The final goal is to provide scholars and other users with a research resource that takes advantage of the digital technology. The researchers who are involved with the work are being challenged to conceive of mapping and imagery as a method for presenting data which might otherwise be limited to written format. Using geo-referenced mapping prepared in GIS format, the project will prepare overlay maps that deal with collective cultural features. For example, in the Chinese database, one may look at administrative boundaries, waterways, elevation, population centers, burial practice, Confucian shrines, and sacred sites. The format of the cultural atlas will be in several parts: (1) a map covering a specific area, which can be accessed by moving to particular region, city, or point. (2) A menu of cultural features such as: shrines, tombs, monasteries, pilgrimage sites, names of individuals, dieties and the like. (3) A "time-line" that can be activated by moving the cursor to the desired period. Tied to the mapping and the cultural features, the time-line will determine which maps and sites appear on the screen. This will allow the user to select not only a place but also a specific time frame. (4) Finally a text "window" will provide written information linked to the time line, cultural feature, and specific map. Included in the text will be bibliography, listing of relevant on-line addresses and information about the researchers who have prepared the material.

One of the major contributions expected from the project is the outreach to scholars who will be asked to deal with their data in an innovative fashion. In order to accomplish this, we have understood the need to do specific research which can locate collective cultural patterns, document changes over time in an area, and identify the imagery appearing on the screen. As the data base grows, we expect that some of the patterns can be traced across the boundaries of administration and cultural spheres. Patterns of tomb construction, inscriptional evidence, written accounts of burial practices, postmortem rituals relating to the dead, will be available over a wider area than the original map studied by the user. Having the ability to range over an expanded region for any particular cultural feature will allow scholars to see a local pattern within a context that may be more extensive than previously known. While each of the researchers in the atlas project is asked to stay within the confines of their specialization, our preliminary meetings have shown how helpful and stimulating it is for individuals to compare well researched local data with similar material prepared by a colleague in a different region or discipline.

In order to give the most careful study of each region, we have set up Atlas Workgroups based on the training of our researchers. There are several workgroups:

- (1) China Cultural Atlas Workgroup
- (2) Korea Cultural Atlas Workgroup
- (3) Japan Cultural Atlas Workgroup
- (4) Silk Road Atlas Workgroup
- (5) Eurasian Nomad Atlas Workgroup
- (6) Circumpolar Atlas Workgroup
- (7) Caucasus Workgroup
- (8) North American Religion and Culture Workgroup

Each of the Workgroups has an Editor/s and a team of research associates, scholars who provide data for the cultural mapping and the text portion of the atlas. As the maps are prepared and the data gathered, it is put into a server, available to the research associates for reference. The material will appear on several servers to help with the problems of internet access. All of the Workgroups are committed to work within the technical framework that allows for a single format for the users of the data.

In order to keep the data in a format that can be transferred from one platform to another as future technology changes, all text material will be put into Standard Generalized Markup Language. Specific content will be marked by use of the guidelines of the Text Encoding Initiative, an international sub-set of SGML. The use of TEI, allows data to be marked with multiple descriptions: time, place, type (biography, history, ritual). This will allow for the future search strategies to be free of predetermined structures; users may follow their own interest without limitations imposed by the authors of the data. Images will be provided for local sites, including virtual reality depictions, allowing the user to explore and see for themselves the environment, structures, inscriptions, and state of preservation. In some cases, the virtual reality will be reconstructions of the appearance of a site at an earlier time.

In this way, the cultural atlas project will eventually provide maps, pictures, virtual reality, bibliography, time lines, marked up text and links to other atlases as well as other on-line assistance. In order to accomplish this, and go beyond the current CD ROMs that give general and limited coverage for cultural atlases, it will be necessary to:

(1) Prepare and collect the data to be included in the text "window."

The research needed to provide the wide ranging and detailed descriptions for specific sites will require the assistance of a large number of scholars. These researchers will provide parts of the data that is closest to their own research interest. We have already secured some initial grants to help with this task and a number of scholars are already at work. As the project grows over the next two years, we expect the number of researchers to increase dramatically.

(2) Storing, editing and formatting the data

As researchers provide raw data, it will be stored on the servers, and from there an editing team will extract relevant portions, mark them with SGML and TEI, and format them within the atlas program.

(3) Create a large number of maps for each region

As the data and cultural features are prepared by the researchers, the cartographers will have to translate that into maps that can be marked for time and place. For example, Confucian shrines in the Sung dynasty have to be identified, geo-referenced for place, and text prepared for the site history and for the biographies of the "worthies" who used the site.

(4) Arrange for "redirection" of data from existing databases.

In some cases, data has been prepared by other projects, which can be reused in the cultural atlas in a way that is quite different from its original form. This requires researching the databases that are presently available, negotiating rights, and selecting parts which will can fit

into the atlas format and content. We have already negotiated the rights to several major databases. One of these is the Huntington Archive of Asian Art, at Ohio State. This Archive contains 300,000 photos of art and archeological sites in Asia, each image identified as to site, period of construction, description of objects and personages in the image. By "redirecting" these photos, the editor of an atlas can provide visual data for a specific site, even put them together to form a virtual reality format for a cave monastery or a shrine area.

#### (5) Sharing data and reporting on the progress of the cultural atlas

An important part of the scholarly research involved in the cultural atlas project will be the reporting of the progress. Part of this reporting takes place at the official meetings of the workgroups. Two have been held during the last year, and two more are already planned, one in June-July and another in January, 1999. In addition to the closed meetings of the workgroups, reports of the project are planned for the coming year at the Pacific Neighborhood Consortium meeting in Taipei, Taiwan, the Association of Asian Studies Annual Meeting, the International Conference on Asian Studies in Leiden, the symposium at the Institute of Oriental Studies in Moscow "History and the use of Computers." Last year, preliminary reports were made at the ISO Chinese, Japanese, and Korean Documentation Workshop, Kyoto, Japan, the International Congress of Asian and North African Studies in Budapest, the Electronic Buddhist Text Initiative Meeting in Japan, and the Annual Meeting of the Association of Asian Studies. In these scholarly meetings, the cultural atlas project has helped to stimulate dialogue about the research use of the computer, and to recruit scholars to give assistance to the work.

Our proposals to date have been concerned with work on cultural features of China, Japan, and Korea. Specific features to be handled include: a digital linguistic mapping of the three nations, geo-referencing and inclusion of data on more than 1000 Confucian shrines in China, a preliminary work on use of the local histories for Yunnan Province sites and text data, "redirection" of data on the history of Christianity in China from the Ricci Institute project, creating data using historical maps of China, Japan and Korea (including the large Meiji collection of Japanese maps in the East Asian Library at Berkeley), research on more than 100 sites in the three nations, such as the caves at Kyzil in Western China, the Buddhist monasteries of Korea, the Buddhist nunneries in Japan, and a mapping of some 2500 Shinto Shrines of Japan, with translation of the entries of the recent encyclopedia of Shinto studies.

The content of the atlases will include the following:

- (1) GIS maps for all regions, including geo-referencing for physical features, population centers, archeological sites, and items such as shrines, monasteries, and tombs.
- (2) Created maps that overlay the geo-reference mapping, showing the parameters of a particular cultural feature, linguistic issues, and such items as burial practice, kingship patterns.
- (3) Time lines allow the construction of a database that is dynamic in that mapping and geo-referencing can be directly linked to a specific period in history. Time lines may vary from a year to year arrangement to more general coverage of centuries.

(4) In order to keep the data in a format that can be transferred from one platform to another in the future, the text will be put into Standard Generalized Markup Language. Specific content will be marked by use of the guidelines of the Text Encoding Initiative.

(5) Menus will be created to allow the user to select a specific cultural feature, one that is tied to the Document Type Description of the Text Encoding Initiative. Working from the menu, the maps can be entered, and a selection of site at whatever level, nation, province, city, or an identified item.

(6) Using Text Encoding Initiative guidelines, data will be marked up with multiple descriptions: time, place, type (biography, history, activity, etc.). This will allow for search strategies to be free of any single structure or approach.

(7) Images will be provided for local sites, including in some cases virtual reality depictions allowing the user to explore and see for themselves pictures of art, inscriptions, locale.

(8) As a part of the ECAI system, pointers will be provided to on-line data that relates to the site under consideration. In some cases, the stored image will be accessed through pointers to servers that handle specific sets of data.

(9) Bibliographical data will be given within the text data. Users will be given support for doing on-line searching for further sources within the catalogues of libraries.

In this way, the ECAI atlases will provide maps, pictures, virtual reality, bibliography, time lines, marked up text, and links to other atlases as well as other on-line assistance.

Because of the complexity of these projects, ECAI is forming one other structural component, that is a category of Cooperating Projects. These are groups of scholars who have specific purposes for research which is different from ECAI. However, the data created by the Cooperating Projects can be "re-directed" to ECAI and used in a way that is distinct from the primary focus of the individual projects.

We are pleased that the Pacific Neighborhood Consortium has put the Geographic Information Systems as an important part of future meetings. ECAI is one way in which scholars within the PNC can cooperate and work in a creative manner with the new electronic technology.

(This paper was accompanied by a visual demonstration of the atlas format)