
For years, a group of islands (Diaoyu in Chinese; Senkaku in Japanese) have been one disputed issue of Sino-Japanese relations and a "territorial space" between Japan and China in the East China Sea. However, no book in the Western language yet has contributed to the study on this issue. *Sovereign Rights and Territorial Space in Sino-Japanese Relations: Irredentism and the Diaoyu/Senkaku Islands* by Dr. Unryu Suganuma (now at the Hokuriku University) finally filled this gap. As one of the important books regarding Sino-Japanese relations in English, Dr. Suganuma's work is a welcomed contribution to the series of Asian Interaction and Comparisons by the University of Hawaii Press and the Association for Asian Studies.

"This volume is, without a doubt, the fullest scholarly treatment that the contested issue of the Diaoyu/Senkaku Islands has received to date—and in any language (series editor's preface, p. x). The contents of *Sovereign Rights and Territorial Space in Sino-Japanese Relations* are as follows:

Introduction: Irredentism, the Diaoyu Islands, and Sino-Japanese Relations
1. International Law and the Diaoyu Islands
2. Historical Documents of the Diaoyu Islands: A Cross-Time Analysis
3. Critics of the Irredentism Debate over the Diaoyu Islands
4. From Irredentism to Modern Geopolitics: The Diaoyu Islands during the Twentieth Century
Conclusion: Historical Justification and Chinese Hegemony
Appendix: The Diaoyu Islands: Maps and historical Evidence

As displayed above, this book consists of four chapters with an introduction and a conclusion chapter. In the introduction chapter, Dr. Suganuma defines irredentism and makes the survey of the question of Diaoyu/Senkaku Islands and the difficulties in Sino-Japanese relations. By setting up the irredentism model in the beginning of the volume, Dr. Suganuma makes his arguments of Sino-Japanese territorial space in the East China Sea. Territorial space has always been an emotional issue between states presenting difficulties in finding appropriate resolutions for such dispute. "Historical justification for territorial claims, however, become the most 'plausible' (i.e., convincing) argument within the international community (p. 4)." "Irredentism," the claim to territory based on a historical right, is the only way for both Japan and China claiming the Diaoyu/Senkaku Islands in the East China Sea.

In chapter one, the author argues that international law does not offer any easy solution to mediate territorial disputes regarding the Diaoyu/Senkaku Islands. "Depending upon who interprets international law and what rules of international law one uses, the resolution of the Diaoyu/Senkaku dispute could vary (p. 19)." "The failure of international law ultimately leads to the conclusion that the irredentist Diaoyu issue has to be solved in the context of the long historical development [in] these islets (p. 42)."

Chapter two is the longest chapter in this volume. Over 60 pages, Dr. Suganuma analyzes the historical development of the Sino-Japanese territorial dispute. In particular, the author utilizes a number of primary Ming and Qing sources to scrutinize to whom the Diaoyu/Senkaku Islands in the East China Sea belongs. As the historical documents demonstrate, there is no doubt that the Chinese discovered the disputed islands, named these islands, and used them until the Liuqiu Kingdom was annexed by the Japanese in 1879. In other words, for over 500 years of Sino-Liuqiu relations, there was no territorial dispute between the Chinese and the Liuquan regarding the Diaoyu/Senkaku Islands. Since the disputed islands are located between China and the Liuqiu Kingdom, there was no way that the Japanese can claim the territorial right of these islands. In
fact, not until the 20th century did the Japanese name (i.e., Senkaku Islands) appear in historical books. Indeed, a few Japanese even doubted the existence of the Diaoyu/Senkaku Islands in the East China Sea at the beginning of the 20th century.

Given these facts, Dr. Suganuma has proved his best to be an objective view to look the territorial issue. He also points the very core of the difficult question, by revealing in the last chapter that the Taiwanese authority (i.e., Republic of China or ROC), headed by Jiang Jieshi, representing the Chinese people as a legitimate government in the international community, had many opportunities to mention the names of the Diaoyu/Senkaku Islands when the Chinese signed international treaties (i.e., Cairo Declaration in 1943; Potsdam Proclamation in 1945; San Francisco Peace Treaty in 1951; and Bilateral Treaty of Peace between Japan and ROC in 1952). However, the Taiwanese authority forgot the existence of the Diaoyu/Senkaku Islands in the East China Sea, as demonstrated by the fact that the name of the Diaoyu/Senkaku Islands was not mention in these treaties. "It is inescapable to say that representatives of the ROC must shoulder most of the blame and the responsibility. Ultimately, history will judge these mistakes (p. 123)."

Finally, Dr. Suganuma argues that history is a guide to the territorial disputes. Furthermore, he provides over 20 pages of historical evidence including many important maps, charts, and illustrations as well as a useful glossary. He made wide use of a primary and secondly sources, the majority of which were unknown in the West. Over 40 pages of bibliography, along with the Japanese and Chinese characters, will be useful and helpful to those seeking to do further research of this issue for generations to come. Moreover, the writing is particularly lucid with the clear double crossing pronunciations (e.g., C: Liuqiu/J: Ryukyu) and a wonderful index further indicates the top quality of the scholar’s work.

In the final analysis, Dr. Suganuma provides new approaches to solve the dispute by simultaneously combining international relations, comparative history and international law, rarely found in geography and in East Asian studies. Without a doubt, Sovereign Rights and Territorial Space in Sino-Japanese Relations will be a valuable book for analyzing international dispute for generations to come. One interested in Asian geopolitics should have this book in his/her own library. This volume surely will be one of the greatest books of Sino-Japanese relations in the latter 20th century.

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Major cities of the world have Chinatowns, and many of us enjoy visiting Chinatowns for Chinese food, Oriental novelties and the exotic atmosphere. Many guidebooks have been written on Chinatowns and Chinese food, but I do not recall any books by professional geographers that examine Chinatowns around the world. Characteristics of Chinatowns and the conditions of ethnic Chinese differ from one country to another, while Chinatowns the world over possess common features. Professor Yamashita attempts to depict Chinatowns within the context of local host societies as well as to show how to look at the globalization process geographically by comparing and contrasting ethnic Chinese communities.

It appears that Yamashita is successful in his ambitious attempt. It is due mainly to the fact that Chinatowns is based on Yamashita's long-time involvement in the geographic research on Chinatowns and ethnic Chinese in various countries. In the past quarter of a century, Yamashita has conducted geographic fieldwork, taking advantage of his Asian appearance and his good command of the Chinese language, and published extensively on Chinatowns in Southeast Asia, Japan, and North America.

Chinatowns consists of seven chapters plus a prologue and epilogue. In the prologue, Yamashita emphasizes the importance of geographic methods for looking at ethnic Chinese and Chinatowns. Such ethnic towns are the products of overseas Chinese and their host
society, thus reflecting social, economic, cultural and natural conditions of the country. Consequently, overseas Chinese communities may be understood by examining Chinatowns. At the same time, Chinatowns around the world have many characteristics in common as overseas Chinese are linked with each other by way of their culture and network.

Chapter 1 gives a definition of Chinatown and ethnic Chinese, explains some basic ideas about overseas Chinese economies, and points out the growing importance of ethnic Chinese and Chinatowns in the context of global migration and capital flows since the 1970s. In Chapter 2, starting with the “shop-house” in Southeast Asia, Yamashita explains landscape features of Chinatowns. Canopies called “five-foot-ways” on the facade of buildings, Chinese temples, and tower gates are unique to Chinatowns. Chinese food is briefly surveyed with special reference to regional food cultures. Readers of Chinatowns are instructed what to see and how to observe in such an ethnic quarter.

Social structure within Chinatown and the ties of ethnic Chinese with their homeland are the topics of Chapter 3. Kinship and regional networks are important, and mutual aid on the basis of kinship-regional organizations is maintained in every segment of Chinese life. Chinatowns and the Chinese homeland are linked closely with each other, and people and capital move between them. Yamashita was often mistaken as an ethnic Chinese who visited his homeland while conducting his studies in China.

Chapter 4 on Chinatowns in Japan may be of great interest for those living outside Japan. Japan has three major Chinatowns in Yokohama, Kobe, and Nagasaki. The past and the present of these Chinatowns are briefly summarized. Without an influx of immigrants, Japanese Chinatowns are tourist spots rather than ethnic quarters to provide new immigrants with food and shelter. Readers come to realize that Chinatowns need to be understood within the Japanese context.

These Japanese Chinatowns differ substantially from those in other parts of the world. The following chapters examine Chinatowns in Southeast Asia (Chapter 5), in the United States and Canada, particularly in San Francisco, New York, Honolulu, Vancouver, and Toronto (Chapter 6), and in Europe (Chapter 7). Chinatowns in Australia are briefly mentioned in the epilogue. With a growing number of Chinese immigrants since the 1970s, new Chinatowns have expanded in the suburbs in addition to the old Chinatowns close to the city centers. Yamashita depicts such a dynamic change taking place in the suburban communities.

This book is written for the general public in plain language but with a scholarly background. Many maps and figures in this volume are Yamashita’s originals, and his photographs help to visualize the landscape of Chinatowns. Many people appear to have stereotypes of Chinatowns as characterized by Chinese gangs, crimes, and drugs, partly due to the influence of American movies. Yamashita’s Chinatowns revises such an old image of Chinatowns, provides an accurate picture, and helps us comprehend the ethnic quarter in a global context.

Finally, Yamashita’s Chinatowns appears to show a new style of publishing. Readers may find more photographs and information on Chinatowns by reaching www.maruzen.co.jp/home/pub/chinatown. Information is also available on line at www.toyonet.toyo.ac.jp/~yamakiyo.

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One of the great reference books in the field of geography, Leaders in American Geography, for the first time provides readers a comprehensive history of leaders in American geography. Edited by P. P. Karan and Cotton Mather, Leaders in American Geography, Volume II: Geographic Research (hereafter Leaders in American Geography) is the second volume in the Leaders in American Geography series. The first volume, published in 1992, by Thomas F. Barton and P. P. Karan focuses on leaders in American geographic education and was divided into three
parts: the pioneers, the synthesizers, and professionals. The second volume provides biographies of 51 American geographers who have been identified as leaders in research by questionnaire survey. These 51 American geographers are arranged in alphabetical order with individual pictures. Each individual leader is introduced with a biography detailing their impressive scholarly backgrounds. Selected publications follow.

Leaders in American Geography contains important information about American geographers and the historical development of the field as a whole. The book discusses the fact that American geography has mainly been influenced by European academia. Furthermore, the book addresses the role of the University of Chicago which is considered to be a pioneer in the field, providing graduate training to more leaders than any other institution in the United States: 12 leaders (C. C. Colby 1909; Visher 1914; C. O. Sauer 1915; V. C. Finch 1916; R. S. Platt 1920; C. F. Jones 1923; R. Hartshorne 1924; J. R. Whitaker 1930; C. D. Harris 1940; G. F. White 1942; H. M. Mayer 1943; and M. G. Marcus 1957) during the first half of the twentieth century. Several of these Chicago graduates helped in establishing strong geography programs at other universities (e.g., R. Hartshorne at Minnesota and later Wisconsin, and C. O. Sauer at Berkeley). The book also discusses the influence of Berkeley, and its role in producing 6 leaders (R. J. Russell 1926; F. B. Kniffen 1930; L. Hewes 1940; H. J. Walker 1947; J. J. Parsons 1948; and Y. Tuan 1957). Other universities (Wisconsin, 3; Ohio State, 3; Yale 3; Harvard, 3; University of Pennsylvania, 2; Columbia, 1; Syracuse, 1; Northwestern, 1; Illinois, 1; and UCLA, 1) share fewer geography leaders.

The book further notes that geography leaders are concentrated in certain areas of the United States. The majority of the leaders (15 leaders) grew up in the American Midwest, especially states of Illinois and Michigan, and in the Northeast (9 leaders), in particular states of New York and Massachusetts. The Southern states and the West coast have with 5 and 6 leaders respectively. Nine leaders come from foreign countries (Canada, United Kingdom, India, China, Germany, Ukraine, Estonia, and Hungary), contributing development of cultural diversity in American geography.

In addition, Leaders in American Geography addresses the various specialties within the field. Early leaders such as E. C. Semple and E. Huntington were concerned with the study of environmental influences, believing that the physical environment dictates human activities. The "environmental influence" schools dominated research in geography during the first three decades of the twentieth century. It was followed by "regionalists" and "cultural landscape" schools represented by leaders such as R. S. Platt, V. C. Finch, C. C. Colby, and C. O. Sauer. In the 1950s, model-building and theoretical work was focused on since geography was questioned. In the 1960s, environmental perception studies and cross-cultural studies of environmental perception dominated American geography again. During the 1970s, a number of scholars began to examine spatial behavior approaches to geography. Social scientists in the 1980s have begun to reexamine the very ground upon which their disciplinary endeavors stand. Geography is not exceptional. When T. S. Kuhn provided his paradigmatic perspective, it impacted geography significantly. A number of geographers, including some leaders, began to integrate towards Kuhn's original formulations: Vidal's "possibilism," Huntington's "determinism," Sauer's "landscape morphology," Hartshorne's "areal differentiation," and Schaefer's "exceptionalism." In the 1990s, American geography has been characterized by a great diversity of research clusters in which geographers were crossing disciplinary boundaries.

The work of several of these leaders also made contributions to government and policy making. For instance, C. C. Colby, made major contributions to the development of the Tennessee Valley Authority (TVA) Rural Land Classification Program. This system contributed toward geography becoming more rigorous in handling of land data. For scholars, the system provides awareness of precision and accuracy in handling land information. A number of geographers also had a substantial impact on the conduct of the war and American policy in government service.
To be sure, this reference contributes to the significant development of American geography in the past more than 100 years. This book is not only a good reference for students, but it also will become an essential reference book for geographers who want to know the history of American geography.

Notes


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Geomorphic analyses have shown that the stratovolcanoes in Japan have similar erosion histories to each other. The apparent complexity of hydrogeological conditions of stratovolcanoes, therefore, could be explained through the "stage of the landform development sequence" concept of volcanic bodies. The author calculated the total height-of-runoff ($q$) from groundwater springs for five stratovolcanoes in Japan. The runoff ratio value ($r$) for each studied volcano was then obtained. The values of $r$ for the volcanoes studied ranged from about 5% to nearly 100% and have a strong positive correlation with the baseflow runoff amounts of neighboring rivers. Among the topographical factors investigated, only the degree of dissection ($D_d$) of volcanoes had a strong correlation to $r$ as the $r$-value decreases as $D_d$ increases. The volcanoes studied are classified into two groups: less eroded, "early stage" volcanoes (Fuji, Shiribeshi, and Kampu), whose $r$ values are about 100%, and well dissected, "late stage" volcanoes (Rishiri and Yatsugatake), which have $r$ values below 20%.

The author classified all the springs around each volcano into four types: L1-type springs on the terminal slope of lava flows or pyroclastic flows, L2-type springs which run off from the sidewalls of dissected lava flows, F-type springs on the surface of piedmont fans, and B-type springs at the base of volcanic bodies. A clear relationship between the erosional stage of each volcano and the dominant spring type around it was discovered: in the early stage volcanoes, almost all spring-water discharges from L1-type springs, while in the late stage ones F-type springs were dominant. In early stage volcanoes, mainly lava flows cover the surface of a volcanic body. These lava flows, within which a large-scale groundwater flow system exists, extend to the foot of the mountain and the L1-type springs are found at their terminal margins. Almost all precipitated water moves along this flow system and discharges as L1-type springs. On the late stage volcanoes, however, no lava flow reaches their foot. Based on the research conducted on Yatsugatake, it can be said that the main groundwater flow system is very deep and seems to have nothing to do with the previous flow of lava on the surface. The hydrogeological conditions of Japanese stratovolcanoes are quite different from one another. These differences, however, can be explained simply by differences in the erosional stage, rather than the site-specific complexity of volcanic geology.


Global environmental problems are deeply related to future climatic changes. This study aims to derive a revised humus accumulation model applied to Japanese tephra-soil sequences in order to infer climatic conditions during the Holocene, and to discuss the problems of resolution and limitations for using the humus in tephra-soil sequences as proxy data to study past climate changes.

Seven representative soil profiles from Aso, Kumamoto, Daisen, Ashitaka (two samples), Yokohama, and Towada were investigated. Analyses on organic and inorganic components were carried out to discuss the implication of the behavior of the components in the profiles. The fluctuation of carbon content in tephra-soil sequences appears to correspond to the degree of the influence of past pedogenetic processes. In addition, it was confirmed from the analyt-
ical results of phytolith composition that the carbon content partly reflects biomass. According to the results on inorganic colloid components conducted by selective dissolution analysis, the age limitation for applying the model was determined based on the existence of a humus-aluminum complex.

The basic theory of the relationship between climatic conditions and humus accumulation was taken into consideration to provide a new model and to apply the model to reconstruct the changes of heat and water conditions during the Holocene. The decomposing coefficient \( r \) proposed by Wada was modified based on the relationship between present climatic conditions, represented as Humidity Index \( K \), and the carbon content in surface soil, and then applied to the inverse of Jenkinson's model. The equilibrium carbon content \( C_{\text{max}} \) in the buried soils, estimated by using the modified model, provided chronological sequences which show a good correspondence with other proxy data. Environmental signals of the Holocene were detected as carbon peaks and depressions in the \( C_{\text{max}} \) curve, including such well-known events of the Holocene as the Climatic Optimum, Medieval Warm Period. \( C_{\text{max}} \) is considered to depict the heat and water conditions and to reflect the strength of past solar radiation on the productivity of plants.

Also, the difficulties in determining absolute age restrict time resolution and reliance. This disadvantage of using soil humus as a tool to provide proxy data, which may be recognized as "low resolution," may however be overcome by examining soil sequences which promise "high spatial resolution." The potential of soil humus to be used as reliable proxy data will increase by integrating it with humus accumulation data from widely distributed soil sequences.

AOKI, Tatsuto: Late Quaternary History of Glacial Landforms in the Central Mountains of Japan. University of Tokyo, March 2000.

The author reconstructed the historical development of glacial landforms in the Central Mountains of Japan during the latter half of the last glacial age and provides an inventory of the reconstructed glaciers with the palaeo-orographic snowline of each glacier. Subsequently, the author classifies these glaciers by type in comparison with glaciers elsewhere in the world, and he proposes hypotheses for reconstructing the environment in Central Japan during the latter half of the last glacial age. The results of this study are summarized as follows:

The age of the glacial fluctuations was determined by the \(^{10}\text{Be} \) exposure dating method and the thickness of the weathered rind of morainic gravel. As a result, two glacial stages were confirmed and correspond to the last glacial maximum stage (LGM) and Younger Dryas stage (YD).

The validity of the Accumulation Area Ratio method was confirmed by using mass balance data from modern glaciers throughout the world. The author calculated his palaeo-orographic snowlines of reconstructed glaciers using this method.

Modern glaciers are classified into two types according to the altitudinal relationship between their mountain range and orographic snowlines. Type 1 has no correlation between the ridge altitude and the relative height of the accumulation area, and it is designated as "Independent" of the air temperature. On the contrary, Type 2 has a high correlation between range and snowline and is considered to be "Dependent."

Applying these two classifications to the reconstructed glaciers in the Central Mountains of Japan, most of the glaciers are classified into the "Independent" type. This indicates that the orographic snowline reconstructed from the glacial landforms in central Japan does not completely match the climatic snowline. On the other hand, a few glaciers distributed on the highest mountains over 2700 m during the LGM or over 3000 m during the YD in the Hida range, and over 3000 m during the LGM in the Kiso and Akaishi ranges are classified as "Dependent."

The palaeo-climates in the Central Mountains of Japan were reconstructed on the basis of the distribution of reconstructed glaciers and their classification. As a result, it appears that the Pacific side was drier in winter during the LGM than it is at present and than was the
side facing the Sea of Japan during the LGM. Moreover, a northward shift of the boundary between air masses during the last glacial age was suspected to have occurred.


In the twentieth century, two important urban-oriented migrations involving large numbers of Japanese occurred. One was toward the former Manchurian urban settlements during the first half of the century, and the other was the rural to urban population movement within Japan after the Second World War. This dissertation attempts to clarify the changing spatial patterns of these migrations by contrasting them with Zelinsky's evolutionary model of spatial behavior. In addition, the socio-spatial context and consequences of migration are examined by considering the impacts of colonialism and its associated migration, especially with regard to the multi-ethnic society created in Manchurian cities.

The first part of this dissertation analyzes the migration of Japanese to the former Manchuria-Manchukuo. Statistics, interviews, and a wide range of official and unofficial bibliographical sources were used to achieve an understanding of the migration process. The focus is on both the population composition of immigrants and the residential segregation of minority immigrant groups in Manchurian cities. The structuralist approach is used to comprehend the macro-scale conditions within which decision making was undertaken, and the positivist approach is used when quantifying the flows and measuring the spatial segregation.

The second part of this dissertation is devoted first to the spatial patterns of migration within Japan from the 1960s to the present and focuses on the direction of the major national flows. The results are examined in a broad international context by comparing the Japanese spatial patterns with the changing spatial patterns found in interprovincial migration in Spain. Here, the spatial patterns of migration are examined by applying Principal Components Analysis to interprefectural migration data. Secondly, the recent flows to and from the center of the Osaka Metropolitan Area are explored and reveal that the different migration patterns among the Japanese and the Korean ethnic minority are associated with their varying employment and housing opportunities. Migration data collected for this study came from residential change forms in the Ikuno ward office and were analyzed statistically.

Despite the division of this dissertation into two parts, international migration and domestic migration are considered as an interrelated and sequential phenomenon, which represents the changes in the forms of mobility during the process of Japanese modernization. This dissertation concludes with a discussion of Zelinsky's "hypothesis of the mobility transition" applied to the Japanese phenomenon. From an empirical perspective, an attempt is made to show how changes in Japanese migration flows support many of the model's basic features. Finally, the study suggests that rather than using a uni-level approach, a variety of analytical perspectives are necessary to understand migration as a complex multi-level phenomenon.


This study entails a detailed geographical comparison of the populations of Korea and Japan, each with a different socio-economic level of development after the Second World War. Available statistical and other data about population growth rates, total fertility rates, population pyramids, sex ratios, dependency ratios, population distributions, Davis Indices, age-specific death rates, and life expectancies at birth for the two countries were compared. The population increased dramatically right after the war in both countries largely because of repatriates, and the effects of the Korean War contributed to an unexpected growth of population in Korea. The rapid economic growth in postwar Japan occurred earlier than that in Korea, and the resulting urbanization, exemplified by the hierarchy of cities, has shown different patterns over time in the two coun-
tries.

Analyzing the prefectures of Chollanam (Korea) and Hiroshima (Japan) to compare the population levels of middle-size regions revealed similar patterns as at the national level. Korea tended to have patterns that lagged behind those of Japan by ten to 25 years. This indicates that there were differences in the maturity of socio-economic levels between the two countries.

Detailed statistical comparisons of smaller places in Korea were also made. In the case of the city of Kwanju, a considerable number of people have moved to newly developed residential districts where they do not seem to have any family connections. Preferring such places to live is common in Korean cities today. In the case of the so-called "same-family-name" villages, however, there is still a tendency to cluster families with the same family name, although this is being disrupted to some extent by contemporary urbanization.


In the 1980s and 1990s, a series of new policies have been enforced in China. All of these policies have contributed to China's emergence as the most rapidly growing economy in the world and have dramatically changed its economic structure and pattern of regional development. Correspondingly, significant changes also have taken place within the urban systems of China. With such a background, attention is drawn to the mechanism of developing a national urban system. Although a large number of studies have been carried out in the field of urban systems in China, some questions are still left unsolved. It is not clear what the nodal structure of a national urban system is, how the nodal structure evolved, and what the relationship between a nodal structure and socio-economic factors is in China. The purpose of this research is to investigate the socio-economic developmental mechanism of China's national urban system in terms of spatial structure and its changes.

Data for statistical analysis were collected from the 1986 and 1996 editions of the Urban Statistical Yearbook of China. 246 out of the 340 designated cities in 1985 and 488 of the 640 designated cities in 1995 were selected as research samples. The analytical strategy adopted in this research involved three phases. First, a spatial interaction model was used to calculate the linkages among cities, and the nodal structure and its changes were analyzed. Secondly, in order to clarify the socio-economic characteristics and their changes in the urban systems, 22 attributes concerning urban features were analyzed by the method of factor analysis. Finally, the primary development factors were verified according to the relationship between spatial structure and socio-economic characteristics. In order to analyze such a huge amount of data correctly and efficiently, GIS software including Arc/Info and ArcView was employed.

Significant changes and development can be found in the urban systems of China from 1985 to 1995. In general, three trends can be discerned. First, the national urban system of China was fragmented into three regional systems in both 1985 and 1995, and there was no fully integrated urban system at the national level. The second trend was a difference in changes between spatial structure and socio-economy. The socio-economic changes occurred more radically than those of spatial structure. Third, as a result of the Open-Door Policy, foreign investment became a major contributor to the development of China's urban systems.


An active fault system extends for about 190 km along the Median Tectonic Line (MTL) in Shikoku, a large island in southwestern Japan. The MTL is an arc-parallel, right-lateral strike-slip fault related to the oblique subduction of the Philippine Sea plate beneath the Eurasian plate along the Nankai trough. It is one of the most active inland faults in Japan and one of the major strike-slip faults in the world. Therefore, the MTL is regarded as a potential source of large, destructive earthquakes.
This paper aims to clarify the characteristics of active faulting along the MTL by examining the surface fault geometry, slip rates, and the latest surface-faulting events in order to recognize accurately the segments along the fault system. It presents the following results:

Younger active fault traces in the sections which previous studies recognized as gaps along the fault system are identified. These traces indicate that the system is continuously extending along the MTL, except for several discontinuities marked by distinct jogs.

The pattern of dip-slip distribution along strike-slip faults is characteristic and, in general, their upthrown side is located on the fault blocks in the direction of the relative strike-slip. Therefore, fault segments may be identified on the basis of a set of dip-slip distributions along strike-slip faults. Taking this characteristic pattern into consideration, five segments were recognized in the active fault system of the MTL in Shikoku.

The MTL active fault system is geometrically divided into three segments. These segments are separated from one another by large discontinuities. The boundaries of these segments conform to the boundaries of the segment separated by the characteristic pattern of dip-slip distribution along strike-slip faults. These segments can be divided into several small segments that are separated by branching and the characteristic pattern of dip-slip distribution.

To date the latest surface-faulting events along the system, the author excavated mini-trenches and extracted vertical thin sections of unconsolidated soil layers by a Geoslicer from each segment. Based on the results obtained from each segment and previously published data, the characteristics of active faulting are discussed. The latest events in Shikoku were concentrated within the past several hundred years and this suggests a temporal clustering of active faulting along the MTL, similar to that observed along other major faults throughout the world.

has been constant or decreasing over the last 11 (± 1.5) million years. The remainder (30 (± 10) mm/yr) from the total convergence (50 mm/yr) between India and Eurasia is attributed to intraplate deformation to the north of Tibet (the Tien Shan, Altai, and other ranges).


A bridgehead plaza is the small open space at the foot of a bridge. The size of bridgehead plazas built since the seventeenth century was not fixed, and some bridges did not have one. The size of a bridgehead plaza was first decided in the 1920s, as part of the Kanto Earthquake Reconstruction Plan which was devised to rebuild Tokyo. Although bridgehead plazas were precious for urban activities, they have been neglected in contemporary urban planning. This study attempts to clarify the concept of building bridgehead plazas, to examine changes of bridgehead plazas in the context of urban space and urban policy, and to point out the significance of bridgehead plazas in urban planning. Examined in this study is the City of Tokyo under the Kanto Earthquake Reconstruction Plan from the time of the great earthquake (1923) until the present.

Bridgehead plazas were planned on the arteri- al streets of Tokyo in order to secure space for construction and repair of bridges. The number of bridgehead plazas gradually decreased as time passed. Many rivers were filled up from 1945 to 1955, urban planning had to respond to the ever increasing number of automobiles from 1955 to 1975, and improvement of the urban landscape was emphasized from 1975 to 1997. These factors contributed to the decline of bridgehead plazas as well as to changes to some which remained.

Bridgehead plazas are important for reconstructing bridges, maintaining the beauty of bridges, and securing space for rest and festivals. They also provide space for disaster relief programs and link water routes with streets. Historical landmarks may be built in bridgehead plazas, while they can serve as space for urban beauty and human activities. Bridgehead plazas should be recognized in urban planning and supported with proper legislation.

KADOI, Naoya: The Spatial Organization of Local Administrations in Ancient Japan. Kyoto University, March 2000.

There was a spatial hierarchy in the ancient administration system of Japan: Miyako was the national capital and was located in the region of Kinai, and the rest of Japan was divided into seven major regions which were collectively called Shichidou. Kinai and Shichidou were composed of several districts called kuni. The kuni included the lowest-level spatial divisions called kouri. Thus, the ancient administration system was composed spatially of three areal ranks: Kinai and Shichidou, kuni, and kouri.

This paper investigates how the system of local administration was established by the Japanese government from the middle of the seventh century through the eighth, revealing (1) how the boundaries were delineated, (2) what kinds of functions the local governments had, and (3) how they were involved in the ritsuryou system (the statutory system for administration) created by the national government. Special attention is given to the kouri, the most basic units for local administration and the territories of which were almost identical to those of today's counties.

Four types of kouri can be recognized. The first corresponded to the territory of a locally strong clan, the second comprised a clan's territory and surrounding areas, the third covered the territory of several clans, and the fourth had no relation to any clan. It is assumed that the second type is the oldest and that the others originated when those of the second type were spatially reorganized.

The administrative office of a kouri was called a guuke. Originally, the guuke tended to be located along trunk roads. After the establishment of local administrative offices of the kuni (kokufu) in the eighth century, however, guuke came to be located at nodal points along local road networks that connected kokufu with guuke.

Previous studies pointed out that the messen- gers from the national government traveled
only along main roads connecting guuke, where they were provided with food and horses. My investigation, however, revealed that the messengers might have been permitted to travel along minor as well as major roads. In several cases, they could get food and horses not only at guuke but also at other facilities.

Although the national government created kouri as local administrative units in ancient Japan, they did not function well administratively in the beginning. Their administrative functions were enhanced after the ritsuryou system was established, and the kouri consequently operated with more substance.


In Japan, the national government shifted its target area for public investment from metropolitan areas to remote rural areas in the late 1960s, and the amount of public investment per capita in remote rural areas came to be much larger than that in metropolitan areas. This thesis aims to clarify the impact of regional income redistribution on remote rural areas in terms of its implications for public investment as a social policy.

One important characteristic of public investment in Japan is the high ratio of investment carried out by local governments. For most public projects, nominated bids are taken and local governments in remote rural areas nominate only local construction companies. The nominated companies also arrange to allocate the projects so that they can coexist. Therefore, the organization of the construction industry is formed on territorial bases.

Construction companies in remote rural areas employ people living in neighboring settlements, and the companies themselves are scattered throughout a given territory. There are two important reasons for this.

The first pertains to the workers, most of whom in remote rural areas are middle-aged or older and have limited value in the labor market. They also give higher priority to maintaining traditional rural lifestyles than to earning high wages, and working near their homes makes it possible to maintain their lifestyles. Construction companies are able to keep their costs of labor down by employing them.

The second reason is the ease of organizing employees. As a characteristic of the construction industry, fluctuations in the demand for labor are unavoidable. The group solidarity of a rural community can help to minimalize conflicts because of this.

Because of such factors, public investment creates job opportunities for extensive areas in the remote countryside and had worked effectively as a social policy in the 1970s and 1980s. However, young workers are valued in the labor market and prefer jobs with higher wages in urban industry. This leads to a youthful migration to urban areas and, as this continues, the mismatch between the demand for and supply of labor in the construction industry increases and the function of public investment as a social policy is weakened.


Manufacturing industries in Japan have been characterized by production systems consisting of interfirm transactions controlled by powerful organizations. These production systems, which are composed of core firms and their many suppliers, are competitively strong because of their flexibility in changing economic conditions. From a geographical point of view, such systems tend to agglomerate within limited areas. Such spatial proximity between firms is one of the reasons for the fierce competitiveness between Japanese production systems. Therefore, to analyze the spatial context of interfirm transactions is important to clarify the characteristics of Japan’s production systems.

This study elucidates the spatial structure of interfirm linkages in the electronics industry in Japan by examining the production system of a large manufacturer. First, a large firm in
the electronics industry was selected, and then the linkages within the firm and with its suppliers were examined through field surveys in metropolitan and non-metropolitan industrial agglomerations. Finally the regional implications of the firm's production systems were interpreted through interfirm linkages in both areas.

In the metropolitan industrial agglomeration area, the interfirm linkages covered large parts of eastern Japan. The firm depended on subcontracting with many suppliers with specialized technology in this area. These suppliers divided labor spatially between metropolitan and non-metropolitan regions by establishing branch plants, so the firm could create a flexible production system through such suppliers.

In the non-metropolitan industrial agglomeration area, the firm formed local linkages, while it depended on non-local linkages in different parts of Japan for its specialized technology. Because of less industrialization in this area, there were few local suppliers to subcontract with. Although the firm supported training local suppliers to reduce labor costs, the local suppliers could not acquire a wider range of technology because of their exclusive transactions with the firm. Non-local linkages for specialized technology were therefore sustained.

The firm attempted to achieve a flexible and efficient production system. To do so required organizing suppliers hierarchically and spatially according to the degree of agglomeration among suppliers in different regions.

KAWAGUCHI, Taro: The Spatial Structure of the Tokyo Metropolitan Area and Its Changes with a Focus on the Activity Space of Suburban Residents. University of Tokyo, March 2000.

Metropolitan areas in Japan have expanded remarkably in the second half of the twentieth century. Their expansion mainly depends on the development of suburban areas. The growth of the suburbs has decreased the influence of the central cities and has caused them to change from their single-core/centripetal spatial structure. Although a considerable number of empirical studies have pointed out such a change, there is little agreement on what kind of spatial structure is brought about as a result. This, however, has been clarified in this thesis through analyzing the Tokyo Metropolitan Area (TMA). Statistical materials and results from questionnaire surveys were used to make sense of the conditions as they are, as well as to consider the structural changes in the TMA based on the activity space of its suburban residents.

This thesis consists of six chapters. After outlining the the history of suburban development in Chapter 1, Chapter 2 analyzes the replies given on a questionnaire by residents who migrated into the TMA to explain how they came to live in the suburbs. In Chapter 3, statistical analysis of the population and its employment shows changes in the spatial structure of the TMA, and those changes are interpreted on the basis of such daily activities as commuting and shopping by suburban residents. Chapter 4 examines the results from another questionnaire survey to understand the general characteristics of the daily activities of the suburban residents and their territoriality, here called "activity space," while Chapter 5 uses the method of time-geography to interpret consumer behavior in the suburbs from the viewpoint of time-space allocation of daily activities. In Chapter 6 are the conclusions, summarized in the next paragraph.

The activity space of each suburban resident is composed of three concentric zones around his/her home, and the second ring (5–10 km from the focus) was found to be the most lively. The main reason is that people who live in the suburbs tend to engage in activities within a smallish amount of space despite the growth of the metropolitan area outward. Especially because of progress in motorization and siting various urban facilities beyond the traditional centers, the immensely expanded metropolitan area has become one with many cores that are linked to each other. Hence, the localization taking place in the suburbs of the TMA has grown in importance.

The relationship between the Asian summer monsoon circulations and associated heat sources is studied through observational data analysis, a simple model study, and general circulation model (GCM) experiments. First, the distribution of radiative flux and diabatic heat sources associated with the Asian summer monsoon are studied. Then, the role of the monsoon circulations in heat budget is identified. In April, before the onset of the summer monsoon, sensible heating near the surface contributes to the rise in lower-air temperatures over land. After the onset of the summer monsoon circulation in June, the strengthened downward motion warms the upper air over central Asia while the sensible heating near the surface is canceled by cold air from the north.

Second, the Asian summer monsoon circulation is studied as a simple model response to prescribed diabatic heat sources and zonal mean fields. During the Asian summer monsoon season, the prescribed deep heat sources in the southern part of Asia form the Tibetan High, the low level circulation over South Asia, and, the downward motion of air in the western part of the Eurasian continent. In early summer (June), the deep heat sources in the southern part of Asia tend to form southwesterly low-level flows and an upward motion south-east of Japan. These are considered to trigger the Baiu in East Asia.

Third, GCM experiments are used to study the behavior of ground conditions and near-surface heating on the Eurasian continent. The GCM responses to the regional snow mass anomalies in early spring over Tibet, Eastern Europe, and Siberia are compared. The model experiments show that the cooling source over Tibet works significantly to delay the seasonal transition from spring to summer in the Northern Hemisphere. The analysis is made to clarify the local condition for snowmass influential in the monsoon circulations.

Overall, this study shows an inter-relationship within the Asian summer monsoon of (i) near-surface heating directly related to incoming solar radiation and responsible at least for lower-air warming over land, (ii) the convective heat source to drive the monsoon circulations, and (iii) the advective transfer of heat by the monsoon circulations that moderate the contrast in heat between land and sea and between upper and lower air over land. The results, being consistent and complementary to each other, contribute to understanding the Asian monsoon system.


This paper provides a discussion of the local effects of mineral resource development along with its regional and historical significance while focusing on oil field development in Niigata prefecture in the Meiji and Taisho periods.

Oil field development in Niigata prefecture resulted in various direct and indirect economic effects on the region. However, these effects brought with them limitations and problems. Capitalism progressed from the middle of the Meiji period into the Taisho period, and during the course of developing the oil industry as a modern industry, oil field development in Niigata prefecture increasingly emphasized resource exploitation on both a large and a small spatial scale. In this context, during the course of modernization, the regional significance of the oil field development in Niigata prefecture can be expressed qualitatively. This illustrates the limitations on autonomous development for a region from the standpoint of mineral resource development in modern Japan.


Changes in the thermal environment cause the air temperature to rise in an urban area, thereby creating the so-called urban heat island (UHI). The study of urban rivers and their adjacent built-up areas focuses on how rivers affect the UHI.

In chapter 1, several kinds of problems from recent studies of urban climates were analyzed spatially. One such problem is concerned with the spatial representation of heat and momen-
turn fluxes in cities. In addition, the expected effects of rivers for mitigating the UHI are given.

In chapter 2, meteorological data around rivers were analyzed to determine how they affected entire cities. The result suggests that the advection of cool air caused by sea breezes extended further inland along rivers than it did elsewhere.

In chapter 3, this phenomenon was examined for its daytime influence in the summer. The air temperature below approximately 150 m above ground level was found to be lower along rivers than in built-up areas. This was because of the effect of sea breeze. Sensible heat flux over the water surface was no more than -50 Wm\(^{-2}\). Also, it became clear that the spatial mean sensible heat flux along rivers, calculated by the traverse method, was negative and about twenty percent of that in built-up areas.

In chapter 4, seasonal variation of the cooling effects was analyzed around the river area. Although water temperatures are higher than air temperatures in the colder season of year, the air temperatures along rivers are lower than those over built-up areas in both the warm and cold seasons. The processes of making low temperatures differ in each season.

The cooling effects of rivers were governed not only by the magnitude of the area covered by water and the flood plain but also by the height of the banks that confined them. This study also suggests that the magnitude of the cooling effect is caused by the geometry of the structures in built-up areas.

TAKATORI, Yasuko: The Multi-Functional System of Urban Agriculture in the Suburbs of metropolitan Tokyo about ten kilometers from the metropolitan center, and Nishi-Ooizumi is located in the northwestern part of the ward. Although this area has had good accessibility to the metropolitan center in terms of commuting, agriculture has continued to be practiced there since the 1970s.

Based on field surveys and land use maps, some functions in terms of both agriculture and farmland were identified in the Nishi-Ooizumi area. They have been classified into five types: agricultural production, amenity and environment, disaster prevention, leisure activity, and land supply. Changes in these functions have been divided into three periods: urban fringe agriculture, early urban agriculture, and growth of urban agriculture. In each period, the author considers the interaction among functions and the conditions affecting them.

In the period of urban fringe agriculture, before the early 1960s, farming was the dominant use of land in the Nishi-Ooizumi area, and agriculture there was mono-functional and belonged to the agricultural production function. In the period of early urban agriculture, the latter half of the 1960s and the 1970s, the land supply function dominated because of high economic growth and the enforcement of the City Planning Act, but because some agriculture in the area fell under the agricultural production function, there was a dual functional system at this time. In the period of urban agriculture growth during and after the 1980s, agriculture continued to fall into the agricultural production and land supply functions, but the other three functions—amenity and environment, disaster prevention, and leisure—were introduced at this time. Thus, these five functions have interacted with each other and created a multi-functional system in the last two decades.

The differences in function in each period were caused by the influence of enforcement of laws, business conditions, and urbanization of the area. Although urban agriculture originally was mono-functional and fell under the agricultural production function, it came to include other functions as a dual-functional and then a multi-functional system.

The purpose of this study is to show that there are regional differences in the religious acceptance of a Christian mission in provincial cities of Japan, and that these differences correspond to existing regional differences in religion.

This research confirms that the mission of The Church of Jesus Christ of Latter-day Saints is comparatively difficult to conduct in areas where the Judo Shin sect of Buddhism is strong in Nagano, Niigata, Yamagata, and Toyama prefectures, even though numerous church members are apt to be devout Christians. In the regions where many temples of the Soutou and other sects of Buddhism are located in close proximity, conducting the mission of The Church of Jesus Christ of Latter-day Saints is comparatively easy, but numerous church members are not exactly active.

There were various reasons given for converting to The Church of Jesus Christ of Latter-day Saints. When answering my questionnaire, a number of church members said that they converted because they respected the missionaries and understood the Gospel as taught by them. In cases where they were guided by the Holy Ghost (religious experience), the location or region they live in seems to make a difference. In Yamagata a number of church members stated that they were led by the Holy Ghost, but in Toyama few gave that reason. In Judo Shin sect regions such as Toyama, a number of church members stated the main reason for converting to the church was that they understood the creed. These tendencies seem to be based on regional differences in the strength of Buddhist sects.

Concerning the reasons for why converts came to the church in the first place, the proselytizing of missionaries and lessons in conversational English were the main two reasons until the end of the 1980s. But in the 1990s, when the number of church members increased, the main reason seems to be that the proselytizing efforts by church members have increased, as have self-referrals, when a person visits a church on his or her own accord. Cases involving people who had visited a church for events other than lessons in conversational English also increased. Recently the proselytizing efforts of The Church of Jesus Christ of Latter-day Saints in provincial cities in Japan have changed, and the many new methods of proselytizing which have been adopted are being widely accepted.


This study provides a micro-level examination of the relationship between land-use changes and land-use decisions by agents in an urban and rural land market. Two areas in the city of Maebashi were selected as samples in which land-use analysis was examined at the micro-level: a section along the urban fringe and the city center. In order to obtain land-ownership data, the Land Assessment Rolls housed in the Property Tax Division of Maebashi City Hall were used. The decision-making agents were selected according to land-trade and land-inheritance data from the rolls. The land-use data for the areas were mainly obtained by the author's field survey, while some parts were supplemented by aerial photographs, topographic maps, and residential atlases. To gather information on the decision-making processes, the author interviewed the selected agents. The findings from the two sample areas are discussed from the viewpoint of the entire process of urban development.

Analysis of the data makes it possible to identify some general relationships between land-use changes and the decision-making agents. Because of urban growth, some agents who had been active only along the inner fringe advanced into the city center, while some who had worked only in the city center opened branch offices or shops in the inner fringe area. As a result, the number of agents and their forms of behavior in the sample areas generally increased. Moreover, the most important feature was that when development progressed to
another stage, those agents who had engaged in a limited type of behavior diversified within their area. There were two reasons for this: the causes and conditions for their land-use decisions diversified due to the increase in the number of agents; and, as a result of this diversification, their choices for what to do also diversified and created a more complicated pattern of behavior. Multiple forms of behavior by one agent was a phenomenon observed only in the city center where there was a large demand for urban land. When the change in urban structure was due to urban growth, however, the characteristic behavior of the later stages of development was seen even in the suburbs, which were previously at an earlier stage of development.