CULTURAL AND LINGUISTIC ATLAS FOR HISTORIC MONSOON ASIA
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Cultural Heritage and Collaboration in the Digital Age

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Historical GIS and the Austronesian Language Atlas for Southeast Asia

For a long time I have thought about cultural resource management based on heritage in Southeast Asia. From my previous writings this region I have defined to its greater area encompassing Southern Asia and adjacent Oceania. This geographical region has yet another term: Monsoon Asia. Asia Pacific is another more contemporary term in vogue for development and planning agencies to describe a region of Asia that faces and includes the Pacific. In terms of island cultures of the Pacific and seas adjacent to Southeast Asia bordering on the Indian Ocean westward, Oceania becomes a regional name equal to a continent. This paper explores the region described above from my observations and projects of heritage development in conservation.
Introduction

This work stems from the Pacific Neighborhood Consortium (PNC) established in the early 1990s. It is based on digital museum projects concerning linguistics, prehistory, and ethnology, as an Oceania cultural “virtual museum.” 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 areas of the world through a digital geographical information system (GIS).

From these shared projects, scholars have unified a technical information network with parameters to chart global spatial temporal data. The initiative is to link geographical sectors of the world as modular areas of research with trans-regional thematic objectives such as linguistics, religions, and trade routes.
The Pacific Neighborhood Consortium (PNC) is devoted to maximizing opportunities for information exchange among institutions of higher education in the Pacific through computing and communications technology. The goal is to enable participants to regard themselves, not as separated by vast distances, but as residents of a virtual neighborhood.
The Electronic Cultural Atlas Initiative (ECAI) is an international organization of scholars and technical specialists exploring the uses of information technologies in order to promote international collaborative research. Research data is indexed for retrieval by time and place and displayed on a map-based interface. By registering metadata for each dataset with a metadata clearinghouse, material on remote servers, maintained by individual scholars or by academic institutions, could be located by users over the Internet. ECAI asks of its members three requirements: (1) to form a team or join an existing one; (2) to register metadata for members’ research data with the ECAI Metadata Clearinghouse; and (3) to agree to work toward the goal of indexing data by time and place.
Monsoon Asia
Origins

Southeast Asia is a modern term designating a region after the Second World War. Historically the area was known as Suvarnadipha, Further India of Hinduized Buddhist kingdoms, and with European expansion Indo-China (French), British colonial Burma, Malaysia, Dutch Indonesia, the Philippines, and independent Siam. Yet, adjoining places such as Assam, Yunnan, and Quanxi, are excluded since the former is part of India and the latter two mentioned provinces of China. Today the distinction of Southeast Asia continues to be determined by political boundaries especially those of the ten member ASEAN states. My perspective is based on the determination of cultural and linguistic research in a continuum of a geographical and climatic region.
Since the Second World War, the Pacific has been highlighted as a place of linguistic research. For most of the region of Oceania, the Austronesian Language Family has prevailed for several thousand years extending from its archaic origins with examples found in Formosan languages through the Malayo-Polynesian languages of Micronesia, and the Philippines, Malaysia and the islands of Indonesia, to Polynesia, and from Borneo crossing the Indian Ocean to Madagascar.
This Atlas

This digital cultural atlas for Austronesian speakers is a vast region. Spatial layers of information are marked in time from prehistory and up. One layer is based on information of the *Language Atlas of the Pacific Area* (Wurm and Hattori 1981 and 1983) to the present as continuous work from mutual research serving as an academic bulletin board on the Internet for scholarly exchange from Southeast Asia across Oceania. Currently I am working at Academia Sinica, Institute of Linguistics, and a similar university institutes in Taiwan in terms of conducting linguistic field studies and research on Austronesian languages. Regions of the Philippines and Vietnam are undergoing mapping. And Hainan is being looked at for linguistic verification on the present state of Austronesian languages.
Diaspora

Diaspora of the Austronesian Language Family has created a linguistic arena of geography that extends from Taiwan to the Chilean territory of Easter Island, from Borneo to Madagascar. This is by far the largest linguistic determining factor throughout Southeast Asia yet primarily of the archipelagos from Myanmar to Cambodia, Vietnam, Hainan, the Philippines, Indonesia out to Melanesia (New Guinea), Malaysia. The coastal areas where the “sea nomads” reside from the Andaman Sea to the Celebes have traditionally maintained Austronesian languages. Malay is a gloss or lingua franca as a trade language from the Thai border to the reaches of Indonesia with millions of speakers. Javanese is said to have 70 to 80 million speakers. Yet most Austronesian languages have only a few thousand speakers at most.
The stories of the *Ramayana* transmitted from South Asia across Monsoon Asia giving a sense of geography for the region and ideals from Hinduism. Theravada Buddhism from Sri Lanka continued as a belief-vehicle in Myanmar, Thailand, Cambodia, and Laos. The written languages of South and Western Southern Asia were transmitted to Southeast Asia from Sanskritic and Arabic traditions as historical overlay. Regional indigenous languages stemming from Austroasiatic and Austronesian language families either adopted an introduced writing system or remained as oral traditions until the 20th century.
Petrus Plancicis (1595)
In the 17th century world, The Dutch created the first global pharmacy and a forum for the exchange of content.
The earliest evidence of the Austronesian linguistic family points to Taiwan and the surrounding islands. These people have different cultures proving them with specialized means of co-existing with the natural environment. Übersichtskarte produced in Germany (1858).
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 Digital Archives. The main mission of the project is to digitize the historical documents and artifacts kept in the various departments of academic institutions is intended to preserve, through digitization, the rich historical resources as well as providing them to the research community.
Austronesian heritage is cultural resource utilized for defining a people’s ethos and to facilitate a consciousness for definition of a temporal spatial area to communicate with others. In Southern Asia and the Pacific, this has been of prime concern for the past fifty years in terms of developing the definition of a “sense of place.”
A map (1894) illustrates topography of the island by W. Campbell.
A Japanese map (1901) shows a line in red as boundary between dividing Han people (left) from the indigenous communities.
A map (1911) Produced by the Governor’s Office of the Japanese colonial government depicts indigenous boundaries.
Amis dance from Japanese period c. 1930s entitled A dance of savages.
Taiwan in Relation to the Batanes Islands of the Philippines 1900
The projects that I will present here dwell on current thoughts on heritage as a resource for development and the tools of maintaining heritage for communicating information for public awareness and research utility. Such projects include the professional management of regional heritage sites and a regional component language atlas of Austronesia based on geo-referenced data for spatio-temporal information storage and retrieval from maps.

The Batanes Islands
These islands are between the Philippines and Taiwan in the Bashi Channel where the Malayo-Polynesian Batanic languages are spoken. Yami is spoken in the region of Taiwan on a separate isle.
Problems and Expectations

The study of culture in the Taiwan region is depending on links with the past. A path is being determined with a myriad of factors placed before it. For example what form of phonetic writing will become standard. As Taiwan internationalizes, which includes attending to global concerns for the environment and indigenous peoples, government policy is reflecting such an entry. Romanized spelling of Hanyu Pinyin is replacing the older system commonly used to express Chinese characters in a phonetic way. What will be the next step? Archaeologists are facing the problem of linking prehistory with indigenous peoples. New ways of looking at connections are before us. Being Austronesian is beckoning as a source of heritage pride. How will the social sciences deal with the issues, and recent claims?

This resource will serve as the basis for an e-formatted publication co-edited with Jeanette Zerneke to serialize the edition with linguistics coming first. The Formosan Language time enabled maps accomplished by Paul Li and Eric Yen at Academia Sinica will serve as the basis for this part with links from the data, such as dictionaries and linguistic articles referenced to spatial/temporal designation.
A map (2000) produced by Paul Li giving historic linguistic boundaries in the publication *Austronesian Taiwan: Linguistics, History, Ethnology, Prehistory.*
Featured Projects

Many online projects currently take advantage of the ECAI and TimeMap infrastructure. Below are some examples:

- Southeast Asia Digital Cultural Atlas On-Line Demonstration
- TimeMap Korea
- ECAI Silk Road Atlas
- A Sasanian Seal Collection in Context - ECAI Publication
- Austronesian Linguistic Mapping
- Historic Sydney Museum Kiosk ScreenShots
- South Asian Animation

In addition to the projects that have been developed using TimeMap, many ECAI collaborators have completed projects that have extensive resources along with complex spatial and temporal records. These projects are among those which show the potential of digital scholarship in the humanities.
Figure 1
Distribution of the Austronesian Language Family and Major Subgroupings. Adapted from the Research School of Pacific and Asian Studies, National Australian University. Structure of the Austronesian Language Family from Blust.
A series by

The Australian Academy of the Humanities in Collaboration with the
Japan Academy. Canberra: The Australian National University

provide a layer of reference for Austronesian language spatial data.

Thanks to the people in Australia, especially Prof Crissman, the
support from Academia Sinica at the Computing Center and Institute
of Linguistics (Preparatory Office), ECAI Central and its
community of scholarly exchange, the following maps were done
to give a clear and working picture of the Austronesian Diaspora
in Southeast Asia.
Spatial data partially based on Wurm and Hattori, eds. 1981 and 1983
Language spatial information for Western Malayo-Polynesian in Sumatra and the Malay Peninsula based on Wurm and Hattori, eds.
Language spatial information for Western Malayo-Polynesian from Java to Timor based on Wurm and Hattori, eds.
Philippines spatial information based on Wurm and Hattori, eds. with data attributes in digital format prepared by Academia Sinica
Language information for the Philippines as a test prepared by the School of Information Management & Systems and ECAI Central at University of California, Berkeley.
The Cebuano Language Atlas - Java TimeMap

Please be patient while map loads.
See below for map instructions.
Other source projects in Taiwan working on Formosan languages:

Institute of Linguistic (Preparatory Office), Academia Sinica

Academia Sinica Institution Project of National Digital Archives Project, Digital Archives of Formosan Aborigines, Languages

Council of Indigenous Peoples, Executive Yuan, ROC

Shung Ye Museum of Formosan Aborigines, Taipei

To name a few with new institutions being established in local schools, cultural centers, and universities, such as the Program for Austronesian Languages at the recently established Institute of Linguistics, National Taitung University in Southeast Taiwan.
Formosan Corpus

Mode:
- All
- Searching Domain Language: Pukai
- Dialect: Matsuuran

Genre:
- All
- Searching Domain: Folk tale, Narrative, Conversation, Song

Display Method:
- All
- Searching Domain: Original data, Re-analyzed data

Searching Method:
Please select: Browse the text

Search  Clear
Contents of the Archive

The corpus of Formosan languages currently contains the following up-to-dated information:

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<th>Ethnic Language</th>
<th>Dialect</th>
<th>No. of stories</th>
<th>Total of stories</th>
<th>Sentence Count</th>
<th>Word count</th>
<th>Notes</th>
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<td>Tungho</td>
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<td>181</td>
<td>1987</td>
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</tbody>
</table>

Notes that TBA stands for the stories or texts not yet to be available.

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<th>translator</th>
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Conclusion

Taiwan is considered the oldest source of the Austronesian Language Family dating back in Neolithic prehistory 6000 years. The Formosan languages (26) constitute a branch set of groups directly from Proto-Austronesian with the other branch Malayo-Polynesian, together over 1200 languages reaching from Southeast Asia across the Pacific and Indian oceans. In Southeast Asia from the Andaman Sea to New Guinea: Myanmar, Thailand, Malaysia, Cambodia, Vietnam, the Philippines, the Formosan, Brunei, Indonesia, East Timor. By far the most spoken and written Austronesian language is Bahasa Malay the lingua franca of Malaysia and Indonesia. Javanese has about 80 million speakers. But most Austronesian languages have very few speakers and these languages are rapidly disappearing. The ECAI project as demonstrated with the Cebu languages is giving a vitality and interest to local people and scholarship for an overarching family of languages.
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