ANGIS Taipei Meeting 2015

The 4th International Conference on Asian Network for GIS-based Historical Studies

Date : Friday, 4 - Sunday, 6 December 2015

Venue : Research Building, Institute of History and Philology,
Academia Sinica, Taipei, Taiwan

Organizers : The Asian Network for GIS-based Historical Studies (ANGIS)
The Research Center for Humanities and Social Science,
Academia Sinica, Taiwan

This Conference is sponsored by "104-2916-I-001-016-A1" Project of Ministry of Science and Technology, Taiwan and Research Center for Humanities and Social Sciences, Academia Sinica, Taiwan

The Program of ANGIS Taipei Meeting 2015

Venue : 2F Conference Room, Research Building, Institute of History and Philology, Academia Sinica, Taiwan

Program :

Friday, December 4th

Time	Schedule
09:00-10:00	**Registration**
10:00-10:30	**Welcome and Introduction**
10:30-12:00	**Keynote Speech 1：Prof. Takeshi Hamashita** *Structure and Transformation of Local Market in Lower Yangtze River Delta: The Case of Zhenjiang 1868-1881*
12:00-13:00	**Lunch**
13:00-15:00	**Session A：History of Urban and Regional Development in Asia**
	Marco Stefan B. Lagman, Ma. Simeona M. Martinez, Jonathan M. Villasper, and Dominique Sasha N. Amorsolo - *Moving to Manila: A Spatial and Demographic Study of Bulacan-based Migrants in Selected Manila Districts during the late 1800s*
	Ma. Simeona M, Martinez, Marco Stefan B. Lagman, Jonathan M. Villasper, and Dominique Sasha N. Amorsolo - *A Historical Geography of Work in Nineteenth Century Manila*
	Pi-Ling Pai - *Effects of Flood Control Strategies on Settlements and Regional Development in the Lower Yellow River Area in Ming-Qing China: A Case Study of Kaifeng Prefecture*
	Yung-Chung Chuang - *The changing history of farm ponds and landscape change in Taoyuan tableland, Taiwan (1904-2007)*
15:00-15:20	**Coffee and Tea Break**
15:20-17:30	**Session B：The Analysis and Modeling of Spatial-Temporal Information**
	Gang Chen, Yang Zhang - *Mapping the Geographical Landscape of Nanjing City in the late Qing - Based on Old Maps and GIS Technologies*
	Hirotsugu Fujita - *Reconstruction Support with the Technique of GIS and Utilizing Old Maps Remaining in the Disaster Area of the 2011 Eastern Japan Mega-Earthquake*

	Ick-Hoi Kim, Raymond Jinliang Huang, Yi-Chen Wang, Chen-Chieh Feng, and David Taylor - *Developing Geoportals and Applications for Singapore Historical GIS*
	Johnson Leu - *Home Town Reminiscence: Eliciting Oral History through Artistic Reconstruction of Past Space Based on Topographical GIS Data*
17:30-18:00	**Annual General Meeting**

Saturday, December 5th

Time	Schedule
09:00-09:20	**Opening Ceremony**
09:20-09:30	**Group Photos**
09:30-10:10	**Keynote Speech 2：Prof. Tsukasa Mizushima** *Who Takes Leadership and What Role does ANGIS Play in Emerging Global History*
10:10-10:30	**Coffee and Tea Break**
10:30-12:30	**Session C：Historical Population, Migration, Social Change**
	Yusuke Koizumi - *Migration and Its Impact in Riau Province, Indonesia: An Analysis of Population Census Data and Topographical Maps*
	Chun-Hao Li - *Regional Variation of Uxorilocal Marriage in Japanese Taiwan*
	Weidong Lu - *Two decades of HGIS: Basic Data and Cross-over Research*
	Ritwika Mukherjee, Amaresh Dubey - *Spatio-temporal Landscape of Juvenile Sex Ratio in India: A Relational Analysis of Social Groups*
12:30-13:40	**Lunch**
13:40-15:40	**Session D：The GIS Infrastructure and Platform for Historical Study**
	Tatsuki Sekino - *Time Information System on the Web*
	Chi-Hsung Teng - *From Excel to Google Earth：An Alternative to Spatial Data Mapping and Analysis*
	Di Hu, Guonian Lv, Yongning Wen, Min Chen, Li He - *Family Tree Geographical Information System*
	Hsiung-Ming Liao, Yao-Hsien Yeh, Chen-Jen Lee - *ANGIS Data Portal and New 4D GIS Platform*

15:40-16:00	**Coffee and Tea Break**
16:00-18:00	**Session E：History of Politics, Economics and Environment**
	Daxue Wang - *The Temporal-Spatial Analysis of Benevolent Societies of Anhui Province during the Qing Dynasty*
	Claudia Zanardi - *China’s Approach towards its Southern Maritime Boundaries through the Lenses of History*
	Shin Kawashima, Chihyun Chang - *What’s the Battle of Shanghai: New Trial to Research Sino-Japanese War by GIS*
	Ta-Chien Chan - *Spatio-temporal Analysis of Rice Prices in the Qing Dynasty*
18:00-21:00	**Reception Dinner**

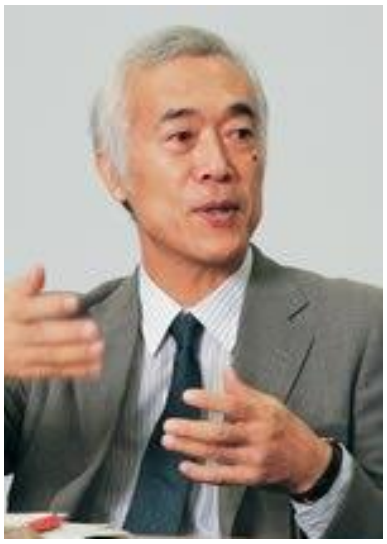
Sunday, December 6th

Time	Schedule
09:30-10:10	**Keynote Speech 3：Prof. May Yuan** Spatial Narratives for Historical GIS
10:10-10:20	**Coffee and Tea Break**
10:20-12:00	**Session F：History of Transportation, Trade and Culture**
	Ichiro Kakizaki - *Railway Freight Transport in Mainland Southeast Asia before World War II: the Analysis of Four Inland Railway Systems*
	Ryuto Shimada - *A GIS-based Analysis of the Markets for Japanese Copper in the Seventeenth and Eighteenth Centuries*
	Michihiro Ogawa - *Mapping the Development of the Land Revenue System under the Colonial Rule in the Nineteenth-Century Western India*
	Shohei Okubo - *The Distribution and Consumption of Opium in Malay-Indonesian Archipelago, ca. 1670s-1740s.*
12:00-12:30	**Roundtable Discussion / Closing Ceremony**

Prof. Takeshi HAMASHITA

Dean and Professor, School of Asia-Pacific Studies, Sun Yat-sen University, Guangzhou, PRC

Honorary Professor, Institute of Oriental Culture, University of Tokyo, Japan



Takeshi Hamashita is a distinguished economic historian of Asia. His professional experience included lectureships in the Faculty of Economics in Hitotsubashi University and at the Institute of Oriental Culture of the University of Tokyo. He rose to head the Institute of Oriental Culture over the period 1996-98. He subsequently assumed a professorship at the Center for Southeast Asian Studies, Kyoto University and later at Ryukoku University. In 2007, Hamashita was appointed as Professor and Dean of the School of Asia-Pacific Studies, Sun Yat-Sen University, Guangzhou.

Researching and lecturing in the Japanese, Chinese, and English languages, Professor Hamashita has worked on banking history in China, remittance practices among Chinese and Indian overseas communities, the tea trade, treaty port networks. In addition, he engages with wider regional histories of Asia, including how the traditional modes of East Asian international interaction have affected modern Asia. In more recent years, he has concentrated on the study of maritime networks in Asia and has been heavily involved in research on Ryukyu as well as its major historical source -- the Rekidai Hoan. He serves on the “The Rekidai Hoan [Lidai Baoan]” Editorial Board under the Okinawa Prefectural Board of Education.

Keynote Speech-1

Structure and Transformation of Local Market in Lower Yangtze River Delta: The Case of Zhenjiang 1868-1881

Takeshi Hamashita[1]

Abstract

There are several important issues left for further investigation and discussion in modern Chinese economic history studies. Main points for discussion are as follows:

1. Relationship between Open port and inland market

2. Statistical analysis of the record in the Chinese Maritime Custom Report on inland market such as Zhenjiang and Jiujiang as crossroad ports between foreign trade and domestic trade

3. Model of Open port market zone and its relationship with hinterland

4. Comparison of open port market zone model with domestic market structure model raised by William G. Skinner

In order to understand the relationship between foreign trade and domestic trade, we need further focus on issue of Transit Pass. Transit Pass was originally planned to benefit for foreign merchants to avoid paying many different local taxes in the domestic market of China. However, issues of transit pass had many problems. In the Trade Report of Maritime Custom, Chingkiang(Zhenjiang) wrote in 1871 as follows:

"The Transit Trade as carried on at this port had degenerated into a mere traffic in Passes, the result of which was that several merchants established themselves whose only business was to apply for Passes and sell them to any native that could pay for them to the prejudice of those firms doing a reputable business in the port such traffic of course could not be of long duration and would not be tolerated again. Still it is desirable in the interests of foreigners and natives, that a regular system for Transit Passes Outwards be organized, affording the petty merchants of the interior a better market for their goods, and such no doubt would increase the general trade of the country."

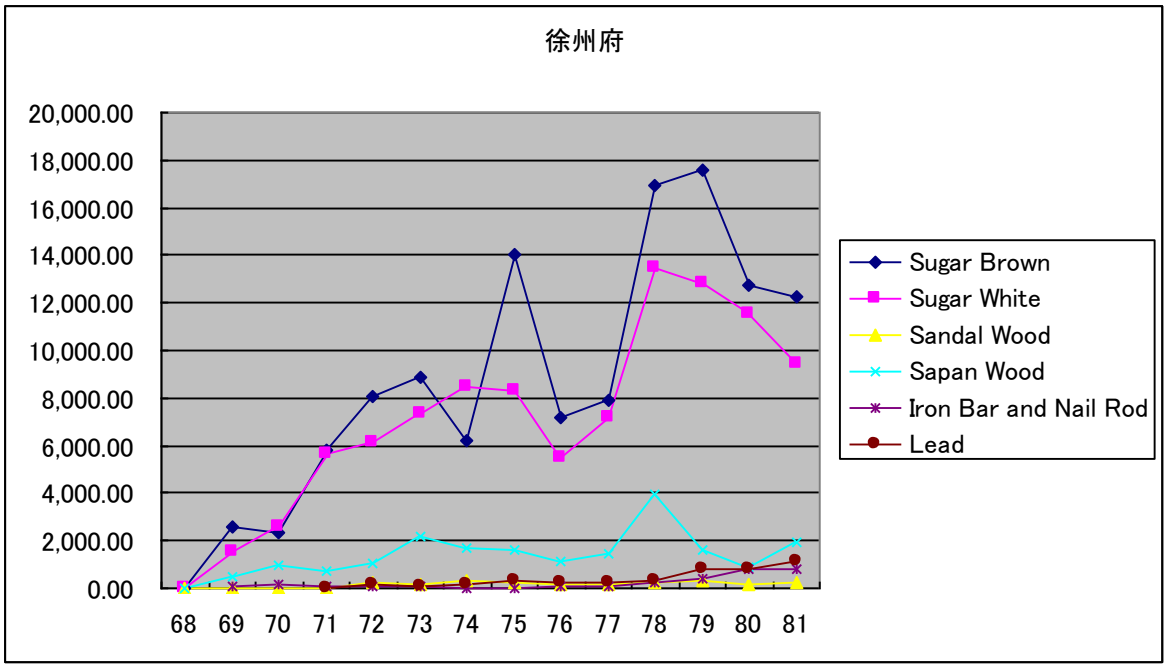
[1] Profesor and Dean, School of Asia-Pacific Studies, Sun Yat-Sen University, Guangzhou, China

Keynote Speech-1

By using detailed record of issuance of transit passes from 1868 to 1881, we can find the relationship among Chinese local customs, foreign commodity and local consumption. Statistically speaking, 237 inland market towns in 1871 had widely prevailed over Anhui, Shandong, Zhejiang, Jiangsu and Hunan provinces

As for foreign commodities for inland market, we can find 13 foreign commodities to inland market. They are 1) Textile: Shirting, Grey, T-Cloths, Drills, English, Dutch and American Lustres and Orleans, Spanish Stripes, Woolens, other sorts, 2) Others: Sugar Brown, Sugar White, Sandal-wood, Sapan-wood, Iron Bar and Nail Rod, Lead, Window Glass.

By statistical data, fluctuation of import at inland market of Xuzhou will be presented as follows:



1. frequency and continuation of names of market from Zhenjiang (years): 171 as local level A a. 1-3 times

Assessing fluctuation of import in each local market, we will conclude the dynamic relations among different layers of regional markets. They are:

1. Three layers market structure: open port, mid-level and local-level
2. Changing local market in the relationship with mid-level market town
3. Interaction between open port market and mid-level local market

By using GIS we will discuss clearly the importance of mid-level of local market in the transformation of local market structure.

Prof. Tsukasa MIZUSHIMA

Professor, Graduate School of Humanities and Sociology, the University of Tokyo, Japan

Dr. Mizushima is a specialist in the history of India and the founder of the ANGIS (Asian Network for GIS-based Historical Studies), he is organizing a project titled "GIS-based Global History from Asian Perspectives" which sponsored by Topic-Setting Program to Advance Cutting-Edge Humanities and Social Sciences Research, Japan Society for the Promption of Science. Around twenty members from several Asian countries working on population growth and agricultural development, urban formation, business enterprises, diffusion of epidemics and migration from the 18th century till today.

Prof. Mizushima has edited and published a number of books and articles on Asia based on historical GIS including Place, Space, and Time: Asian Hinterlands and Political Economic Development in the Long Eighteenth Century (Brill, forthcoming) and "Transformation of South Indian local Society in the Late Pre-colonial Period, Journal of Asian Network for GIS-based Historical Studies, vol. 1, November 2013 (http://www.l.u-tokyo.ac.jp/~angisj/jangis_j.html), he has compiled a gazetteer of around one million place names in India directly from 5,000 topographical maps of India and put up "India Place Finder" on the web. (http://india.csis.u-tokyo.ac.jp/), and has put a provisional "Global Place Finder" in the web.

Keynote Speech-2

Who Takes Leadership and What Role does ANGIS Play in Emerging Global History?

Tsukasa Mizushima[1]

Abstract

The most conspicuous development in historical studies is the emergence of so-called global history. Whereas the world history deals with human history, global history locates human being as a part of the globe or the earth. Not only the environmental factors such as land surface, climatic changes, cropping pattern, or natural resources but also the human factors like health, life duration, human bodies, diseases etc. have become research targets.

To deal with such wide range of interests in global history, we need particular sort of framework, and the GIS tools just fit to this requirements.

This is more so when many of the institutions in western countries are competing very hard with each other to take leadership on global history. There is acute awareness of global historians of the west to reconsider and rewrite history by facing the structural change of global economy from the middle of the 20th century.

This awareness has urged historians to review the global history and to gather, accumulate, analysis, and present historical information especially from Asia. This means really a great chance for all of us to put forward Asian perspectives. However, the problem we face at the moment lies in the level of systematic gathering and accumulation of historical information. While in Europe a huge number of information on various aspects of human history for several centuries has been systematically gathered, accumulated, processed, and presented in a very plain way, in Asia, on the other hand, such attempts are very rare and sporadic. Here again lies a great chance we the historians working with GIS have. The spatio-temporal framework of historical GIS and the GIS' technological equipment a great potential to gather, accumulate, analysis, and present our past in a feasible way

Since its foundation in the year 2012 ANGIS has been functioning as the meeting point for those working on historical GIS in Asia. We have met in several places including Tokyo, Kyoto, Bangkok and here in Taipei for the fourth time. ANGIS have

[1] Professor, Graduate School of Humanities and Sociology, The University of Tokyo,

also published JANGIS E-Journals on the web-site. In coming years we will hold the meetings in Manilla, Hanoi, Delhi, and other Asian cities. In a way ANGIS is already in a stable truck.

At this juncture we have to think further steps in our second stage.

I and Prof. Fan, the President of Academia Sinica, discussed about this matter recently and agreed to utilize this opportunity to prepare possible joint projects that are to be participated by members across Asia. I very much appreciate your positive suggestions and ideas.

Prof. May YUAN

Ashbel Smith Professor, School of Economic, Political, and Policy Sciences, University of Texas at Dallas, USA

May's research interest is in temporal GIS, geographic representation, spatiotemporal information modeling, and applications of geographic information technologies to dynamic systems. Her research projects center on representation models, algorithms for spatiotemporal analysis, and understanding of dynamics in geographic phenomena, such as wildfires, rainstorms, air-pollution plumes, and behavior and activities in complex social systems. She explores multiple perspectives of dynamics, analyzes the drivers and outcomes of geographic dynamics, extracts spatiotemporal patterns and behavioral structures of dynamic systems, and draws insights into the system development and evolution to derive an integrated understanding, interpretation, and prediction of activities, events, and processes in dynamic geographic systems.

Keynote Speech-3

Spatial Narratives for Historical GIS

May Yuan[1]

Abstract

Over the years, Historical GIS research has made major advances in digitizing historical atlases, photographs, and data archives that have contributed greatly retrospective views of and integrated insights to the past. Historical GIS researchers are reconstructing spatial models of national heritages to raise new perspectives to histories. While GIS is being used to realize geographically integrated histories, GIS meanwhile also imposes techno-spatial views of the world that may appear forceful to some existing scholarship. Hence, this talk will counter the GIS-centric approach to accommodate GIS for historical thinking. The idea of spatial narratives is proposed to bridge GIS and History, and a case study will illustrate how the use of spatial narratives can offer new platforms for Historical GIS research.

[1] Professor, School of Economic, Political, and Policy Sciences, University of Texas at Dallas

Paper Abstract

A-1

Moving to Manila: A Spatial and Demographic Study of Bulacan-based Migrants in Selected Manila Districts during the late 1800s

Marco Stefan B. Lagman[1], Ma. Simeona M. Martinez[1],
Jonathan M. Villasper[1], and Dominique Sasha N. Amorsolo[1]

Abstract

This paper seeks to address questions that were raised from a previous study that which indicated that a majority of local migrants to Manila in the late 1800s were from the Province of Bulacan. Using information gathered from the civil register lists (Vecindario) of selected Manila districts in the 1880s and 1890s, this GIS-based historical research attempts to better understand the spatial and demographic characteristics of those Bulakenyos who migrated to Manila by attaining the following: a) identification the migrant-sending towns of Bulacan, b) confirm the existence of communities that tend to send specific types of workers to Manila's districts, c) the spatial distribution of Bulacan migrants in Manila who were involved in specific types of employment, d) determine the spatial distribution of these individuals by gender, as well as e) identify patterns with respect to the ages of specific groups of migrants (i.e. by gender, by employment type) from the said province. Since demographic phenomena can vary from place to place, this study could serve as base material for comparing the history of the different towns and communities whose members moved to Manila in the late 1800s. Moreover, this work adds to the literature of migration to Manila and historical GIS studies during the Spanish colonial period.

Key words: GIS, urban history, migration, nineteenth century Manila

[1] Department of Geography University of the Philippines-Diliman

A-2

A Historical Geography of Work in Nineteenth Century Manila

Ma. Simeona M[1], Martinez, Marco Stefan B. Lagman[1],
Jonathan M. Villasper[1], and Dominique Sasha N. Amorsolo[1]

Abstract

This historico-geographical study shall use archival civil register (Vecindario) records, Geographic Information Systems (GIS) and a planning tool, locational quotient (LQ) to determine if any of late nineteenth century Manila's districts specialize in a specific type of work as compared to the other settlements of city. This research would also attempt to illustrate the geographic distribution of certain occupations that are affiliated with agricultural (i.e. farming, fodder-gathering), commercial (i.e. transport, manufacturing) and even residential concerns (i.e. domestic help, seamstress) as well as the ages and gender of people who are engaged in particular occupations during the years that they were listed in these civil registers. It is hoped that this study would serve as a contribution to the literature on the urban history and economy of Manila during the late 1800s.

Key words: GIS, urban history, work specialization, locational quotient, nineteenth century Manila

[1] Department of Geography University of the Philippines-Diliman

A-3

Effects of Flood Control Strategies on Settlements and Regional Development in the Lower Yellow River Area in Ming- Qing China: A Case Study of Kaifeng Prefecture

Pi- ling Pai[1]

Abstract

The Yellow River frequently flooded and changed paths along the alluvial fan as it flowed through the eastern plain in Henan during the Ming- Qing Period, creating a disaster- prone environment especially in the riverine area belonging to Kaifeng prefecture. The recurrent flood events gradually changed the regional land characteristics for agriculture and brought changes in the distribution of settlements.

This study focuses on investigating the artificial construction of embankments and drainage channels for flood prevention, and examining the land and settlement features in the Yellow River flood plain during the Ming- Qing Period. The sample counties belonging to Kaifeng prefecture were selected based on their location characteristics and flood frequency, and the data availability from historical literature. Integrating and digitizing historical map layers with GIS techniques is a necessary approach in this study for observing and analyzing the spatial features of the study area.

Through comparison of regional differences in population, land and settlement features in the sample counties, we can find the limits of human strategies for reducing flood risk in early modern China, and see that the landscape formed then followed by its extended effects on local society can still be observed before the middle of the twentieth century.

Key words: Yellow River; Flood; Landscape; Settlement; Historical GIS

[1] Postdoctoral Fellow, Center for Geographic Information Science, Research Center for Humanities and Social Sciences, Academia Sinica, Taiwan

A-4

The changing history of farm ponds and landscape change in Taoyuan tableland, Taiwan (1904-2007)

Yung-Chung Chuang[1]

Abstract

The main purpose of this research is to analyze the landscape change of Taoyuan tableland within a century by applying digital archive maps and photographs. The main methods integrated multi-source historical maps of Taoyuan tableland between 1904~2007, and investigated long-term land-use distribution and spatial correlations of farm ponds, settlements, and farmland with landscape indices. Historical records of urban planning and development policies were also involved to clarify the reasons behind and causal relationships.

The results showed the special landscape of farm ponds were built for farming purposes and changed with human development, functional transformations of ponds, and irrigation system construction. Landscape indicators showed enormous increase in farmland between 1904~1926 due to the completion of Taoyuan Main Canal, but the area and number of farm ponds had not decreased until the period between 1926~1956 when Shihmen Main Canal perfected the irrigation system and replaced the function of farm ponds. The changing trends in farmlands numbers and area continued decrease during 1956~2007 while the landscape characteristics of farm ponds were relatively unchanged. It is quite different from the traditional historical research archives without GIS mapping supports. As for the results from spatial distribution analysis, the shape of farm ponds were influenced by road development and gradually shifted from irregular shape to circle type. The main function of farm ponds was also transferred into multi-purpose use such as recreation and aquaculture.

Overall, the research approved that digital archive maps and photographs with landscape analysis technology are very helpful for long-term history-reproduction, and are able to connect related factors behind landscape changes. It would be very helpful for administrators to setup urban planning in the future

Keywords: landscape analysis, farm ponds, Taoyuan tableland, irrigation system

[1] Assistant Professor, Department of Urban Planning and Spatial Information, Feng Chia University

B-1

Mapping the Geographical Landscape of Nanjing City in the late Qing—Based on Old Maps and GIS Technologies

Gang Chen[12], Yang Zhang[1]

Abstract

As representation of geographical landscape in passed times, old maps can be used as historical documents and explored in new methods, such as digital mapping and GIS technologies. The famous old map of Nanjing in Late Qing Dynasties, Jinling Provincial Heritage Map (金陵省城古跡圖), is a precious hand-drawn map, drawing lots of historical sites of Nanjing in late nineteenth century and showing the spatial pattern of the imperial city, which is clearly different from the modern city. This map also is different from the early measured maps of Nanjing in early twentieth century, such as New Measured Map of Provincial Capital of Nanking by Jiangnan Army Normal School (陆师学堂新测金陵省城全图, 1910s), which is important surveying and mapping works in modernization transition process of China under the impact of Western culture, during the late Qing Dynasty and Early Republic of China. On the one hand, the differences in map symbols, place names and contents of expression not only reflected the urban spatial pattern changes over times, and also showed the differences between eastern and western urban geographic landscape view of people in hundred years ago. In order to explore the geographical images of Nanjing City in those old maps, based on previous works, we develop an approach of digital processing technologies for old maps based on GIS platform (ArcGIS). In the historical geographic data acquisition and analysis process, we use the technologies of geo-referencing, map digitizing, database design and construction, spatial overlay analysis, and thematic mapping on the ArcGIS Platform, and extract and construct a spatial datasets, including place names, rivers, bridges, roads, hills, government offices, temples …, further redraw the new digital maps with several geographical feature layers and using new map symbols based on today topographic mapping data. In the last, we reconstruct of the geographical space of Nanjing city in late nineteenth century, and reveal several space phenomena in the modernization of the city of Nanjing. In this study, we consider historical landscape can be revealed by old maps and using GIS technologies and that can also enhance the research visons and will provide new method for urban historical geography studies.

Keywords: Urban historical geography, Geographical landscape, Old map, GIS, Nanjing city

[1] School of Geographic and Oceanographic Sciences, Nanjing University, Nanjing 210023, China
[2] Jiangsu Provincial Key Laboratory of Geographic Information Science and Technology, Nanjing 210023, China

B-2

Reconstruction support with the technique of GIS and utilizing old maps remaining in the disaster area of the 2011 Eastern Japan Mega-Earthquake

Hirotsugu Fujita[1]

Abstract

The reporter has been advancing a reconstruction support project for the 2011 Eastern Japan Mega-Earthquake from the stance of historical geography since 2012.

Japanese historical geography uses as its historical records the cadastral maps prepared concurrently for the entire nation in the early Meiji period. After confirming the land plots of the time, the technique of reorganizing their past landscape centered on this period on that basis is important.

The cadastral data regarding the proprietary rights of land plots is either uninterrupted continuing to the present, or has been revised. The subsequent landscape has been severely damaged, but by putting emphasis on these maps it is possible to reorganize using maps the pre-disaster landscape even in cases where only a portion remains.

From the three Tohoku prefectures the reporter selects Fukushima Prefecture as the major fields since it keeps full historical records.

We plan to engage in confirmations of land plot data and koaza boundaries. Diagrams such as cadastral maps can be utilized through GIS.

When a major earthquake with its epicenter in an ocean trench occurs, tsunami damage can be sufficiently predicted, as occurred in 2011. Experience of reconstruction work will be planning for the entire nation. Our project with the technique of GIS would be useful for the local people in Japan.

Keywords: the disaster area, the 2011 Eastern Japan Mega-Earthquake, cadastral maps, GIS

[1] Graduate School of Humanities, Kobe University

B-3

Developing Geoportals and Applications for Singapore Historical GIS

Ick-Hoi Kim1[1], Raymond Jinliang Huang[1], Yi-Chen Wang[1], Chen-Chieh Feng[1], David Taylor[1]

Abstract

This article presents Singapore historical GIS, including geoportals and Web GIS applications, developed by the Department of Geography, National University of Singapore. Two types of geoportals were developed for the dissemination of historical maps for GIS experts and non-GIS users to cope with their different levels of GIS background knowledge. Web technologies and metadata standards employed to implement the geoportals were first discussed. Web GIS applications were then introduced for facilitating spatiotemporal analysis using historical maps based on visual comparison. In addition, issues relevant to historical GIS, such as intellectual property, data uncertainty, and spatiotemporal analysis, were examined to allow the potential users understand the capabilities and limitations of this infrastructure.

Keywords: Geoportal, Historical GIS, Historical map, Singapore

[1] National University of Singapore

B-4

Home Town Reminiscence: Eliciting Oral History through Artistic Reconstruction of Past Space Based on Topographical GIS Data

Johnson Leu[1]

Abstract

Oral history is an important resource for broadening the perspectives and understanding of regional history and cultural heritage. The practice of reminiscing and sharing personal experience is also beneficial for maintaining mental health and improving intergenerational communication. Current researches related to reminiscence assume that street level visual historic reference materials are available for eliciting memory recall. However in reality the availability of such materials varies for different regional and social economic groups. This research proposes that virtual reconstruction of past sceneries where everyday lives took place can be reconstructed by using GIS topographical data as foundational reference for spatial modelling, and artistic, non-photorealistic rendering as visualization style for eliciting past memories. Our initial ethnographic studies have found positive outcomes where senior users who viewed the visualizations responded with personal stories and past neighbourhood descriptions that would be otherwise difficult to recall through verbal-only communication.

Keywords: Reminiscence; History; GIS; Intergenerational Communication; Virtual Reconstruction; Non-Photorealistic Rendering

[1] Researcher, Graduate School of Media Design, Keio University, Japan

C-1

Migration and Its Impact in Riau Province, Indonesia: An Analysis of Population Census Data and Topographical Maps

Yusuke Koizumi[1]

Abstract

Although recent economic development in Indonesia is based on urbanization and industrialization, the palm oil industry continues to contribute to economic growth. Large-scale development by plantation companies has seriously impacted the natural environment and rural livelihoods. The outer islands of Indonesia, particularly Sumatra and Kalimantan, are affected by many issues such as the recent haze problem. Moreover, as NGOs have criticized, plantation companies are powerful enough to take over local people's land.

However, the number of smallholders is increasing and their economic position is improving to an unprecedented extent. In the last half-century, the expansion of oil palm cultivation by both plantations and smallholders has drastically changed livelihood strategies and the landscape of rural societies in the outer islands of Indonesia.

To explain the transformation associated with oil palm cultivation, especially in Riau Province where oil palm cultivation by smallholders has expanded most substantially, this study maps social changes based on population census data and examines geographic dynamics using large-scale topographic maps. Riau Province has seen substantial in-migration in recent years and in-migrants especially from North Sumatra Province are the main driver of the expansion of small-scale oil palm cultivation. This study concludes that the migration of Christian Bataks from North Sumatra Province into Riau Province is largely connected with the established infrastructure of the Trans-Sumatran Highway.

Keywords: Riau Province, Oil palm, Migration, Population census, Topographical maps.

[1] PhD. Student, The University of Tokyo

C-2

Regional Variation of Uxorilocal Marriage in Japanese Taiwan

Chun-Hao Li[1]

Abstract

Among the many aspects of social customs in Taiwan during the nineteenth and the first half of the twentieth century, the institution of marriage has received much attention among social scientists and especially from anthropologists (Wolf, 1996; Wolf and Huang 1980). There are three major types of marriages in Taiwan during the Japanese colonial period which include major, minor, and uxorilocal types of marriages (Wolf and Huang, 1980).

Different types of marriages in Taiwan are in direct association with the age to contract marital union and the completion rate of such union. For instance, women who are married in the minor type of marriages are usually married earlier than their major marriage, while males entering uxorilocal marriages are married at their older age (Wolf and Huang, 1980; Wolf, 1995).

One of the factors affecting marriage patterns in Taiwan is the regional variation influence. Chuang and Wolf (1995) have adopted the household registration data to study first marriages from 1881 to 1905 within the regional diversity of marriage forms in Taiwan and the off-coast island of Peng-hu. Interestingly, Chuang and Wolf (1995) have found that major marriages make up the dominant form of marriage in central and southern Taiwan, while minor marriages barely made less than 10% of first marriages in the same region. Although major marriages are prevalent in northern Taiwan and Peng-hu, minor marriages made up 25% to 45% of first marital unions in the same area.

Due to the complexity and diversity of Chinese marriage, the present paper primarily focuses on the discussion of uxorilocal marriage in which a married husband moves to the residence of his wife. We analyze the dataset with 26,529 women marrying in the cohorts of 1890s-1940s in 19 research sites in Taiwan. The aim of the statistical analyses is to examine the effects of family power dynamics and community contextual on the possibility of choosing uxorilocal marriage, as well as the cohort effect. In addition, GIS techniques are adopted to illustrate the findings.

[1] Dept. of Social and Policy Sciences, Yuan Ze University; Research Center for Humanities and Social Sciences, Academia Sinica

C-2

In general, we first found that there is a significant marriage-cohort effect on the possibility of uxorilocal marriage. Uxorilocal marriage was most prevalent in the first ten years in the 20th century. After the particular period, the women's odds of taking uxorilocal marriage were gradually decreasing. It became little and little until the 1940s in which the odds ratio of choosing uxorilocal marriage was the lowest during the Japanese occupation in Taiwan.

Second, in terms of family power dynamics, three variables measuring family structure were introduced to predict the women's odds of choosing uxorilocal marriage. They include the existence of parent(s) and siblings at marriage, and the capacity of family labor force. "Parent(s)" played a critical role in predicting the women's odds of choosing uxorilocal marriage. Women without brothers were additionally more likely to have a uxorilocal marriage. However, the choice of taking uxorilocal marriage was not associated with the capacity of family labor force, which is measured as the proportion of members at ages 15-44 in family.

Third, the regional variation of choosing uxorilocal marriage was existed during the period of the 1890s-1940s. Although there were no clear community characteristics that were directly caused to the choice of uxorilocal marriage, the community contexts was found significant in predicting the women's odds of taking uxorilocal marriage. Those who residing in research sites with a higher prevalence of uxorilocal marriage were more likely to take a uxorilocal marriage.

C-3

Two decades of HGIS: Basic Data and Cross-over Research

Weidong Lu[1]

Abstract

HGIS is one of the key academic growth points in Historical Geography in recent two decades. The complete Millennium-scale time series spatial data is the most basic data of HGIS. The team under the leadership of the author has recently finished the time series data on county- level administrative seat during 1912-1949, and hope the lower limit of the data can be pushed down to 2000 in the future. The core of HGIS is data, while spatial analysis is its soul. For the researchers on traditional liberal arts, the focus is to how to apply such research method into their own research to discover or settle the issues that the traditional research methods cannot do. Starting from his own research, the author has shared the exploration for two cross-over cases: the analysis on the long-period population change in the Northwest China under the support of GIS, and the research on historical events based on small population base and probability under the support of GIS----the distribution of Hui metropolitan graduate and Hui population during Qing Dynasty. Hope the research can be open to a wide criticism and suggestions.

Keywords: HGIS, Complete Millennium-scale Time Series Spatial Data, Spatial Analysis,History Population of China.

[1] Associate professor, Institute of Chinese Historical Geography, Fudan University

C-4

Spatio-temporal landscape of Juvenile Sex Ratio in India: A relational analysis of social groups

Ritwika Mukherjee[1], Amaresh Dubey[1]

Abstract

Since the advent of the 20th century an alarming trend that characterized India's population was its skewed and declining female-male ratio. The situation became more severe in the juvenile age group (below 10 years) out of the product of excess girl child mortality and pre-natal sex selective abortion, although the contribution of the second phenomenon to the declining sex ratios in India has taken an upper hand more recently. The decline in juvenile sex ratio, however, is not the same across all the communities. Historically, the different waves of social formation has given rise to an internally differentiated social structure in India; caste and tribe forming one of its primary ingredient. Regional variations of this social structure adds further complexity to the system. In this study, we will attempt to seek the patterns of juvenile sex ratio across different social groups, both spatially and temporally. The study will be empirical in nature drawing census data at the district level from 1981 to 2011.

Although these social groups constitutes different segments of the Indian population and depict unique characteristics, theories of social formation have highlighted a gradual homogenization in their characteristics with processes of modernization across time. Generally, there is an upward mobility of the lower and marginalized sections who emulates the upper castes to get the social sanction and benefits accrued of being a member of the elite society. Juvenile sex ratio is known to vary among the social groups. In the Indian social context, females of lowest social rung enjoy higher individual status as they face less societal obligations. Therefore, juvenile sex ratio is most favorable among the tribes, starts becoming worse from the lower to the upper castes. Our next enquiry stems from this proposition. Is this process of acculturation having any impact on juvenile sex ratio among the different social groups, thereby distorting their usual choice of sex preference? In order to address this issue, we check the juvenile sex ratio patterns of the disaggregated social groups in relation to each other and see whether any changes of spatial pattern is emerging over time. If

[1] Centre for the Study of Regional Development, School of Social Sciences ,Jawaharlal Nehru University

there are changes in patterns, we subsequently check that how and which groups are functioning more closely to one another. For fulfilling this argument, standard ESDA methodologies and spatial econometric techniques will be used. Preliminary findings accrued through the combinational analyses and paired t-tests reveal that the process of socio-spatial interaction is more evident among the scheduled castes, where they have followed the footprint of their counterparts up in the social hierarchy in terms of low juvenile sex ratio values, while the tribes have virtually resisted to this pattern. Intersections across social groups and their regional pattern show north and north-western India under potential crisis of declining juvenile sex ratio across all the social groups.

Keywords: juvenile sex ratio, social emulation and exploratory spatial analysis.

D-1

Time Information System on the Web

Tatsuki Sekino[1]

Abstract

Web HuTime is a web application developed by HuTime project, can be embedded into user's web pages. The application can display texts and numerical data in timelines and charts, respectively, and enables users to stack these timeline and charts on the same temporal axis simultaneously. This feature of Web HuTime is advantages in comparison to the other web applications, and is appropriate for historical science which requires to display various kinds of information in chronological order, and to compare each other.

Keywords: HuTime, web application, timeline

[1] Research Institute for Humanity and Nature, Japan

D-2

From Excel to Google Earth：An Alternative to Spatial data Mapping and Analysis

Chih-Hsung Teng[1]

Abstract

Spatial analysis tries to clarify the influence of spatial factors on human behaviors. Mapping, to point out locations of each agents or objects, is the first thing needs to do, and then, we could find out the patterns of spatial distribution of each variables and explain the reason why it distributes this way. Basically the procedures of analysis needs lots of computing; however, current statistic software such as SPSS, SAS, MiniTab, etc. do not provide enough tools to do such kind of calculations, and professional GIS software, such as QGIS, GeoDa, ArcGIS, SuperGIS, etc. are too complicated for beginners to use.

Therefore, we develop a new software "Excel2Earth", which links Microsoft Excel and Google Earth, and provide an easy way to do spatial analysis based on GIS. We can convert spatio-tempo data, which are built in the form of Excel spreadsheets, to kml files, and geo-visualize on the google earth. This software was written in Excel VBA, and Google Earth is used as a mapping platform. The operation is simple and straightforward, and it could be a good news for beginners who are interested in GIS, especially for scholars whose subjects are humanity or social sciences. Our website is http://140.112.176.185/spatial/Excel2Earth_en.html, you can download the software freely. Excel2Earth attempts to break technical barriers, so that everyone can have his own GIS, and do mapping, analyze spatial data by oneself without the help of computer specialists.

Key words: GIS, Excel, Google Earth, Spatial Analysis

[1] National Taiwan University

D-3

Family Tree Geographical Information System

Di Hu[123], Guonian Lv[123], Yongning Wen[123], Min Chen[123], Li He[4]

Abstract

Family tree, in conjunction with official history and chorography, contains a large number of information regarding society, economy, culture, people, history, and geography. It has been recognized as one of the most important elements of Chinese history. To make full use of family tree and to help resolving the relevant problems in humanities and social sciences, it is important to systematically collect, arrange, analyze, and integrate the family tree information. In light of this, this paper proposed a strategy to construct Family Tree Geographical Information System (FTGIS), by incorporating modern information technologies, such as Database, GIS, and Web technologies, into the research of family tree. First, we presented the conceptions and objects of FTGIS. Second, the key issues of FTGIS were discussed in details: (1) unified spatial-temporal framework; (2) family tree spatial-temporal data model; (3) family tree specification and sharing; and (4) mass family tree data collection. Finally, we proposed a multi-level architecture of FTGIS, based on which we developed a prototype FTGIS.

Keywords: family tree; historical GIS; unified spatial-temporal framework;

spatial-temporal data model; information integration

[1] Key Laboratory of Virtual Geographic Environment (Nanjing Normal University), Ministry of Education, Nanjing 210023, China
[2] Jiangsu Center for Collaborative Innovation in Geographical Information Resource Development and Application, Nanjing 210023, China
[3] State Key Laboratory Cultivation Base of Geographical Environment Evolution (Jiangsu Province), Nanjing 210023, China
[4] School of Geography and Earth Sciences, McMaster University, Hamilton, Ontario L8S 4K1, Canada

D-4

ANGIS Data Portal and New 4D GIS Platform

Hsiung-Ming Liao[1], Yao-Hsien Yeh[1], Chen-Jen Lee[2]

Abstract

Historical and Area studies researchers often need to collect data from field works and to use cross-relate datasets from heterogeneous sources, of diverse types, and for multiple purposes. To conduct collaborative research works, in particular in multi-disciplinary and wide-area projects, it is a norm for the various stakeholders to share and reuse their datasets. As the volume of datasets increase, so are the demands on the efficient and effective use of these datasets, ranging from data curation, storage, search and visualization. In this article, we propose the collaborative research platform for data curation and repositories using open source and free software. Our goal is to assist researchers who engaged in the GIS-based Asian-wide historical studies to share and find research resources effectively. In addition, we emphasize the use of web standards and open source software in this project, so that the platform can be freely disseminated and reused.

At the same time, we took the Digital Earth as core technology to construct a unified space-time information integrated platform using geographical and chronological coordinate systems. Based on this platform which called SinicaView, we promote the construction and integration of big data specifically for historical and cultural dataset. Unlike Google Earth, the platform contains a very rich time-sequence data like historical maps or statistics data through web services integration. The results is open to the public and will help the researchers to improve accessibility and utilization to geographical and text information. The platform also supports the multiple special data formats like 3D Model, Lidar point cloud, OGC WMS/WMTS/CSW and full motion video…etc. The advantage of technology is suitable to various space-time information integration.

Keywords: GIS, Data Repository, CKAN, 3D GIS, Spatial-Temporal Information

[1] GIS Center, RCHSS, Academia Sinica, Taiwan
[2] Institute of Information Science, Academia Sinica, Taiwan

E-1

The Temporal-Spatial Analysis of Benevolent Societies of Anhui Province during the Qing Dynasty

Daxue Wang[1]

Abstract

In the Qing Dynasty, Yuying Tang and Puji Tang of Anhui Province were widely distributed but few. Charitable organizations were clustered in Lu' an Department, Wuhu county, and Tongcheng, Qianshan, Taihu, Susong and Huaining counties of Anqing Prefecture. These charities mainly coped with refugees and beggars. There were three reasons for the spatial cluster of benevolent societies. Wuhu was an traffic hub and commercially developed. Huaining was the seat of the Governor of Anhui. All other charitable organizations of Anqing Prefecture mainly dealt with beggar harassment and blackmail which clerks practiced on residents by corpse experiment in community, and helped local inhabitants content with heavy corvee.

The reasons for assemble of charities in Anqing Prefecture were as follows. These counties of Anqing Prefecture were located in traffic corridors and served as transit routes for refugees and beggars out of the province. Besides, a large number of refugees from these counties rented and reclaimed land in nearby prefectures, and refugees harassment was inevitable. Since the later Qianlong, charity organizations were highly concentrated, which was closely related to police responses on refugees and became a significant feature of charity organizations of Anhui Province in the Qing Dynasty. The study demonstrates the possibility that GIS can be used to analyze spatial and temporal characteristics for the traditional research project.

Key words: temporal-spatial analysis, benevolent society, Anhui Province, the Qing Dynasty

[1] Associate Research Fellow, Fudan University

E-2

China's Approach towards its Southern Maritime Boundaries through the Lenses of History

Claude Zanardi[1]

Abstract

Abstract: China's approach to maritime disputes is intertwined with China's idea of the space it occupies in Asia and in the international system. Although globalization bypasses frontiers, they still play a crucial riot in Asia. While China followed its historical policy of fluctuating territorial control, with different areas moving in and out of its influence, it also appropriated the Westphalia concept of permanent boundaries as enshrined in treaties.

Since China is reacquiring its status of great power, its borders are increasingly important as they are a means to define its modern identity. Imposed by the Europeans through the use of force, they have been contested by Nationalists as well as Communists and the transformations brought by Deng Xiaoping's economic reforms (1978) triggered powerful changes which are reshaping China's identity as a civilisation under the form of a modern nation state.

Therefore, this paper aims to analyse how China's approach to maritime boundaries has changed historically to understand how the Chinese empire's perception of its southern frontiers and of Taiwan changed over the centuries, when it became relevant and for which reasons, what consequences were brought. It also wants to analyse how Taiwan's economic development impacted its conception of space and China's concept of maritime space and to what extent does China's assertiveness on maritime issues constitute a shift from its traditional conception of space and place it historically occupied in Asia and in the international system.

This article is deeply rooted in historical and geographical analysis of texts and maps tracing back the empire's changes in perception of its southern borders and maritime space, as well as the further modifications brought by the fall of the Qin Dynasty, the establishment of the Chinese Republic and the establishment of Communist China.

Keywords: China, Maritime Borders, Frontiers, South China Sea, Perception, Maritime Power

[1] Kings' College London

E-3

What's the Battle of Shanghai: new trial to research Sino-Japanese War by GIS

Shin Kawashima[1], Chihyun Chang[2]

Abstract

The Second Sino-Japanese War is one of the most important and controversial topics in Modern East Asian history. However, the discourse of this war has been involved and contextualized in a highly political forum of debates. The politicizing of this topic challenges the reconstruction of the picture of wartime facts. The application of GIS to this research topic as a new technical means to revisit the wartime facts of the Second Sino-Japanese War. At first, this project starts to collect actual maneuvers of troops and armies from China and Japan. These primary materials involved in this project are all open to the public in China, Taiwan and Japan. On this presentation, we'd like to introduce the most significant war during the Second Sino-Japanese War, namely the War of Shanghai in 1937, to advance different understandings of this war from the perspectives from the materials in possession of China and Japan.

Keywords: Sino-Japanese war, wartime facts, War of Shanghai, and GIS.

[1] University of Tokyo
[2] Shanghai Jiao Tong University

E-5

Spatio-temporal Analysis of Rice Prices in the Qing Dynasty

Ta-Chien Chan[1]

Abstract

The database of grains' price in Qing dynasty is the longest and comprehensive economic data in China spanning from 1736 to 1911 which was created by Professor Yeh-chien Wang. There are more than 2.15 million records covering 21 provinces, and 321 prefectures or counties in China. There are 42 types of grains such as different types of bean, rice, millet, wheat and so on. In this study, we applied GIS, ringmap, Tableau software for analyzing the dynamic pattern of grains' price geographically. We then chose the six provinces, and 100 prefectures or counties along Yangtze River including Sichuan, Hubei, Hunan, Jiangxi, Anhui, and Jiangsu province. The types of grains included first-grade rice, second-grade rice and third-grade rice. The temporal pattern showed that average high prices of the rice were higher after 1800 than those during 1736-1799. The spatial pattern showed that Jiangsu and Hubei provinces had the highest two average prices, respectively. The lowest average price occurred in Jiangxi province. In addition, we applied ringmap for visualizing the rice price spatially and temporally in one single map. The website of interactive, real-time query and visualization on the map and line chart was set up for researchers to do further analyses.

[1] GIS Center, RCHSS, Academia Sinica, Taiwan

E-5

Mapping Mangroves and Coastal Wetlands

Christopher Dubia[1], Kent Lewis[1], Andy Long[1]

Abstract

Mapping the Mangroves (MTM), a project of MapWorks Learning, provides formal and informal education, and gives citizen scientists and the larger scientific community the ability to engage with and explore mangroves and their ecosystems. Mangroves are a cornerstone species and play important roles in habitat formation, stabilization of coastal environments, and carbon sequestration. The MTM open curricula and GIS tool provide opportunities for anyone to learn about authentic applications of GIS in the field, explore mangroves and their ecosystems, and share their findings. Learners develop an understanding and appreciation for the role mangroves play in a healthy environment and how GIS can aid in conservation.

Keywords: GIS, Coastal Conservation, Open Data, OER (Open Educational Resources)

[1] MapWorks Learning (NPO)

F-1

Railway Freight Transport in Mainland Southeast Asia before World War II: the Analysis of Four Inland Railway Systems

Ichiro Kakizaki[1]

Abstract

This paper aims to analyze the pattern of freight transport on four inland railway systems in mainland Southeast Asia: the Burma railway system, the Thai railway system (on the east bank of the Chaophraya), the Yunnan line, and the Cambodian line. Transport volume on the Burmese railways was also the largest, followed by the Thai railways, the Yunnan line, and the Cambodian line. Rice was the most important transport item on Burma, Thailand and Cambodia, while coal & charcoal (mostly coal) was the largest freight item on the Yunnan line.

Primary commodities such as rice, timber and metallic ore were largely transported from hinterland to entrepôt by these railways, with the exception of the Yunnan line. On the other hand, manufactured products were mainly transport on the opposite direction: from entrepôt to hinterland in all railway systems.

As a result, it can be summarized that four inland railway systems in mainland Southeast Asia functioned as the means of transport between entrepôt and hinterland, although the importance of such entrepôt–hinterland transport varied according to the system. The Yunnan line had the least role as an inland line since the transport of primary commodities such as rice and timber concentrated on local transport within Tonkin or Yunnan rather than entrepôt–hinterland transport.

Keywords: Railway, Freight Transport, Mainland Southeast Asia

[1] Yokohama City University

F-2

A GIS-based Analysis of the Markets for Japanese Copper in the Seventeenth and Eighteenth Centuries

Ryuto Shimada[1]

Abstract

Japan produced large volumes of copper in the early modern period. Its market was so worldwide that Japanese copper was supplied not only for the Japan's domestic market but also for the foreign market. In the port of Nagasaki Japanese copper was exported by the Dutch East India Company (VOC) as well as by Chinese junk traders. The VOC sold Japanese copper in the European market and the maritime Asia markets especially in South Asia, while Chinese junk traders delivered Japanese copper to the ports in mainland China and mainland Southeast Asia although some part of it was re-exported to South Asia by European private traders. In addition to Nagasaki, the Tsushima Island was the other Japanese gateway to export copper. In fact, the Tsushima Domain was engaged in the export trade in Japanese copper for the Korean market. Copper was used as material to produce several items, yet the major utensil was to produce copper cash. This small denomination currency was one of the essential items for economic development of each country based on the large number of small-scale producers and consumers in the early modern period. In any case, this research offers a set of quantitative data regarding the Japanese copper markets by showing the sample cases in the following three years: 1675, 1725 and 1775. Through the analysis, the paper shows the changes in distribution shares of the consumption markets for Japanese copper by three main factors such as (1) the beginning of the decline in production at Japanese copper mines in the late seventeenth century, (2) the emergence of China as highly demanded market for copper due to the arrival of political peace in the late seventeenth century, (3) the development of British copper production and the large inflows of British copper into South Asia, which was brought by the English east India Company since the 1730s, and (4) the development of the copper mines in Yunnan in China throughout the eighteenth century.

Keywords: Chinese junk traders, Dutch East India Company, Japanese copper, Market, Trade

[1] The University of Tokyo

F-3

Mapping the Development of the Land Revenue System under the Colonial Rule in the Nineteenth-Century Western India

Michihiro Ogawa[1]

Abstract

Under the British rule, which started in 1818 in Western India, the new land revenue system called the Ryotwari Settlement, was introduced in the early nineteenth century. In this new system, the colonial government directly settled with cultivators without the mediation of the local magnates. In the last ANGIS conference, it was studied how the new land revenue system under the colonial rule started in Western India focusing on Indapur Pargana or the sub-district where the new system was first introduced in the Bombay Presidency in 1836. And the author made it clear that the econo-environmental situation of Indapur Pargana in the pre-colonial period greatly made the introduction of this new settlement possible in the colonial period. This conclusion indicates the possibility that the new land revenue system could be applied only to the area around Indapur Pargana. So this paper studies how the new land settlement under the British rule spread over Western India after the introduction of this settlement in 1836.

This new settlement was applied sub-district by sub-district. This paper makes the administrative expansion visible showing the locations of the sub-districts where this settlement was applied according to the year when it was introduced. Previous works such as Neil Charleswarth, Peasant and Imperial rule: Agricultural and Agrarian Society in the Bombay Presidency 1850-1935 (London, 1985) clarified that the local magnates resisted the application of the new settlement in various sub-districts and this settlement was not applied in some ones. The previous works did not refer to the geographical locations of these sub-districts. This study locates these districts by use of GIS and then distinguishes where the new settlement was smoothly carried out. In the pre-colonial period, Indapur Pargana, which was located near from the central city of the Maratha Confederacy, was administratively under the strong influence of the Central Government. The Central Government sent the Government Officer to the sub-district under the direct control, who confronted the local magnates. And the officers successfully suppressed their power in some sub-districts. There is a possibility that the new settlement under the British rule smoothly started in these areas. This paper examines whether the spatial arrangement of the administrative

[1] Research Fellow, The University of Tokyo/NIHU

power by the government changed in Western India from the pre-colonial period to the colonial period or not. If it did not change, it will mean the colonial rule started on the basis of the pro-colonial sovereignty.

F-4

The Distribution and Consumption of Opium in Malay-Indonesian Archipelago, ca. 1670s-1740s

Shohei Okubo[1]

South Asian opium, one of the significant commodities, was imported into and consumed in Southeast Asia, mainly Malay-Indonesian archipelago since the late 17th century. A purpose of this study is to make it clear how opium was distributed to Southeast Asia by various trading groups such as the Dutch East India Company, the English East India Company, and both European and Asian private traders. In addition, one more thing examined in this paper is about the structural change of the distribution and consumption of opium through the period from the 1670s to the 1740s. By the end of the 17th century, the Dutch East India Company became the most influential opium traders in intra-Asian region. The Dutch East India Company enjoyed the exclusive rights to import opium into various areas in Malay-Indonesian archipelago, many places of which the Dutch obtained from indigenous monarchies since the late 1670s. A large quantity of opium was exported from Bengal (the production area was Bihar) to Batavia (present-day Jakarta), and was sold there exclusively via the auction to Malay, Javanese, and Chinese merchants. These private Asian traders exported it from Batavia to various ports in Malay-Indonesian archipelago with the license of the Dutch East India Company. Although the opium monopoly of the Dutch East India Company somehow worked in Java island, other substantial routes were also operated by other European East India Companies, private traders, and servants of the Dutch East India Company. These “smugglers,” called by the Dutch East India Company, were particularly active in Malay archipelago and Sumatra island as well as Java island. These continuous trades of opium through this period steadily made the opium consumption change in quantity and quality. In addition to traditional consumers such as indigenous elites, the citizens of port cities like Batavia, indigenous people in Malay-Indonesian archipelago, and more importantly the increasing number of Chinese immigrants coming from mainland China to Southeast Asia became significant consumers. This situation kept developed toward the second half of the 18th century when the opium trade became much involved with the revenues and profits of trading groups in intra-Asian region. This study would be at an early stage of the entire study of the opium trade throughout the 18th century.

Keywords: opium, distribution and consumption, Southeast Asia, Malay-Indonesian archipelago, intra-Asian trade, Dutch East India Company(VOC)

[1] The University of Tokyo

The List of Participants

Name	Title	School or Institute
Takeshi Hamashita	Professor and Dean	Sun Yat-Sen University, Guangzhou, China
Tsukasa Mizushima	Professor	The University of Tokyo
May Yuan	Ashbel Smith Professor	University of Texas at Dallas
Yi-Chen Wang	Associate Professor	Department of Geography, National University of Singapore
Tatsuki Sekino	Associate Professor	Research Institute for Humanity and Nature
Yusuke Koizumi	PhD Student	The University of Tokyo
Ritwika Mukherjee	Research Scholar	Centre for the Study of Regional Development, School of Social Sciences, Jawaharlal Nehru University, New Delhi
Amaresh Dubey	Professor	Centre for the Study of Regional Development, School of Social Sciences, Jawaharlal Nehru University, New Delhi
Claude (Claudia) Zanardi	PhD Candidate	War Studies Department, King's College London
Michihiro Ogawa	Research Fellow	The University of Tokyo/NIHU
Ma. Simeona Martinez	Assistant Professor	Department of Geography, College of Social Sciences and Philosophy, University of the Philippines-Diliman
Hirotsugu Fujita	Professor	Graduate School of Maritime Sciences, Kobe University
Chris Dubia	Chief of Innovation	MapWorks Learning
Ichiro Kakizaki	Professor	Yokohama City University
Ryuto Shimada	Associate Professor	Graduate School of Humanities and Sociology The University of Tokyo
Shin Kawashima	Professor	Graduate School of Arts and Sciences, The University of Tokyo

Name	Title	School or Institute
Shohei Okubo	Graduated Student (Master)	The University of Tokyo
Yoshikatsu Nagata	Associate Professor	Graduate School for Creative Cities, Osaka City University
Suling Chien	Secretariat	Graduate School of Humanities and Sociology, The University of Tokyo
Thomas Hahn	Professor	Independent Scholar
Johnson Leu	Researcher	Graduate School of Media Design, Keio University
Chihyun Chang	Research Fellow	Shanghai Jiao Tong University
Di Hu	Lecturer	Key Laboratory of Virtual Geographic Environment for the Ministry of Education, NanJing Normal University
Xianrui Shi	Graduated Student (Master)	NanJing Normal University
Longyu Liu	Lecturer	NanJing Normal University
Gang Chen	Associate Professor	School of Geographic and Oceanographic Sciences, Nanjing University
Weidong Lu	Associate Professor	Institute of Chinese Historical Geography, Fudan University
Daxue Wang	Associate Research Fellow	Institute of Chinese Historical Geography, Fudan University
I-Chun Fan	Research Fellow	Institute of History and Philology, Academia Sinica
Ji-Ping Lin	Associate Research Fellow	Research Center for Humanities and Social Sciences, Academia Sinica
Ta-Chien Chan	Assistant Research Fellow	Research Center for Humanities and Social Sciences, Academia Sinica
Hsiung-Ming Liao	Assistant Specialist	Research Center for Humanities and Social

Name	Title	School or Institute
		Sciences, Academia Sinica
Tyng-Ruey Chuang	Associate Research Fellow	Institute of Information Science, Academia Sinica
Tzong-Han Tsai	Associate Professor	Department of Computer Science and Information Engineering, National Central University
Bor-Wen Tsai	Professor	Department of Geography, National Taiwan University
Chun-Hao Li	Associate Professor	Department of Social and Policy Sciences, Yuan Ze University
Chi-Hsung Teng	Associate Professor	Graduate Institute of National Development, National Taiwan University
Pi-Ling Pai	Post PhD	Research Center for Humanities and Social Sciences, Academia Sinica
Yung-Chung Chuang	Assistant Professor	Department of Urban Planning and Spatial Information, Feng Chia University
Yi-Chung Chen	Assistant Professor	Department of Information Engineering and Computer Science, Feng Chia University
Ching-Chih Lin	Assistant Professor	Graduate Institute of Religious, National Chengchi University
Christopher Kung		Sungshan Community University
Sen-hao Yang	PhD student	Department of Geography, National Taiwan University
Patty Chen		Supergeo Technologies Inc.
Peter T.Y. Shih	Professor	Department of Civil Engineering, National Chiao Tung University
Yen-Shiu Chin	Research Assistant	Institute of Statistical Science, Academia Sinica

Campus of Academia Sinica

Directory

1 Main Entrance
2 Institute of Biomedical Sciences
3 Environment, Health and Safety Management Division
4 Institute of Cellular and Organismic Biology
4 Biodiversity Research Museum—Zoological Museum
5 Institute of Molecular Biology
6 Institute of Biological Chemistry
6 Life Science Library
7 National Laboratory Animal Center, NLAC
8 Interdisciplinary Research Building for Science and Technology
8 Biodiversity Research Center (2-3th Floor , Interdisciplinary Research Building for Science and Technology)
8 Research Center for Applied Sciences (4-5th Floor, Interdisciplinary Research Building for Science and Technology)

9 Mini-forest restoration area
10 Central Office of Administration
11 Yellow Tile Building
12 Institute of Plant and Microbial Biology
13 Research Center for Information Technology Innovation
13 Center for Sustainability Science
14 Tsai Yuan-Pei Memorial Hall

15 nstitute of Statistical Science
16 Post office, garage, grocery store and Hi-Life convenient store
17 Ecopond
18 Genomics Research Center
19 Agricultural Technology Building
19 Agricultural Biotechnology Research Center (Agricultural Technology Building 1st-2nd Floor and 5-7th Floor)
19 Institute of Plant and Microbial Biology (Agricultural Technology Building 1st Floor and 3rd-4th Floor)

20 Center of Academic Activities (Bookstore, auditorium, conference rooms, guest rooms, breastfeeding room, Chinese and Western restaurants, coffee shop)
21 Institute of Chinese Literature and Philosophy
22 Institute of Earth Sciences
23 Gymnasium (Breastfeeding room)
24 Humanities and Social Sciences Building (HSSB)
24 Joint Library of Humanities and Social Sciences (1st-2nd Floor HSSB)
24 Institute of Linguistics (5-7th Floor of South Wing, HSSB)
24 Institute of Sociology (8-10th Floor of South Wing, HSSB)
24 Research Center for Environmental Changes (11th Floor of South Wing, HSSB)

24 Institute of Political Science (5-6th Floor of North Wing, HSSB)
24 Institute of Taiwan History (7-8th Floor of North Wing, HSSB)
24 Institutum Iurisprudentiae (9-10th Floor of North Wing, HSSB)
25 Research Center for Environmental Changes (Laboratories)
26 Plant Molecular Breeding Greenhouse
27 Greenhouse Building
27 Biodiversity Research Center
28 Research Center for Environmental Changes (under construction)

30 Institute of Chemistry
31 Research Center for Humanities and Social Sciences
32 Institute of Information Science
33 Institute of Physics
33 Wu Ta-You Memorial Hall
34 Hu Shih Memorial Hall
35 Institute of Modern History
36 Institute of European and American Studies
37 Institute of History and Philology (ANGIS Taipei Meeting 2015 Venue)
37 Museum of the Institute of History and Philology
38 Fu Ssu-nien Library

39 Institute of Economics
40 Institute of Ethnology
40 Museum of the Institute of Ethnology
41 Lingnan Fine Arts Museum (Jin Mei Building)
42 Archive Building, Institute of Modern History
43 Building of Taiwan Archaeological Studies

50 Academia Sinica Dormitory Buildings

60 Teaching and Administration Building (TA Building)
60 Administrative office for TIGP, Degree Program and Foreigners Services (2nd-3rd Floor of TA Building)
60 Kindergarten (1st Floor of TA Building)

61 White Building
61 Biodiversity Research Museum—Herbarium (B1F)
P Temporary Parking

悅上海餐廳

地址： 106 台北市大安區敦化南路二段 57 號

電話：02 2700 1949