

Taiwan Austronesian Electronic Cultural Atlas of the Pacific: A Linguistic and Cultural Attribute Digital Time Map

David Blundell
Team Coordinator
Taiwan, ROC

Abstract

This work stems from the Pacific Neighborhood Consortium (PNC). The present research is based digital museum projects concerning linguistics, prehistory, and ethnology, as a Pacific cultural “virtual museum” (Wasley 1995). Over the past few years, groups from the University of California, Berkeley (UCB), and others are setting up the Electronic Cultural Atlas Initiative (ECAI), to connect geographical areas of the world through a digital geographical information system (GIS). Meetings were sponsored by the Computing Centre, Academia Sinica, and the Ministry of Education, ROC, at Academia Sinica, Nankang, in 1998 and 1999. The latest meeting for 2000 being held at UC Berkeley and Stanford University, January 11th to 17th. From these gatherings, scholars have shared technical information to unify digital parameters to chart global spatial data. The initiative is to link geographical regions of the world as modular areas of research such as Central Asia (Silk Road), China and Northeast Asia, the Caucasus Region, Circumpolar, Russia, the Middle East, and North America. In 1997, the founder and chairman of ECAI, Professor Lewis Lancaster of the Department of East Asia Languages and Cultures, UCB, suggested that an atlas be developed at a conference entitled Austronesian Studies in Taiwan—Retrospective and Prospect held at UCB.

Voyagers

Across the Pacific and Indian oceans, the Austronesian speaking people have voyaged for centuries making a network of communication within this linguistic family to be the most extensive in the world prior to the European colonial days. Launched from the Western Pacific, in the neighborhood of the South China Sea (yet undetermined), the early Austronesian speakers reached islands of further distance apart traveling in canoes lashed and pegged together to Micronesia, the Lesser Sunda, and the Society Islands to Easter Island and Hawaii. In the westerly direction, voyagers made it to Madagascar. It set the stage for pan-Pacific/Indian Ocean long distance navigation.

This tracing of oceans happened according to the archaeological record from 6000 to 3000 years ago to the ethnographic present. The network process of these cultures is now

only becoming to be understood as vast sophisticated complex. For Westerners, this was observed by Captain Cook, a British explorer of the “oceans and terra incognita” in the 1700s. The British found that Austronesian speakers had advance information on their visits before their arrival to islands across the Pacific.

The earliest evidence of the Austronesian linguistic family points to Taiwan (yet unconfirmed as such), and the surrounding islands. Presently there are just under a dozen distinct groups in this family inhabiting the plain such as the Kavalan and groups under the gloss of Amis, the mountain areas inhabited by most of the existing groups, and the offshore isle of Lanyu where Tao live (their ethnological name is Yami). These Austronesian speaking peoples have different cultures utilizing the various diverse natural environments of the Taiwan area.

Roots of a Project

In Taiwan there is an increased awareness of ethnicity and roots as a people of cultural diversity and ancient time frames. To serve this quest, projects have been initiated in Taiwan such as the National Taiwan University Digital Library/Museum Project (NTU-DLM). It exists as a joint effort from the contribution of Prof. Jieh Hsiang of the Center of Excellence for Research in Computer Systems (CERICS) of NTU and the departments of anthropology, computer science, library sciences, history, and the University Library. The main mission of the project is to digitize the historical documents and artifacts kept in the various departments of NTU and present them through the World Wide Web (WWW). The NTU-DLM Project is intended to preserve, through digitization, the rich historical resources available at NTU, as well as providing them to the research community. Three phases have been scheduled. From 1997 to 1999, digitization of *pingpu* (Austronesian speakers of the Taiwan plain, past and present) materials archives will be in process. The facilities developed would enhance the research tools for social scientists (Hsiang 1998).

The currently the proposed Austronesian Electronic Cultural Atlas project traces its history to the *Conference on Austronesian Studies in Taiwan*, October 1997 at the University of California, Berkeley (Blundell 1998a). Lewis Lancaster gathered the scholars for an orientation at the campus for the Central Asia/Silk Road projects and a lunch to discuss the Pacific Neighborhood Consortium (PNC) and the Electronic Cultural Atlas Initiative (ECAI). It was mentioned that our group could possibly work on an atlas for the Austronesians. The participants attending considered this to be an intriguing concept. At the 1998 PNC meetings, at Academia Sinica, Taipei, the idea continued with growing awareness of the idea since National Taiwan University began the digital museum and library programs. Academia Sinica’s mapping projects for China, and the Austronesian-speaking Taiwan plains cultures of

the *pingpu* artifact web site from university collections continued to help people understand the possibilities of ECAI. While at the meetings, Lawrence Crissman (1999) offered to assist with GIS mapping especially for the languages of the Pacific.

The proposal is to update the current data based publications using GIS referencing organized by ECAI. This organization is under the network umbrella of the Pacific Neighborhood Consortium (PNC) that is based at Academia Sinica, Taiwan, and UC Berkeley. Members of the PNC are scientific, library, museum, and other academic institutions in Taiwan and worldwide. Since Taiwan holds the oldest Austronesian archaeological sites in the Western Pacific, it's the logical place to initiate the model for the atlas.

This atlas would be unique compared to other atlases, a quest electronically to post a bulletin board of Pacific data that would be posted based on GIS. The GIS would give lasting spatial features marked on an ECAI based system that would fit into other modular geographic areas under development. A Metadata system utilizing the ECAI coded information format will allow the user to seek additional stored data on the attributes or elements given on the atlas.

An atlas electronically tracing the Austronesian voyaging and settlements across the ocean would be an asset for understanding the Pacific as a highway of population and cultures. In our view, it was be a colorful walk through the layers living ethnography into the reaches of prehistory, with cultural phases coming, staying and waning according to the evidence from specialized observation and record of data collection.

Producing a geographical information system (GIS) version of *The Language Atlas of the Pacific* will involve more than just making a vector map that contains the linguistic information, as all of the spatial objects, such as the representations of all of the islands. It will need to be geo-referenced and coded in order to link to the linguistic information on a digital (vectored) atlas version. Ian Johnson (1998) has currently developed a TimeMap software system for ECAI. He has offered this software at the joint PNC meetings in Academia Sinica, January 1999. This software will be instrumental in producing the atlas to work as a multimedia device, sustainable, and interactive for the World Wide Web (WWW) on the second generation Internet (currently being developed in Taiwan along with AT&T). The first atlas module would be the Taiwan area. This electronic atlas would contain linguistic, contemporary, historic, and archaeological artifact content, related to Austronesian speaking populations. Layers of time frame maps would illustrate the development of cultures in time from the ancient to the present time in a continuous process system of spatial

data. Each cultural element would be coded based on GIS, and specific linguistic areas would be color-coded. This would be user friendly based as a resulting product for research, education, and continuing understanding of the region. Each atlas would be modular to fit into the complete set of maps of a complementary system: Southeast Asia, Austronesian Pacific and Indian Ocean regions (Click here to see [Figure 1](#), [Figure 2](#), [Figure 3](#), [Figure 4](#), [Figure 5](#)).

The main mission of the project is to digitize the historical documents and artifacts kept in the various Taiwan institutions and present them through the World Wide Web. The goals of the project are to conserve the heritage of Taiwan and the Pacific by advancing the research of digital library/museum and to provide an educational tool over the Web for the public to learn about history and culture. Also, the facilities developed would enhance the research tools for social scientists.

Conclusion

The idea of landscape currently presented by academics in Western countries has been part of the Asia Pacific and Taiwan conceptual map. In order for preparing an atlas of the Austronesian speakers, its proposed here that an Electronic Cultural Atlas of Austronesia be constructed through the computing centers and departments at Academia Sinica, National Taiwan University, including other institutions in Taiwan, the UK, Holland, Japan, and the University of California, Berkeley. Each institution has unique facilities to set up such a project that would include studies related to Austronesian languages.

The following phases should include where the Austronesian speaking cultures exist throughout Southeast Asia, and where they could be traced through prehistory. A vast Pacific region will come under this scholarly process of annotated mapping with the assistance of Indo-Pacific archaeology, linguistics, ethnology, sociology, geography, and history. Phases including the initial Taiwan mapping would serve as an academic bulletin board for scholarly exchange.

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