Research Frontiers in the Historical Geography of Japan in 1978—1987

Kentaro Kobayashi* and Akihiro Kinda**

Japanese historical-geographical research has had a rather fruitful period in the recent decade. The trends of the six major themes are reviewed in this paper.

1) Crop cultivation seems to have commenced during the earliest Jomon period (12,000—6,000 BP) and paddy rice cultivation began during the latest Jomon period (3,000—2,300 BP). The latter reached to the most northern part of Honshu in the middle Yayoi Period, and most of the paddy field remains of the Yayoi (2,300—1,750 BP) and Kofun Periods (1,750—1,400 BP) are very small sectioned. These findings mainly from the archaeological excavation differ significantly from previous research conclusions.

2) The restoration of ancient cities has progressed and new knowledge of the similarity and differences between Japanese and Chinese capital cities based on detailed comparative studies is being undertaken. Arguments concerning the origins of city planning have also begun. Research on road networks is very active and it is now indisputable that there was a systematic road network which connected major target points by straight lines throughout ancient Japan. Perceptive new research approaches to ascertain the location and arrangement of ancient cities and major facilities are now being conducted.

3) The Jori plan consisting of the Jori grid pattern and the Jori indication system appears to have been completed in the middle of the 8th century. This is quite different from previously held opinion. Discussions on the activities of the Jori plan in ancient and medieval times have begun, and research and analysis on its wide diffusion as an important element of the traditional rural landscape have also been compiled. The condition and change of land use in and out of the Jori grid pattern has become one of the principal topics of discussion. Territory and form of settlement in ancient and medieval times have become clearer. For example, there was a prominent trend of making nucleated settlements, called Ballung and making dispersed settlement.

4) Research on the distribution and the landscape of the medieval markets has continued. One writer pointed out that medieval markets did not yet form an organic hierarchical structure from the point of commodity flows. The arguments on castle towns, which are one of the principal themes of Japanese historical geography, progressed especially in terms of changes from preceding types and structure.

5) Studies of spatial relation between the hanseison and the mura, and the spatial structure of rural society in modern times have been compiled. Case studies on labor and marriage migrations also appeared. Analysis of the farming books of the Edo era were added to traditional research on newly reclaimed land in the same era.

6) Many maps were drawn in the medieval times and the Edo era in Japan. The behavioral approach to historical regional structure using these maps has begun in the last decade, in addition to traditional research on those maps. Analysis of medieval legends has been undertaken to understand the structure of medieval living space.

In the period 1978—1987, Japanese historical geography experienced a rather fruitful period in that more than twenty academic titles written by historical geographers (not including memoirs of the association of historical geographers in Japan or collections of treatises) were published. Also, many articles or chapters written by historical geographers in related fields were published during the decade. Some new aspects have arisen in relation to traditional themes of Japanese historical geography and some new ideas have been set forth.

* Department of Geography, Faculty of Education, Shiga University, Otsu, 520 Japan.
** Department of Geography, Faculty of Letters, Kyoto University, Sakyoku, Kyoto, 606 Japan.
The authors would like to focus on the six themes in sections 1–6 which represent the recent major trends of historical-geographical research in Japan. There are of course many works on other topics, but for reasons of space they could not be included. We would also like to point out that sections 1–3 were written by A. Kinda and 4–6 by K. Kobayashi.

I. Paddy Fields in Prehistoric and Ancient Times

1. The origin and diffusion of paddy field cultivation

One of the recent research arguments concerns the diffusion and differential regional establishment of paddy rice cultivation. From this viewpoint, there have been important geographical contributions relating to ancient environments, landforms, climate and flora (Japan Association for Quarternary Research, 1977, Yasuda, 1978, 1980), as well as useful contributions from archaeologists, agriculturalists and cultural anthropologists. In particular, finds of archaeological excavations in recent years have produced new ideas and knowledge, and have contributed to a rapid increase in the quantity of data on prehistoric farming and cultural landscapes.

At the time of writing this article, one example of excavated items considered to be indicative of the earliest crop cultivation is the gourd which is considered to be one of the cultivated species of the earliest and early Jomon Period (from 12,000 to 5,000 BP) found at the Torihama site in Fukui Prefecture (Toyama, 1985).

S. Nakao (1966, 1967) has presented an ecological view entitled the Shoyojurin (Shiny leaved forest) culture which was based on the evergreen broad-leaved forests of East Asia. This view has since been further developed by researchers such as T. Sasaki (Toyama, 1985). T. Sasaki (1982, 1986) considers that the Shoyojurin culture and the mixed grain and root crops, which were sustaining components of that culture, were widely established in the whole of Western Japan before the arrival of paddy field rice cultivation, in the late and latest Jomon Period (4,000–2,300 BP). In view of the crop history, T. Watabe (1983) pointed out the possibility of rice arriving as one of the dry field crops. Both are based on the same considerations, but there is a view which considerably limits the distribution of rice cultivation (Terasawa, 1986) and the effect of those viewpoints (Senda, 1981).

The evidence of the earliest paddy rice cultivation are the paddy field remains of the latest Jomon Period (3,000–2,300 BP) at the Nabatake site in Saga Prefecture. Also at the Itazuke site in Fukuoka Prefecture, paddy field remains and wooden tools for cultivation have been found. According to J. Nakamura (1982, 1984) some pollen of cultivated rice has been found which is considered to have been cultivated approximately 3,400 BP at the same site and it is argued that rice cultivation had reached the Tokai region by 2,400–2,300 BP. Because of the large number of findings of tools for cultivation at many Yayoi Period (2,300–1,750 BP) sites, it has been well established that rice cultivation had spread throughout many regions within Japan. In recent years, however, excavation has rapidly been increasing the number of recovered Yayoi Period paddy field remains. In particular, the paddy field remains of the middle Yayoi Period which were found at the Tareyanagi site in Aomori Prefecture in the north of Honshu (Aomori Ken, 1983) clearly indicate that the diffusion of paddy rice cultivation was rapid and extensive. For research on paddy field remains such as this, it is understood that not only pollen analysis but also the search for plant opal of rice is effective (Fujiiwa, 1982), and these methods have become popular.

H. Iseki (1983) who compiled the evolutionary process of the alluvial plains of Japan argues that the sea level of the latest Jomon Period and early Yayoi Period was approximately two meters lower than the present level and considers that the alluvial plain of that time stretched beyond the present coast line. Therefore he thought that it was the environment which was the important factor for the success of the above mentioned paddy rice cultivation.

2. Change in the size and form of paddy fields

Among the paddy field remains of the Yayoi Period found at the Toro site in Shizuoka Prefecture in the 1940s, one paddy field block measured from 375 to 2,400 m², and it was reported that the most common size was approximately 1,400 m² (Sugihara, 1977). For a long time since then,
orderly divisions such as these had been considered typical of the paddy fields of the Yayoi period. Many findings of recent years, however, indicate a significant difference from them. At the Tsushima site in Okayama Prefecture, the early Yayoi Period paddy blocks measured from 200 to 300 m², at the Tamura site in Kochi prefecture for the same period they measured from 3 to 80 m² and at the Hattori site in Shiga Prefecture the measurements were from 10 to 282 m² (Kurakii, 1987). Although they varied in size, small scale blocks have continued to be discovered. These discoveries owe much to new excavation technology, but in many cases the fact that the level of the paddy field in the past was covered with flood deposits or tephra contributed significantly to their discovery. For example, at the Okitaminami site in Hyogo Prefecture, five levels of small sectioned paddy field in the 4th century were buried under flood deposits (Matsushita and Takahashi, 1983); in Gumma Prefecture, tephra in the mid-4th century, early 6th century, mid-6th century, 1108 and 1783 played a decisive role in deducing the age of various paddy field remains (Noto, 1983). At the Dodo site in Gumma Prefecture, four levels of paddy field remains under the tephra have been found at the same place, as shown in figures 1a–1d (Noto, 1983). The consolidation of data on many paddy field remains such as these is currently being undertaken, but the stage has not yet been reached at which definite conclusions regarding their distribution and forms can be determined. At present, it is possible to outline a few points regarding the principal characteristics of small sectioned paddy fields.

1) Although most of the paddy field remains of the Yayoi and Kofun (1,750–1,400 BP) Periods are located on the back marsh of the alluvial or the buried part of small and shallow valleys, in some cases they have been found on low natural levees (Matsushita and Takahashi, 1983).

2) Among the small sectioned paddy fields, some are formed by subdividing with small ridges.

3) In small sectioned paddy fields, there are two contrasting kinds; one with regular rectangular shapes, and the other with irregular shapes. Even within the same site at the same level, in some cases they are found mixed together in a group.

Figure 1. Remains of paddy fields at Dodo site in Gumma Prefecture (Noto (1983))
4) Among the small sectioned paddy fields, as can be seen from figures 1b and 1c, there are those which were formed as a result of repair work after being buried by tephra (Noto, 1983) and those which were formed according to the conditions of micro-geomorphology.

II. Ancient Cities and Road Networks

1. City plans

The core of research on ancient cities has been the investigation of capital cities, and this also has been carried out not only by geographers but also by historians and archeologists. The main focus of attention on the part of historical geographers has been on the restoration of city plans and the principle or origin of city planning. The ancient capital moved from Ohmi (667-672) to Asukakiyomigahara (672-694), Fujiwara (694-710), Heijo (710-784), Nagaoka (784-794) and Heian (794-, the last ancient capital) (Fig. 2). During this time, however, there were periods in which Naniwa-kyo was formed intermittently in the 7th-8th centuries and Kuni-kyo in 740-743 (Fig. 2). It has been well known for some time that Heijo-kyo and Heian-kyo were planned cities which had orderly grid street patterns and it has also been widely believed that Fujiwara-kyo had a similar city plan although on a smaller scale (Kishi, 1969). Recently, there have been arguments that this Fujiwara-kyo plan was much larger than had previously been thought (for example, Akiyama, 1980). This argument, however, together with the view that there was a regular ancient land survey system in the Asuka area (Kishi, 1970, Senda, 1982), needs verification. Ashikaga (1985) compiled his own restored plans of Kuni-kyo and Heian-kyo, and completed the outline of land

Figure 2. Outline of ancient land planning around capital cities (Simplified, after Ashikaga (1985))
planning of the ancient cities and road network in the Kinki region as indicated in Figure 2. Regarding the city plan of Heian-kyo, he states that it contained the plan for an area which can be called an urban fringe zone around the city as well as his detailed reconstruction of its internal structure.

Traditionally it has been believed that Japanese capital city planning was inherited from that of Sui and Tang Periods in China, but AKIYAMA (1981) contends that it has some similarity with the capital city of the prior period, and some joint research which includes cooperation with Chinese researchers has been undertaken (KISHI ed., 1982, 1985). It is a fact beyond doubt that Japanese capital city plans were influenced by those of China. However, taking the land indication method used in capital cities for instance, in Sui and Tang it was common to give a proper name to each street and block, and this was reflected in Fujiwara-kyo in Japan. This changed, however, in Heijo-kyo, to a system of numbering the streets systematically rather than giving them a proper name. This indication method was reflected in Heian-kyo resulting in a more orderly and systematic system. This is considered to be a part of the completion process of ancient land planning in Japan (KINDAI, 1985), which was closely related to that of the fiori plan to be discussed later in this paper.

It was indicated that micro-geomorphological analysis was one of the effective clues for the restoration research of Naniwa-kyo which was placed on a diluvial terrace (KIHARA 1981, 1982). Recent research on Dazaifu of ancient Kyushu, Tagajo of the ancient Tohoku district and provincial capitals has been progressing. It derives largely from archaeological achievements for its developments. In regard to historical geography, recent advancements in research have been made on the surface remains of land division and various place names as remains (for example, TAKAHASHI, 1984), patterns of location of provincial capital and temple (KINOSHITA, 1983) and changes in scale (YONEKURA, 1983).

2. Road networks

Road networks of ancient Japan (1978–79) edited by K. FUJIOKA aimed at the reconstruction of the main transportation network throughout Japan and the location of posting stations in the 8th–10th centuries. It achieved its purpose by utilizing 25 researchers in total. What became clear in this research was a systematic road network which connected major target points by straight lines. This was also how the straight lined ancient roads developed over a wide area as had been observed by T. KISHI and K. ASHIKAGA since 1969–1970. Research on this theme has continued to develop since then. ASHIKAGA was involved with this subject and has produced a map of ancient capital cities, provincial cities, principal government facilities and premeditated transport routes connecting them as a result, as presented in Figure 2. Also for areas in and out of Kinki, reconstruction works have been vigorously carried out by many people such as R. KINOSHITA (1978), T. HINO (1979), K. KANASAKA (1986) and M. YOSHIMOTO (1981). Data used for restoration include the remains of straight lined ancient roads which can be found by aerial photographs, large scale topographic maps, small place names related to ancient roads and stations as well as historical materials. From the findings from this research, it has become clear that there are cases in which some parts of straight ancient roads retained a certain width (usually from 7–8 meters and up to 12–13 meters) and were therefore excepted from the fiori grid pattern. However, to make matters more complicated, there were other cases in which they were not excepted from the fiori grid pattern at all. These findings may form one of the key points in the history of ancient land planning in Japan.

3. Perception and land Planning

It has been long known that the main street running north to south in Japanese capital cities were called Sazaku Street, and also that each of the four directions of ancient capital cities was named after a god. ASHIKAGA (1985) has discussed this point in more detail on Heian-kyo and SENDA (1987) considers that the ideas of Taoism play a large role in the background of geomancy for capital cities. He is therefore working on an examination of Japanese ancient capital cities as a whole. There is some research, such as Y. YAMADA’s (1986), which contends that azimuth faith played an important part not only in capital cities but also in decision making on the location and arrangement of major facilities such as the provincial capital and principal shrines. However, it is
very difficult to prove whether this belief system was actually influential at the planning stage of each facility or, on the other hand, whether facts were later interpreted to make it seem that the decisions had deliberately been made in keeping with religious tenets. As can be well imagined, the subject has proved to be a difficult one, and its research has only just begun.

Sendai (1980, 1982) is trying, furthermore, to explain the perceived spatial structures of ancient times through a semiotic approach. He considers that the structure of geographical space is formed as a system of square, vertical and orientation, and seeks its origin in the Mandala pattern.

III. Rural Landscapes in Ancient and Medieval Times

1. The Jori plan

The Jori plan consists of the Jori grid pattern whose unit measures approximately 109 meters square and of the Jori indication system using this as a basic unit. It was considered once that the Jori plan was a system which was originally combined with the system of handenshuju which had begun in the latter half of the 7th century at the latest. But while the first material which shows the Jori indication system was written in 743, it is considered that land allocation was carried out before then using names such as small place names. This means that the Jori plan was completed almost half a century after the establishment of the ancient Japanese basic law which was derived from China. According to this, it is highly probable that the Jori plan was consolidated by adapting it to a unique Japanese context (Kinda, 1985).

The background situation which directly contributed to the introduction of a unified system of land allocation is considered to be the rapid increase of privately owned land as the result of new land laws in 723 and 743. As the Japanese basic law of 701 did not approve of any private ownership of land, it is quite likely that there was no serious confusion even by such complicated methods as allocating by small place names and recording by landmarks of boundaries of allotment. However, due to the rapid increase of various privately owned lands, it was necessary to strictly separate them from those owned by the state; at the same time the amount of office work had significantly increased. In this new context, it must have been quite effective to have a unified system for land allocation by numerals, and at around the mid-8th century the Jori indication system was established in each county of each province (Kinda, 1985). During this process there has been a report of an example in which a certain governor had much to do with the completion of the Jori plan in his province (Ito, 1983).

Because the Jori plan was completed as a means for the recording and approval of land possession in a practical sense as mentioned above, there were many cases in which it was used as a unit for various rights and responsibilities well into medieval times, and at the same time this became one of the main reasons for maintaining the Jori sectioning, or grid pattern, for a long time thereafter. In contrast to this, the approximately 654 meter long blocks consisting of 36 basic sections were not the unit for the ancient planned villages as considered before, and did not have any substantial use in the rural landscape. Therefore, they displayed quite a random pattern of maintenance as a higher order boundary compared to the basic section. For example, in the case in which they were later used for such things as the boundary of a manor, they then tended to remain as the village boundary, but in other cases, they did not retain any important use other than the basic section (Kinda, 1985). In any case, the Jori plan has been widely diffused as an important element of the traditional rural landscape in Japan. Research on these distribution patterns has gradually progressed in various regions (The Kashiwara Archaeological Institute, 1980; Iyanaga and Tanioka, 1979, etc.). Based upon distribution patterns, M. Hattori (1983) discusses the relationship between the Jori plan and the formation of provinces, counties, and their boundaries. He reports that there were many cases in which a province or county was artificially given straight-line boundaries. There has also been some progress in consolidating data on how the Jori plan was drawn cartographically on ancient and medieval maps (Hattori, 1986; Kinda, 1986a, b).

2. Reclamation and land use

As a consequence of surveying the distribution of the Jori grid pattern, recently cases have been
noticed in which smaller groups of *Jori* grid patterns, running in different directions from those of the main prevailing *Jori* grid patterns, existed around the outer edge or inside of the latter. It has been considered that some cases of the former had been equivalent to the ancient villages (Hattori, 1983), that some had been *Miyake* or *Agata* before the mid-6th century (Senda, 1980), and also that some had been on reclamation or consolidation unit (Kinda, 1985). In a case study in Shiga Prefecture, it was found that some of these grid patterns contained different measurements from the prevalent *Jori* grid pattern (Takahashi et al., 1979), thus making Chose flexible considerations even more probable.

Furthermore, even in the prevailing *Jori* grid pattern, a detailed investigation has revealed that the most common cases are those of mosaic patterns formed by units of approximately 100–150 basic sections. These units often matched the distribution of micro landforms of the area, and at the same time, reflect the size of a reclamation unit or the size of the consolidation unit (Kinda, 1985). For example, Figure 3 indicates the land use of Chimori Village in Echizen Province (Fukui Prefecture at present), which appeared in the map in 766. From this we can see paddy fields distributed in groups in contrast to the back marsh surrounded by natural levees and mountains. This example makes it clear that the area was developed mainly through the leadership of two powerful families. This example also explains the background for the appearance of the mosaic of the *Jori* grid patterns which contained units of approximately 100–150 sections as mentioned above (Kinda, 1986b). As can be seen in the same figure,
it is apparent that at that time each section of the *Jori* plan was not necessarily cultivated in total, and in many cases it included many uncleared areas. Furthermore, we now know that a cultivated area containing a far higher percentage of dry fields to paddy fields than at present was common, and that the cultivated land of those days contained large tracts of intermittent uncultivated land (Kinda, 1985). In case of the paddy field, a shortage of irrigation water seems to have been the major reason for having such intermittent cultivation and thus having a lower harvest. Since medieval times, these conditions have improved and gradually the ratios of cultivation and harvest have increased. In order to intensify land use, it was necessary not only to construct irrigation ponds and canals and a unique distribution of dry field and paddy field, but also to introduce new crops and a cultivation system in which two crops were cultivated a year. This became possible during medieval times (Kinda, 1985).

Research has run counter to the accepted belief that agriculture in early medieval times was generally on paddy fields in small valleys or on hilly slopes. T. Yoshida (1983) has presented evidence which shows that dry fields on diluvial terraces were indeed the core of medieval cultivation, and that such paddy fields were rather extensive.

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**Figure 4.** Processes of the formation and transformation of rural landscape (Kinda (1987))
Furthermore, the general consensus of opinion was that the paddy fields in the prevailing *jori* grid pattern on the alluvial plain went to waste. However, the most recent research indicates that such paddy fields continued to be main cropland throughout medieval times (Kinda, 1985). In relation to the progress of active development in medieval times in particular, some reports discussing mountainous and coastal examples in low and humid areas have been added (Takashige, 1980; Minamida, 1986).

3. Territory and form of settlement

Regarding the *go* which was formed on the basis of 50 enlarged families in the *Ritsuryo* period of ancient Japan, it has been confirmed that there were many examples of territory being divided according to such practical matters as the range of irrigation rather than according to a more logical gridlike, regular and uniform division (Tomatsuri, 1973). Although it may have been a practical division, this territory tended to be rather large compared with that of the village area which had been the basic unit of the traditional rural landscape in Japan. In the process of appearing, the area of *go* in the traditional rural landscape was divided in the context of the development of land use and population increase. It is considered that *Ballung* (the process of forming nucleated villages) progressed widely from about the 11th century onward (Kinda, 1985, 1987; Katahira, 1978, 1980; Yoshida, 1978). This process is presented diagrammatically in Figure 4. The typical area of A encompasses a spacious deltaic plain in the Kinki region, B encompasses a natural levee zone in the surrounding regions of the Kinki region, and C encompasses areas far from the Kinki region and on the large alluvial fan. They can be subject to a shift in the developmental succession depending on the social and economic context (Kinda, 1987). Also, as in the case of succession C missing the chance for *Ballung*, dispersed settlements may develop such as on the Tonami Plain in Toyama prefecture (Kinda, 1986c).

Another interesting piece of research focusing on the *Ritsuryo* period has revealed that there was another unit *mura* meaning ‘village’ which had come to exist by adapting to various local conditions apart from the ones based on the administrative unit (Tomatsuri, 1982).

IV. Markets, Towns and Cities in the Middle Ages and the Edo Era

1. Market and flow system

In medieval Japan, the improvement of agricultural production, development of manual industry, infiltration of monetary economy to local regions and so on, encouraged the circulation of local commodities and a large number of markets emerged as their nodal points. More than 100 markets were on record in the 13-14th century documents and the majority of them appeared for the first time after the latter half of the 13th century. On the other hand, about 750 settlements have place names connected with markets which originated in the Middle Ages, and they are distributed all over Japan except in Hokkaido. These show how extensively markets were developed in medieval Japan.

But many aspects of medieval markets have been neglected because only a few historical geographers have made studies of them. K. Kobayashi (1985) explained that there were 30 market towns in late medieval Tosa, southwestern Japan, which were densely distributed over Kochi Plain, in the central part of Tosa, but rarely in the eastern and western part, and were absent in the northern mountainous region, thus constituting a kind of urban network (Fig. 5). He divided them into three types, 1) market villages which were not different from rural villages in landscape depending mainly on trading in markets; 2) standard market towns consisting of a small linear settlement and dependent on trading in shops more than in markets; and 3) intermediate market towns consisting of some blocks and depending on trading in shops mainly. He also pointed out that their situation was one of building a county city capital which presided over the provincial urban network and which was inherited by a modern castle town. He insisted that the formation of county city capitals was in progress all over Japan at that time, and the end-product was shown by the construction of many modern castle towns from the latter half of the 16th century to the first half of the 17th century.

K. Kobayashi (1986) also pointed out that in Nii-minosho, Bicchu, western Japan, a rural market there in the latter half of the 13th century grew
into a standard market town consisting of about 30 burgages in the first half of the 14th century. A market adjacent to Niiminosho thereafter acquired the function of an intermediate market town owing to its growth into a market where land tax commodities were dealt with, while some small rural markets were open in northern mountain parts, and a hierarchical differentiation of markets was in progress at that time.

The above studies by K. KOBAYASHI were insufficient from the viewpoint of a functional consideration since he mainly depended upon the reconstruction and analysis of landscape. It was T. YOSHIDA and M. FUJITA who analyzed commodity flows and the flow system in the late Middle Ages in order to overcome these limitations. T. YOSHIDA (1983), who analyzed commodity flows in and around Koto Plain in Ohmi, central Japan, said that some chief ports were increasing their function as nodal points in the late Middle Ages, and regarded the centrality of each market as about the same level from the retail point of view. He also supposed that a hierarchical differentiation of markets was not based on the retail function but on available service functions such as carpenters, foundrymen, and so on.

H. FUJITA (1983, 1986), who analyzed medieval commodity flows by dividing them into distant and local flows, insists that the basic activities of every medieval market was supply to rural consumers, because the function of markets in distant flows were collections of rural products and supply to rural consumers, but the markets had only a supply function in local flows. He also said that markets in the Middle Ages did not yet form an organic hierarchical structure as supposed by central place theory, because it is difficult to find the hierarchical differentiation of markets, even if market areas were of various sizes owing to their distribution density.

It is remarkable in relation to medieval commodities' transportation, that S. MINAMIDE (1979) studied water transportation in the Tokai region based on land tax transportation between Ise Shrine and its manors and that studies on medieval water transportation in Setonaikai (Inland
Sea) became more active after *Hyogo kitazeki nyusen nouchou* (Documents of Incoming Vessels to Hyogo Kitazeki) was published in 1985.

2. Development and structure of castle towns

Castle towns are one of the most important subjects to be studied in historical geography. A large number of papers on them have been published to date and some books have recently been published summarizing them. It is significant from the viewpoint of urban history in Japan that a great number of castle towns were constructed as military, political and economic centers approximately 200 han territories all over Japan, except in Hokkaido from the latter half of the 16th century to the first half of the 17th century.

One of the remarkable recent trends is on the subject of Sengoku castle towns preceding modern castle towns. K. Kobayashi (1985) has reconstructed the early form of the townspeople's districts of Sengoku castle towns in Tosa, in southwestern Japan and examined their characteristics and the significance of their size, layout and structure. M. Koijima (1984) considered the relationship between the structure of Sengoku castle towns and Sengokudaimyo's urban policies. Since 1967, excavation of Sengokudaimyo Asakura's castle town, Ichijotani, in Echizen (now Fukui Prefecture), has been clarifying the actual conditions of the daimyo's and the warriors' residences, townspeople's houses and temples in the central district.

Secondly, it is also noteworthy that K. Ashikaga (1984) has developed a new idea on the layout of castle towns. He compared the town plan of Osaka and Fushimi both of which were castle towns constructed by Hideyoshi Toyotomi at the end of the 16th century and pointed out that Osaka was the longitudinal town where the main streets run toward the castle. On the other hand, Fushimi was a transversal town where the main streets cross in front of the castle. He emphasized that based on these facts the change from a longitudinal town to a transversal town symbolized the change from a medieval castle town to a modern castle town. But K. Yamori (1982), who formerly (1970) expressed a prominent view on types of castle towns, has argued both the pros and cons of this idea.

Thirdly, it is noteworthy that M. Nishimura (1980) studied the population ratio between castle towns and han territories. He explained that an average population ratio between castle towns and han territories was about 0.10, but with a range from 0.05 to 0.20. However, the value is stabilized to 0.10 when the calculation is limited to large han territories.


The Castle Towns and Their Transformation edited by K. Fujoka (1983) contains many examples of studies which refer to how the regional structure of castle towns has changed in the process of modernization after the Meiji Restoration and how the present urban structure has developed. About this problem, K. Kanasaka (1982) said that it is necessary to study it from the viewpoint of social geography in relation to the development of modern capitalistic society in contrast with former geographical studies which tend to be partial to regional classification or zoning according to function and change, namely one kind of morphology.

Jinaicho are also noteworthy as well as castle towns from the viewpoint of urban history in Japan from the end of the Middle Ages to the beginning of the Edo-era. Castle towns were essentially political and military towns constructed around the feudal lord's castle as a center. On the other hand, jinaicho was a corporate
town constructed around the temple as a center based on farmers', merchants' and craftsmen's religious bent of mind, accordingly showing a development process and layout different from that of a castle town. Y. Mizuta (1978) classified the developmental steps of jinaicho and pointed out the existence of the characteristic town plan in each step and T. Kanai (1980, 1981) considered the morphological types of jinaicho and their transformation.

3. Urban networks in Tokugawa Japan

We already have Rozman's leading studies (1973) on urban networks in Tokugawa Japan and know that the high standard of urban networks came into existence as early as the middle of the Edo era and that the urban networks consisted primarily of three metropolises, Edo, Kyoto and Osaka. In addition, there were castle towns as county city capitals, post towns, market towns, towns in front of the gates of large temples or shrines and ports as local centers which were connected to each other by various kinds of land and water transportation.

We do not yet have studies of the whole urban network written by Japanese historical geographers, but there are many papers on each type of town which organized the urban networks and on the transportation which connected them to each other. E. Nagumo (1977), T. Fujimoto (1978, 1982) and S. Nagano (1979) investigated structure, transformation, background of development, economic base and so on of towns in front of the gates of large temples or shrines, while T. Kimura (1982) made a general survey on market towns in Suo and Nagato (now Yamaguchi Prefecture) from the viewpoint of central place theory and T. Kikuchi (1979) argued the opening of periodical markets by itinerant mountain priests in Aizu Basin and its historical psychology. There were few studies on post-towns from the new point of view, but it is noteworthy that K. Kanasaka (1979, 1980) argued the regional change of a post-town, Imao in Echizen and a port-town, Niigata in Echigo from the Edo era to the Meiji era from the viewpoint of social geography.

As concerns transportation, studies of land transportation are not particularly worthy of note except for the publication "The Salt Roads in Japan—their Historical Geography" by G. Tomioka (1978), and Y. Sugihara's "Spatial Diffusion of 'Okagemairi' in the Year of 1771" (1978) which presents a new point of view. On the other hand, there are many papers on water transportation, especially on river transportation. A selected list includes studies on the Yura River by S. Fujimura (1978), on the Kitakami River by M. Ikeda (1980), on the Fuji River by H. Okuda (1981), on the Toyo River by M. Ozawa (1981), on the Yodo River by H. Hayashi (1984), and one on the Kitakami and Mogami Rivers by J. Onodera (1985). They insist on the necessity of a reevaluation of inland water transportation during the Edo era.

However, there is no paper which integrates these research findings to approach the whole urban network in Tokugawa Japan. This is probably one of the most important subjects left to be considered.

V. Rural Settlement and Agriculture in the Edo Era

1. Rural settlement

Rural settlement in the Edo era is one of the most important subjects in the field of historical geography of Japan. There have been a number of papers from various points of view. Its consideration from a spatial point of view is a noteworthy trend in recent research.

One such piece of research is the study of the spatial relation between the hanseison (rural administrative commune in the Edo era) and the mura (settlement as a unit of rural community). I. Suzu proposed three types in 1957, namely 1) the standard type, equivalent to the hanseison in the size of the community and area; 2) the Suye-mura type in which there are several mura in each hanseison and in which each mura is independent as a community; and 3) the Kemuriyama-mura type in which there are several mura in each hanseison and in which each mura is independent as a community; and 3) the Kemuriyama-mura type in which there are several mura in each hanseison, but each mura is less independent and most of the community functions belong to the hanseison. The studies after this have seen the verification of these types and consideration of their significance.

Concerning the standard type among them, H. Ishihara (1964) developed the following model based on the case study of the Sanuki Plain. In the case of the hanseison consisting of one nucleated settlement, there is one nucleated settlement including the tutelary shrine and the par-
ish temple in the center of its area, and the cultivated fields of every farmer located around the settlement are mixed with each other, further out, there being a common meadow. Almost all cooperation between the farmers occurs within this area. On the other hand, H. Yamazumi (1982) and M. Yamano (1977) carefully investigated the Suye-mura and Kemuriyama-mura types.

H. Uehara (1982), who investigated the spatial structure and transition of rural society in Kai Province (now Yamanashi Prefecture) on the basis of the above results, pointed out that the standard type was distinguished in the central part of Kofu Basin, while the Suye-mura type was dominant in the mountainous region around Kofu Basin and that when the Suye-mura type is defined in the stricter sense, it refers to the village type in the mountainous region while the village type in the plain area is referred to as the Kemuriyama-mura type.

Moreover, he investigated the spatial structure of rural society at the southern foot of Mt. Yatsugatake in the Edo era in detail and presented a model diagram as the result (Fig. 6) (1985). The topographical conditions spread out ridges of gentle slopes alternating between valleys with small streams. Generally, hamlets were located on the ridges which were disadvantageous for paddy fields. Their population size was affected by historical factors as well as by the extent of ridges. In particular, rural settlement along the main traffic route might have become the center of the hanseseion. Each hamlet contained territorial and consanguineous groups. Arable lands as productive space (i.e. paddy field, upland field and so on) were divided into several furlongs according to the complexity of ridges, uplands especially being located on the periphery of the hamlets or in places which lacked irrigation water. The irrigation organization had made a contribution to the integration of the hanseseion. Each farmer living in a hamlet concentrated on cultivating his specific arable land (furlong), but the main hamlet established its sphere of cultivation within the whole area of the hanseseion. Common land (i.e. hara or yama space) lay at the fringes of the hanseseion or at the foot of a mountain. Besides these spatial structures, there was an extended religious organization concerning mountain worship in this region during the Edo era. In addition to this, M. Okamura (1982) reported on the rural settlement based on consanguineous maki bands in Echigo during the Edo era and M. Yamada (1983) wrote about the territorial groups in the village located in the east suburbs of Nagoya.

Secondly, studies concerned the regional relations over the hanseseion territory. H. Uehara (1980) investigated the kumiaimura which was organized by a combination of several hanseseion as the administrative intermediate territories in Kai Province in the late Edo era. He pointed out that its territory turned out gradually to have the function of a substantial region. Based on the example in Hizen Province, northern Kyushu, K. Iwasaki...
The Historical Geography (1980) studied the relation between the hanseison and go which as the intermediate territory between the hanseison and gun (county).

In the case of study on the relation between town and villages or between villages through the analysis of population movements, investigations of labor and marriage migrations have been undertaken.

T. Mizoguchi (1981), who investigated labor migration in Kai province during the Edo era, explained that villages in Kai Province received laborers from nearby villages, but also supplied laborers to nearby villages, or Kofu (the capital city of Kai province) or Edo. He insists that though it has generally been believed that the peasants' mobility, and therefore the geographical scope of their lives must have been fairly limited during the Edo era due to the legal prohibition on migration, in fact, migration did occur at a much larger scale than hitherto recognized. K. Asano (1986), who investigated the relation between villages in terms of labor migration in Echizen Province, reached a similar conclusion and said that labor migration occurred not only in the same han territory, but also to other han territories or to other provinces; laborers did not congregate in towns or cities, so that migration occurred more on a village to village basis.

Concerning marriage migration, a series of papers by H. Kawaguchi (1983, 1984) is noteworthy. Especially interesting in the study on 'Osaka region' in the late Edo era from the viewpoint of the marriage area (Fig. 7) (1984). Since the limit of area from where marriage migrants noticeably went to Osaka is recognizable in and around a radius of 22-25 kilometers from Osaka, and the

Figure 7. The sphere of intermarriage of villages around Osaka (1789-1868) (Kawaguchi (1954))
villages beyond this radius showed different trends of marriage area; Kawaguchi called this sphere 'Osaka region' in the late Edo era. In 'Osaka region' we cannot confirm distinct central places except Nishinomiya that formed the sub-region extending over some gun in the western part of Settsu. It was probably west of the 'Osaka region', in what was then the 'Hyogotsu region' (now Kobe) where the marriage migrants concentrated, coming mainly from nearby villages. To the south and north-east of the 'Osaka region' some villages sent marriage migrants to the towns and cities.

Beyond these, S. Hashimoto (1977), who investigated the rural interrelations in Tonami, Ecchu Province now Toyama Prefecture, the background of religious faith to the shrines, showed that the interrelation in the old settled region followed basically the go territory as the historical region. M. Endo (1982) considered the rural interrelation in the Ojika Peninsula from the viewpoint of the conflicts concerning fishery in the Edo era.

2. Agriculture

A lot of shinden and a large number of shinden villages established on newly reclaimed land came into existence all over Japan during the Edo era; these have been reasonable subjects for historical geography. The doyen of the subject on shinden, T. Kikuchi, who published The Development of Shinden in 1958, brought out a great book, The Development of Shinden, Continued: Case Studies in 1986, which contains 17 typical cases of shiden extracted from many case studies based on the former book.

The main direction of studies on shinden is still the case study of each shinden and several papers on it have been written every year. But recently, we can see studies of regional trends in the development of shinden. Among them, a series of studies by T. Fukuda is noteworthy. He dealt with many regions from Tohoku to Kinki and took a bird's eye view of regional development of shinden, mainly in relation to geomorphological environment (1986). T. Miura (1983) investigated the development of shinden in Akita and M. Tobita (1982) explained the regional characteristics of the reclamations in Echigo Plain.

One of the new research directions is to clarify agriculture in the Edo era through the analysis of farming books written in the same period. The most important of them is Geographical Study of Farming Books in the Edo Era by S. Arizono (1986). At first, he explains the contents and classification of farming books of the Edo era, the characteristics of Japanese farming books compared with Chinese and English ones and the method and significance of a geographical study of them. Secondly, he examines concretely the regional differentiation of agriculture in the Edo era and their factors based on the farming calendars and land use methods described in the farming books of each region. On the other hand, M. Naito (1983, 1984), who paid attention to the comments on soil and fertilizer techniques based on manure use as recorded in farming books from the Edo era, considers the regional differences and the reasons for fertilizer techniques.

Concerning cotton cultivation which was a typical commercial agricultural crop during the Edo era, K. Iwasaki (1985) compared its regional characteristics in the western Mikawa district with advanced Kinai district. He found that the most important reason why cotton cultivation in the western Mikawa district was inferior to that of the Kinai district in terms of productivity and technology of production in spite of its older history, was that the character of cotton cultivation in western Mikawa district is considered as extensive agriculture located far from the main consuming area, in contrast with the intensive farming in the suburban area of the Kinai district.

VI. Picture Maps in Medieval Times, the Edo Era and Spatial Perception

In Japan in the Edo era, the bakufu and every han made various kinds of picture maps due to administrative necessity. On the other hand, a large number of picture maps were also made among the people in order to meet various demand. Among them, the provincial maps and maps of castle towns which bakufu ordered every han to make and the maps of Japan which the bakufu compiled based on the provincial maps sent from each han were in a sense the fundamental maps of the day. H. Kawamura (1984), researched very minutely the provincial maps which were made four times, in Keicho (1596-1615), Shoho (1644-1648), Genroku (1688-1704) and
Kyoho (1716–36).

K. YAMORI has applied his energies to the study of the maps of castle towns and reported the picture map history of the castle towns of Yonezawa (1973), Kanazawa (1978, 79), Fukui (1978) and Kumamoto (1988), while he compares the picture maps of various castle towns with each other divided into the maps for practical use in each han and the maps sent to the bakufu. Y. GOTO (1980) investigated the picture maps of Sendai castle town.

The study of medieval picture maps began in earnest after the publication of The Collection of the Medieval Picture Maps, the first and second volume, edited by T. NISHIOKA (1976, 77). These volumes were first to show photos of all medieval picture maps in color or in monochrome available to us. The main direction of study was to compare each map with the field and reconstruct the medieval landscape. The study of the picture map of the manor, Inouenosho in Kii Province (now Wakayama Prefecture) by Y. MIZUTA (1986) belongs to this theme.

The new trend to read all of the pictures and characters on a map and to try to semantically analyze them appeared in the 1980s. It was the young historical geographers who met together in a research group of Katsuragawa picture map to play an important part in this trend. They classified the things drawn on the picture map into spot items, area items and linear elements analyzing the meaning of landmarks, traffic routes, vegetation and so on, considering the spatial perception of those who took part in drawing the picture map (1984). One of the members of this group, H. AOYAMA (1986) discussed the structure of picture maps and spatial cognition in medieval Japan.

Attempts to explain the spatial perception of the day based on things drawn on the picture maps was introduced to the study of picture maps in the Edo era. J. ONODERA (1986) considered the spatial perception of the river route drawn on the picture map. M. IWAHANA (1985) investigated the spatial perception of the itinerant mountain priests in Tateyama according to the pilgrimage mandala. T. IGARASHI (1985) discussed the historical change of the spatial expression on the picture maps of villages.

On the other hand, I. SUZU (1985), who considered the medieval legend in Japan, argued that 'legend' by definition may mean 'fiction' but also had social significance peculiar to the medieval landscape, and accordingly had various effects on medieval people. Thus, the contents of legend itself were deeply connected with the profound structure—topological design—of medieval living space (Lebensraum).

As a result of this review, the authors can make the following remarks on Japanese historical-geographical research in the decade:

a) Many academic titles and articles were published, and comprehensive compilations were underway.

b) Historical geography contributed to discussions in related fields and was also influenced by various other fields.

c) Progress of the recent research brought some new aspects to light which altered previously held opinion on some traditional themes.

d) Some new approaches and ideas have been set forth with their results.

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1978—87年における日本歴史地理学の研究動向

小林健太郎*・金田 章裕**

比較的実りの多かったこの10年間の日本歴史地理学の成果のうち、以下の6つのテーマについて、その動向を紹介した。

1) 作物栽培の起源は縄文早期に、水稲栽培は縄文晩期に測るようであり、水田分布は弥生中期に本州北端にまで達し、弥生・古墳期の水田のほとんどが極めて小区域であるという従来とは大きく異なった考古学的知見が得られた。

2) 古代都市の復原研究が進み、中国と日本の都域の比較研究も行なわれて、類似点と相違点についての知見が加わった。日本における都市計画の起源にかかわる議論も行なわれた。交通路の研究も活発であり、律令期における整然とした直線状の道路計画の展開の実状が知られるに至った。これらの都市や主要施設の立地・配置とその計画における同時代の人々の空間認識についての議論も始められた。

3) 条里地割と条里呼称法とならぶ条里プランクが、従来の通説とは異なって、8世紀の唐に完成したものであることが判明し、それが古代・中世において果たした役割や、広範囲に分布する条里地割をめぐる議論・分析が進められた。古代・中世の条里地割内部やそれ以外の部分の土地利用についての研究も主要な研究テーマの一つとなった。村落の領域や形態についても研究が進展し、広範な集落化現象や散村の展開の事実も知られに至った。

4) 中世の市場集落の分布や景観についての研究が進展したが、商品流通からみると当時は市場の有機的な階層構造が形成されていなかったとの主張も行なわれた。日本歴史地理学の主要なテーマである城下町研究も展開し、特に、先駆的な戦国城下町や城下町の構造をめぐる議論が展開した。

5) 近世の藩政村と村落共同体との関係や、村落の構造に関する研究が蓄積され、労働・結婚をめぐる人口移動についての研究も発表された。従来からの新田開発研究に加え、近世農書を資料とする分析も加わった。

6) 中・近世の日本では、様々な絵図が数多く作成されだが、これらの絵図の従来からの分析に加え、これらを用いて当時の空間認識にせよとする研究が始まった。又、中世の話から生活空間の深層構造にせよという研究も展開した。