

figure 7 /ka/, /kwa/ (Tokugawa 1979)

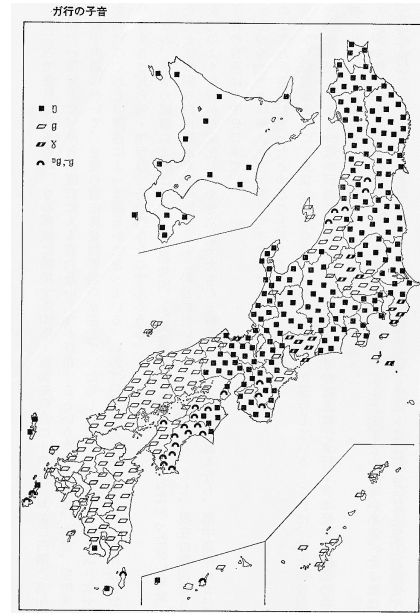


figure 8 /g/, /ŋ/ (Tokugawa 1979)

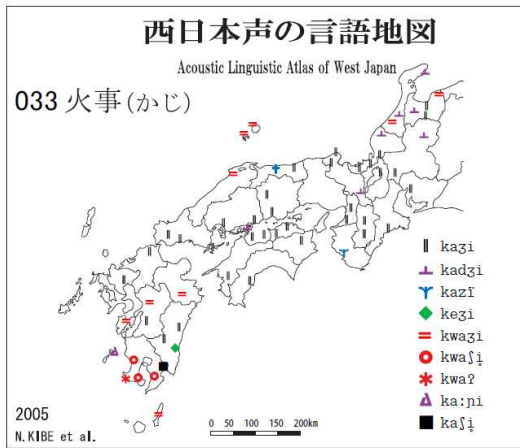


figure 9 'kaji' (fire)

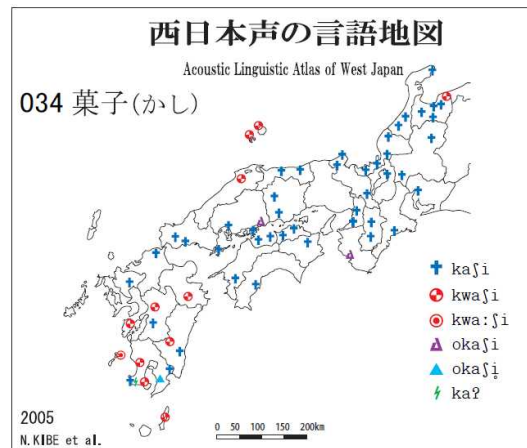


figure 10 'kashi' (sweets)

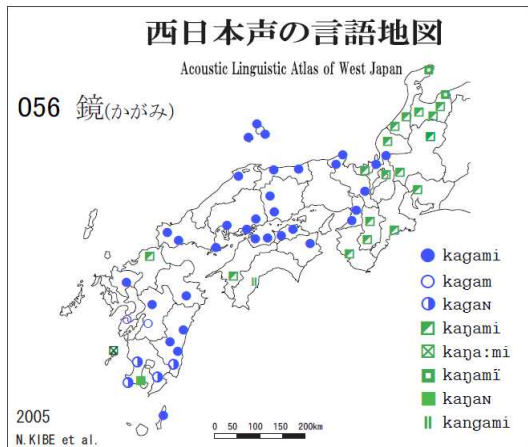


figure 11 'kagami' (mirror)

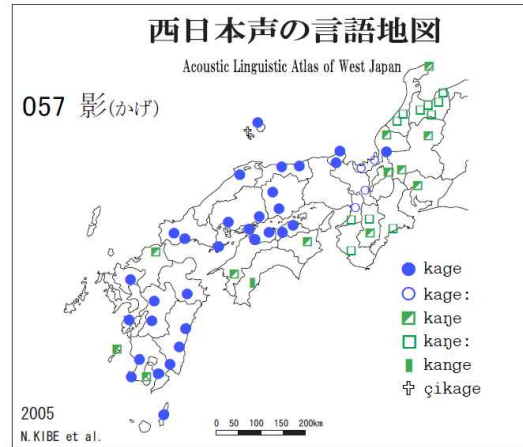


figure 12 'kage' (shadow)

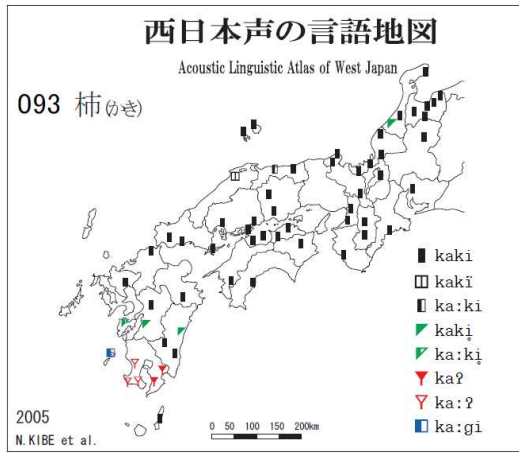


figure 13 'kaki' (Japanese persimmon)

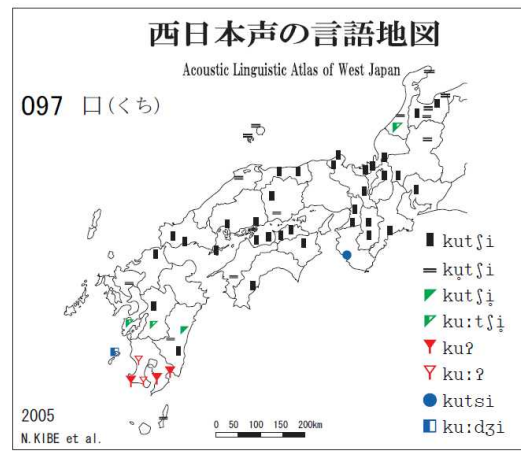


figure 14 'kuchi' (mouth)

accent

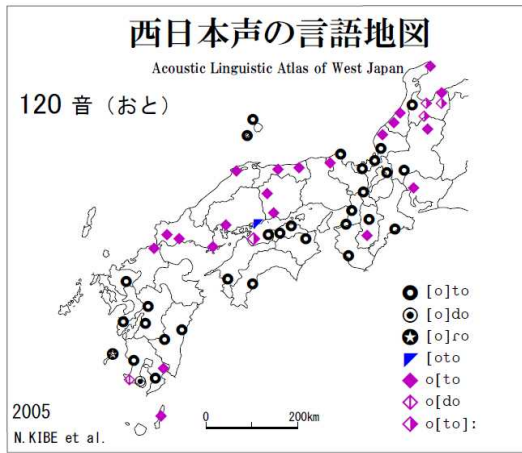


figure 15 'oto' (sound)

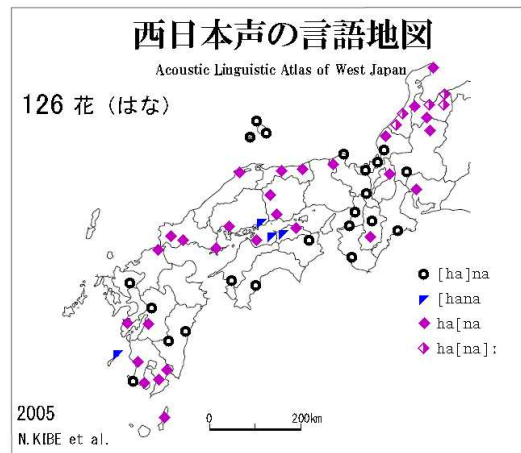


figure 16 'hana' (flower)

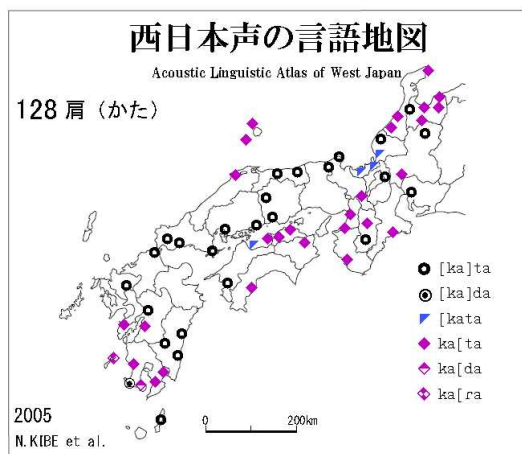


figure 17 'kata' (shoulder)

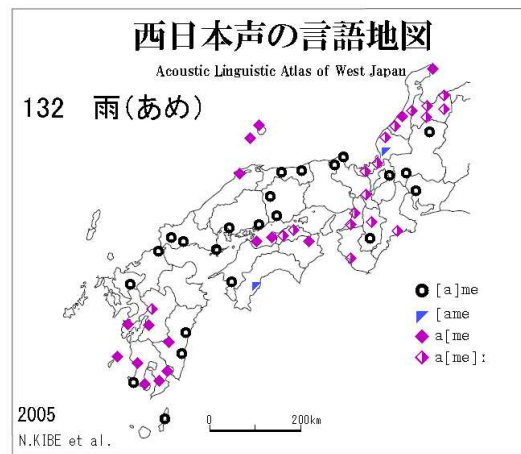


figure 18 'ame' (rain)

# Studies on Korean Dialects in China and North Korea

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## 1. Introduction

Studies on Korean dialects in North Korea have the different characteristics on the dividing line of half of 1960's. Before 1960 studies on Korean dialects were based on the linguistic theory of Marxism-Leninism. But after half past 1960's, the studies were based on the linguistic theory of Juche for the popularization of cultural language. Studies in China, under the influence of the dialectical studies in North Korea, began on 1980's with the theory of structuralism linguistics. After 2000, it began to be influenced by the dialectical studies in South Korea., because of the increasing number of the returned students from South Korea. The studies mainly used the structuralism linguistics, transformational-generative grammar, social dialectology etc. And the synchronic and diachronic studies on individual dialects also began. This paper intends to explain the similarities and differences between the studies on Korean dialects in North Korea and China by the analysis of the dialectical works from North Korea after it was liberated.

Firstly the paper will explain the purpose of research and the trend of the methods, and then it will explain each branch of the studies on Korean dialects. Lastly, it will analyze the similarities and differences between the studies on Korean dialects in North Korea and China.

## 2. Purpose of studies on dialects at each stage

The purpose and methods of studies are all from the dialectical works not the analysis of the studies' results.

According to Kim Peong Je(1959:20), the purpose of the dialectical studies was to research all the dialects of the nation, to explain the historical developing process of North Korean language and to help make the normative language, same as the purpose of Han Yeong Sun(1967:32-33).

But the purpose of the dialectical studies is different from the former in Kim Peong Je(1975:2-4) that it purposed not only researching and collecting the data of dialects, but helping develop the national language by finding out the national characters and explaining the linguistic rules in the people's language life. In other words, the purpose of dialectical studies is to explain the history of the North Korean language and to help develop the national language with the academic characteristic. Though it also has the practical purpose, which is carrying out the plan of developing the popularization of cultural language and eliminating the dialects, the practical purpose is stronger than academic purpose.

There are two kinds of purpose in Kim Yeong Hwang(1982:13-14). One is to develop the cultural language and to make people's life better. The other is to explain of the history of North Korean language.

In Jeong Yong Ho(1988:10), the purpose of dialectical studies is to help make the national language develop better by finding out the positive factors and to analyze the negative factors from the dialects and the rules inside for helping make the people's life better.

As stated above, in North Korea the purpose of the dialectical studies based on linguistic theory of Marxism-Leninism is to explain the historical developing process of North Korean language before 1960s. the purpose of the dialectical studies based on the linguistic theory of Jeche changed to helping the development and the popularization of cultural language after half past 1960s. So it means that the purpose of the studies on Korean dialects changed from the academic level to the practical level.

The studies on Korean dialects in china are different from that in North Korea that the earliest studies were based on the structuralism linguistics under the influence of the returned students from North Korea. After 2000, as the result of more and more returned students from South Korea, it began to do the synchronic and diachronic studies on many individual dialects under the influence from South Korea. Such as Chae Ok Ja(2005), Han Seong U(2006), Jinghua Li(2007), Kim Chun Ja(2008), Jeong Chun Lan(2010), O Seon Hwa (2010) etc. The studies intend to show the essence and to expatiate on the process from the inside to surface with the academic purpose. In addition, Kim Hong Sil(2009)and Jeong Ui Hyang(2010) both intend to find out the syntactic function and semantic characteristics at the morphological and syntactic levels also with the academic purpose.

### 3. Methods of studies on dialects at each stage

Kim Peong Je(1959) referred that the dialectical studies should be based on contrastive and diachronic theory (p.20) and linguistic geography (p.93). It just said the importance of comparing the documents and materials with the contrastive and diachronic theory, but did not explain the theory in detail. However, he advocates that we research the individual dialects and regard one dialect as a individual linguistic system, finding out the rules and generalization with linguistic geography through the criticisms of the existing methods in the forth part( the history of North Korean dialects )(pp.62-93).

There were two methods set forth in Han Yeong Sum(1967:37-41). One was researching the linguistic system of dialects and the other was researching the dialectal distribution of the characteristics and system. The former is the method of the studies on individual dialects and the latter is the method at the level of linguistic geography.

Kim Yeong Hwang suggested that as a part of language, the dialects should be researched with the users' language life by the linguistic methods in Kim Yeong Hwang (1982:12-13). Firstly the dialects should be researched in the relationship of the history. Secondly the dialects should be researched as a linguistic system. Thirdly linguistic geography should be used.

As stated above, studies on Korean dialects in North Korea can be divided into the studies on individual dialects and linguistic geography. The former uses the methods of structuralism linguistics centering on the system. The latter uses the methods of the traditional linguistic geography and this opinion can still be found in Kim Peong Je(1959) and Kim Yeong Hwang(1982).

The studies on Korean dialects in China focus on researching about Chinese Korean who



migrated from Hamgyungbuk-do and Pyeongan-do, such as Chae Ok Ja(2005), Han Seong U(2006), Jinghua Li(2007), Kim Chun Ja(2008), Kim Hong Sil(2009), O Seon Hwa (2010), Jeong Ui Hyang(2010), etc. The studies understood more about the linguistic phenomenon with the interest in the dialectical essence, set the phonetic rules, which controls the morpheme alternation, analysis about the dialectical linguistic reality. In addition, through the synchronic studies on the individual dialects, they tried to find out the generality and particularity in Korean language. Through the diachronic studies on the individual dialect, they showed the probability of establishing the history of Chinese Korean language.

#### 4. Studies on each branch of dialects

In this part, divide the works about the studies on Korean dialects in North Korea into the studies on individual dialects, contrastive dialects, linguistic geography and analyze the purpose and substance in the studies.

##### 4.1 studies on individual dialects

Studies on individual dialects can be divided at the level of linguistics, phonology, morphology as follows. Studies on phonology include Han Yeong Sun(1956b,c), Kim Peong Je(1958a), Jeong Yong Ho(1959,1963,1986,1988a), Li Leuk lo(1963), Kim Yeong Hwang(1978). Studies on morphology include Kim Peong Je(1963) and Jeong Yong Ho(1965). Studies on phonology and morphology include Han Tu Puk(1962) and Jeong Yong Ho(1988b).

##### 4.1.1 Studies on phonology

Han Yeong Sun(1956b,c) researched the Peongan-do 의주 피현 dialect by surveying many inhabitants such as officials, teachers and children, etc. to show the current situation of the dialect. The studies analyzed the collected materials to show the system of the consonants and vowels, and researched the collocation problem of the boundary of the morpheme and the interior of the morpheme to find out 23 characteristics. The merit was that it tried to show the process of linguistic changes but it also mixed up the synchronic phenomenon and the diachronic phenomenon. However in my opinion, it is very important that it was the first phonetics study of individual dialects in North Korea.

Jeong Yong Ho(1959) analyzed the effect of “i” in the palatalization such as “기름 > 지름”, in the assimilation such as “기여(기+어)”, and in the insertion such as “핵교<학교”. The positive point of the study is that it researched the characteristics of “i” in different insertion conditions and tried to researched in the relationship of the linguistic phenomenon.

At last, I will introduce the studies on Korean dialects in China. Chae Ok Ja(2005) researched the phonetic system and phenomenon of Korean dialects in Yanbian at the synchronic level and analyzed at diachronic level if necessary. Jinhua Li(2007) took the Peongannam-do’s dialects as the subject to research the phenomenon of synchronic phonetics. The study researched the indigene language to analyze the list of the phoneme, the basic allomorph and the phonetic process. Kim Chun Ja(2008) showed the diachronic phonetic characteristics of the Hamgyungnam-do Samsu’s dialect by through the study. Those were the studies on individual dialect at the academic level.

#### 4.1.2 Studies on morphology

Studies on morphology are Kim Peong Je(1963)and Jeong Yong Ho(1965). Kim Peong Je(1963) analyzed the subjective case's dialectal characteristics, such as “-ka, -ŕ(the northwest region), -li(Jeju)”. Jeong Yong Ho(1965) explained about the absolute location and the grammatical function in the case's system of Hamgyungnam-do's dialects.

The latest study on Korean dialects in China is Jeong Lyang Lan(2010) and it researched the dialects and the list of suffix in Yanbian longjing, and explained the usage and the phonetic phenomenon in the process of declension and conjugation.

#### 4.1.3 Studies on phonology and morphology

Studies on phonology and morphology are Han Tu Pok((1962)and Jeong Yong Ho(1988b).

Han Tu Pok((1962) was his second study on individual dialects in North Korea with the purpose of grasping the characteristics of phonology and morphology. The merit was that it found out the position of the dialects by comparing the archaism with other dialects.

Jeong Yong Ho(1988b)researched about the characteristics of Hamgyungnam-do's dialects, at the phonetic, grammatical, lexical levels. The study showed many linguistic realities in the Hamgyungnam-do's dialects but didn't divide to synchronic phenomenon and diachronic phenomenon.

### 4.2 Contrastive studies on the dialects

Contrastive studies on the dialects are Kim Peong Je(1959,1965,1975)and Han Yeong Sun(1967)and Kim Peong Je(1975).

Kim Peong Je(1959)researched the phonetic system and phenomenon of North Korean dialects. The study aimed at surmising the changes according to the geographical distribution with the characteristics of linguistic geography.

Kim Peong Je(1965)researched the dialectal characteristics in the words and the grammar pattern in the dialects. It aimed at surmising the changes according to the geographical distribution.

Han Yeong Sun(1967)researched the dialectal characteristics and the relationship among the dialects structure, such as the phonology, syntax, morphology and the dialects. The work was well reviewed that it explained the structure characteristics of national dialects and the individual dialects and analyzed the relation among the individual dialects and other dialects. But problem is that whether there is any credibility in the materials.

### 4.3 Studies on linguistic geography

After liberation, there were few studies on linguistic geography in the studies on Korean dialects in North Korea. Kim Peong Je(1988)was the first work about in this respect. Kim Peong Je(1988)unscrambled the concept of linguistic geography and researched linguistic geography based on the dialects. The work aimed at researching about linguistic geography and the significance, research of the discourse system, grammatical system, lexicology, the distribution and essential factors of the dialectal phenomenon, and the dialect division at the level of linguistic geography.

There were some problems in practical studies, though the theory part was logical. Such as 1)

imbalance of survey sites,2) reliability of the materials,3) explanation about the dialectical map, etc. The imbalance of survey sites can be known from the studies on “accusative (대격)” that it just researched <Ulsan, Yangsan, Milyang) among lots of counties in Kyeongsangnam-do. The reliability of the materials refers that many materials are different from the practical situation and lots of important materials were not included. It said that in the southeast dialects the sentence final ending were “-고, -노”and ‘-고’ was used in the sentence whether there is any interrogative. In fact, when there is no interrogative, ‘-가’ was often used. In addition, the morphemes for reason were lost in the dialectical patterns, such as ‘-응게, -응계, -으니깐’. In the explanation about the dialectical map, there was only the research about the the dialectical distribution, but no more analysis.

## 5. Conclusion

The purpose of the studies on Korean dialects and the practical research in North Korea were explained. Studies on Korean dialects in North Korea have the different characteristics on the dividing line of half of 1960’s. Before 1960, studies on dialects was based on the language theory of Marxism-Leninism. After 1960, studies on dialects for popularization of cultural language, which is based on the language theory of Juche.

All in all, there were few studies on the system of individual dialects but lots of the studies on phonetics, few synchronic studies and lots of diachronic studies. The characteristic is contrastive studies on the nationwide dialects in the form of work..

Studies in China are different from North Korea. The studies mainly used structuralism linguistics, transformational-generative grammar, social dialectology, etc. And the synchronic and diachronic studies and studies on linguistic geography were still also developed. The main studies were on the phonology, but there were few studies on morphology, syntax, lexicology, semantics. Recently, it started the studies on linguistic geography but without any great achievement. Studies in China followed the dialectical studies in North Korea under the influence of the returned students from North Korea on 1980’s. But after 2000, the studies changed to phonology and morphology under the influence of more and more returned students from South Korea.

The differences between the studies on Korean dialects in North Korea and China are that 1) systematical studies on individual dialects, which North Korea is lacking in, 2) contrastive studies on the dialects of the total region, which China is lacking in. 3) linguistic geography studies on the extensive dialects, which North Korea and China are both lacking in.

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# The Words for “Rain” in the Mongolic Languages: Their Geographical Distribution and History

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## 0 Mongolic Languages

The Mongolic languages are the languages that are genetically related to the so-called Mongolian language. They originate from a single language that is assumed to have been spoken in an eastern part of Inner Asia, perhaps somewhere in or near the Mongolian plateau, well more than 1,000 years ago. However, along with the formation and expansion of the Mongol Empire in the 13th century, the Mongols spread throughout the vast area in Eurasia. In most places outside of their homeland, though, they were very small in population and soon assimilated into the local peoples, leaving almost no traces of themselves.

Today, the Mongolic languages are spoken from Northeast China in the east to the Volga region of Russia in the west. The bulk of their speakers are concentrated in Buriatia in Russia to Inner Mongolia in China across Mongolia. (See Map 1)



Map 1 Distribution of the Modern Mongolic Languages

The modern Mongolic group of languages includes the following:

Buriad	(Buryatia in Russia; Hēilóngjiāng and Inner Mongolia in China)
Mongol	(Central and eastern Mongolia; Inner Mongolia, etc. in China)
Oirad	(Western Mongolia; Xīnjiāng in China; Kalmykia in Russia)
Daghur	(Hēilóngjiāng, Inner Mongolia and Xīnjiāng in China)
Shira Yughur	(Gānsù in China)
Dongxiang	(Gānsù in China)
Bonan	(Gānsù and Qīnghǎi in China)
Monguor	(Qīnghǎi and Gānsù in China)
Moghol	(Herat Province, etc. in Afghanistan)

## 1 Words for “Rain” in Modern Mongolic Languages

In the modern Mongolic languages, we find variants of two distinct words for “rain”: *borōn*-type words (*borōn*, *borō*, etc.) and *xur*-type ones (*xur*, *gura*, etc.).

### 1.1 Distribution

These words appear in the Mongolic languages and dialects, as shown in the list below<sup>1</sup>. (This list excludes Kalmyk in the Volga region of Russia, which is the language of the Oirad people who migrated from western Mongolia in the 17th century, and a dialect of Daghur spoken in the Xinjiang Uighur Autonomous Region of China, which is the language of the soldiers who were sent from Northeast China in the 18th century.)

	Language or Place <sup>2</sup>	Latitude	Longitude	Word
*	Daghur 達斡爾 (Hēilóngjiāng, China 黑龍江)	48.478	124.442	<b>xuor</b>
	Darhan 達爾罕 (Inner Mongolia, China 內蒙古)	44.506	124.031	borōn
	Hurē 庫倫 (Inner Mongolia, China 內蒙古)	43.669	122.257	borōn
	Mongoljin 蒙古鎮 (Liáoníng, China 遼寧)	42.065	121.757	borōn
	Ar Horčín 阿魯科爾沁 (Inner Mongolia, China 內蒙古)	43.872	120.065	borōn
	Old Barag 陳巴爾虎 (Inner Mongolia, China 內蒙古)	49.326	119.424	borō
	Ongniud 翁牛特 (Inner Mongolia, China 內蒙古)	42.931	119.030	borō
	Harčín 喀喇沁 (Inner Mongolia, China 內蒙古)	41.927	118.701	borōn
	Bārin Right 巴林右旗 (Inner Mongolia, China 內蒙古)	43.534	118.665	borōn
	New Barag 新巴爾虎 (Inner Mongolia, China 內蒙古)	48.629	117.081	borō
	East Üjümčín 東烏珠穆沁 (Inner Mongolia, China 內蒙古)	45.505	116.973	borō
	Hešigten 克什克騰 (Inner Mongolia, China 內蒙古)	43.405	116.665	borōn
	Xulūn Hōh 正藍旗 (Inner Mongolia, China 內蒙古)	42.252	116.003	borō

<sup>1</sup> I would like to thank Mitsuaki Endō and Mongkedalai for their assistance in making this list.

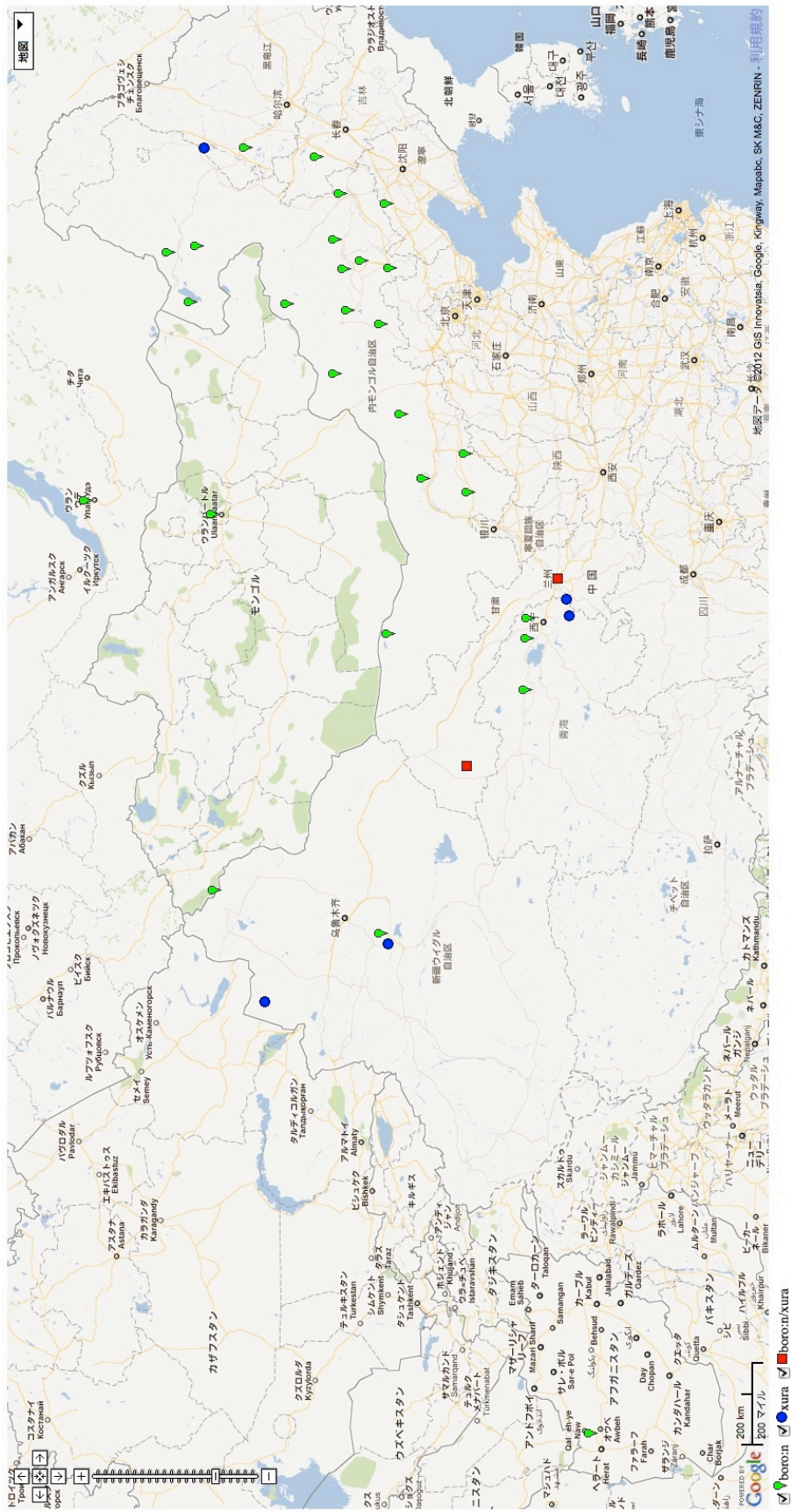
<sup>2</sup> \*: Mongolic languages other than Mongol and Oirad, +: Oirad, Others: Mongol.

	Sunid Right 東蘇尼特	(Inner Mongolia, China 内蒙古)	43.856	113.650	borō
	Siziwang 四子王	(Inner Mongolia, China 内蒙古)	41.533	111.706	borōŋ
	Jasag 扎薩克	(Inner Mongolia, China 内蒙古)	39.182	109.832	borōn
	Urad Front 烏拉特前旗	(Inner Mongolia, China 内蒙古)	40.736	108.652	borō
	Otog 鄂托克	(Inner Mongolia, China 内蒙古)	39.089	107.976	borō
*	Buriad	(Buriyatia, Russia)	51.833	107.600	borō
	Ulaanbaatar	(Mongolia)	47.921	106.905	borō
+	Dörböd 杜爾伯特	(Hēilóngjiāng, China 黑龍江)	46.865	124.443	borōn
+	Ölöd 厄魯特	(Inner Mongolia, China 内蒙古)	48.430	119.770	borō
*	Shira Yughur 東部裕固	(Gānsù, China 甘肅)	36.059	103.826	<b>xura</b> / boron
*	Dongxiang 東鄉	(Gānsù, China 甘肅)	35.717	102.875	<b>gura</b>
*	Bonan 保安	(Gānsù, China 甘肅)	35.616	102.072	<b>gora</b>
*	Monguor 土族	(Gānsù, China 甘肅)	36.843	101.958	burōn
+	Ejin 額濟納	(Inner Mongolia, China 内蒙古)	42.010	101.224	borō
+	Hargebeis 哈爾格貝斯	(Qīnghǎi, China 青海)	36.896	100.994	borō
+	Hulunlug 庫倫魯格	(Qīnghǎi, China 青海)	36.966	98.515	borō
+	Subei 肅北	(Gānsù, China 甘肅)	39.512	94.877	borōn / <b>xur</b>
+	Alxā 阿拉善	(Inner Mongolia, China 内蒙古)	47.870	88.949	borō
+	Hošüd 和碩	(Xīnjiāng, China 新疆)	42.268	86.863	borōn
+	Hejing 和靜	(Xīnjiāng, China 新疆)	42.323	86.384	<b>xur</b>
+	Emin 額敏	(Xīnjiāng, China 新疆)	46.526	83.624	<b>xur</b>
*	Moghol	(Afghanistan)	34.415	62.995	boron

## 1.2 Interpretation

The map drawn using the above data (Map 2) shows that the words of *borōn*-type appear in a wide area in the Mongolian plateau, whereas those of *xur*-type appear in only a few peripheral places east, south, and west of the plateau. From this distribution pattern, we can assume that the original Mongolic word for “rain” was *xur* and was later replaced by *borōn* in most dialects.

Moghol, the westernmost Mongolic language in Afghanistan, has the form *boron*, and this may make the above interpretation invalid. However, the Moghols are descendants of the Mongolian soldiers and their families who were sent westward from Mongolia in the 13th century, and they have been in close contact not with the people in Mongolia but with local Iranian-speaking peoples for hundreds of years. With this situation in mind, we should limit our geolinguistic interpretation to the languages and dialects spoken in the Mongolian plateau, and we could posit the above interpretation.



Map 2 Distribution of the Words for “Rain”



## 2 Words for “Rain” in Historical Sources

In the documents from the 13th to 15th centuries, the Mongolian word for “rain” was *qura*. The word *boro’an*, which we find only in the *Yuáncháo Mishǐ*, meant “snow storm.” In some documents of later periods, we find *qura* and *borogan*, but they both mean “rain.” This historical fact does not contradict the above geolinguistic interpretation of the distribution of the words in modern languages and dialects.

Script	Document	Form	Gloss <sup>3</sup>	Meaning
Uighur				
	13-14C, <i>Bodhicaryâvatâra</i> , etc.	<i>qura</i>	—	Rain
Chinese				
	13C, <i>Yuáncháo Mishǐ</i> 元朝秘史	<i>boro’an</i>	Cn 風雪	Snow storm
		<i>qura</i>	Cn 雨	Rain
	14C, <i>Huáyí Yiyǔ</i> 華夷譯語	<i>qura</i>	Cn 雨	Rain
’Phags-pa				
	14C, <i>Jūyōngguān</i> inscription 居庸關	<i>qura</i>	—	Rain
Arabic				
	14C, Leiden Vocabulary	<i>qura</i>	باران P	Rain
	15C, <i>Muqaddimat al-Adab</i>	<i>qura</i>	باران P yamgūr Cg  مطر A	Rain
Mongol				
	17C, <i>Erdeni-yin Tobči</i> 蒙古源流	<i>qura</i>	—	Rain
	18C, <i>Sānhé Qièyīn Qīngwénjiàn</i> 三合切音清文鑑	<i>borogan</i>	Cn 雨 M 𐰺𐰆𐰏	Rain
	18C, <i>Sānhé Biànlǎn</i> 三合便覽	<i>borogan</i>	Cn 雨 M 𐰺𐰆𐰏	Rain
		<i>qura</i>	Cn 雨 M 𐰺𐰆𐰏	Rain
	19C, <i>Méngwén Zǒnghuì</i> 蒙文總彙	<i>borogan</i>	Cn 雨 M 𐰺𐰆𐰏	Rain
		<i>qura</i>	Cn 雨 M 𐰺𐰆𐰏	Rain
Korean				
	18C, <i>Mong’eo Yuhae</i> 蒙語類解	<i>borogan, hora</i> <sup>4</sup>	Cn 雨 K 비	Rain

## 3 Words for “Rain” in Other Languages in Eurasia

We find similar words to *borōn* for “rain” and “storm” not only in the other Altaic languages but also in Indo-European languages.

<sup>3</sup> A: Arabic, Cg: Chagatay, Cn: Chinese, K: Korean, M: Manchu, P: Persian.

<sup>4</sup> 「보로간 一云 호라」

### (1) Turkic

Chagatay (15C, Central Asia)	<b>boragan</b>		Storm
Turkish	<b>burağan, buran</b>		Snow/Rain storm
Kazakh	<b>boran</b>		Storm
Kyrgyz	<b>borōn</b>		Storm
Tatar	<b>buran</b>		Storm
Uighur	<b>boran</b>		Storm
Tuvan	<b>boran</b>		Snow storm
Yakut	<b>burxān</b>		Snow storm

### (2) Tungusic

Ewen	<b>burkun</b>		Snow storm
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### (3) Indo-European

Persian	<b>bōrān</b>	بوران	Squall
	<b>bārān</b>	باران	Rain
	<b>bārīš</b>	بارش	Rain
Pashto	<b>bārān</b>	باران	Rain
Hindi	<b>bārīš</b>	बारिश	Rain
Russian	<b>burja</b>	буря	Storm
Greek (Modern)	<b>broxi, brexo</b>	βροχή, βρέχω	Rain
	<b>boreas</b>	βορέας	Boreas, the North wind

A possibility exists that these words are similar because they may have originated from an onomatopoeia. Still, a possibility also exists that these languages share a word of the same origin because peoples and languages have been in continuous contact in many places of Eurasia. Therefore, we may need to revise the linguistic map for “rain” using a wider perspective.

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# On the formation of Geographically Complementary Distribution

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## 1. Introduction

This paper intends to introduce a part of the fruits of our project, Project on Chinese Dialects (PHD). Launched in 1989, it aims at the revival of linguistic geography in the Chinese field, and has formerly been materialized as two volumes of a collection of maps, *Interpretative Maps of Chinese Dialects* (Iwata ed. 2009, 2012). By the term ‘linguistic geography’, we mean the theories on, and the methods of, historical linguistic study established by Jules Gilliéron (1856-1926), introduced to China and then to Japan by Father Willem Grootaers (1911-1999). This undertaking is motivated by my strong belief that the contemporary linguistics is oblivious of significant discoveries made by these pioneers of 20th century linguistic geography, ignoring that linguistic geography can offer many clues to establishing general theory of historical linguistics.

For achieving this purpose, we constructed the Data-base system, called *PHD system*, which integrated three Data-bases, resource data, linguistic data and map data, on the same platform. For the details of this system, refer to the article, “Introduction to the PHD”, which appeared in the appendix to Iwata ed. (2009). The majority of the source materials that we utilized in mapping were those published in China. Mapping was performed by extracting the linguistic data stored in the Data-base. Through such works, we endeavored to reconstruct the history of each word and to reveal the mechanism of linguistic change.

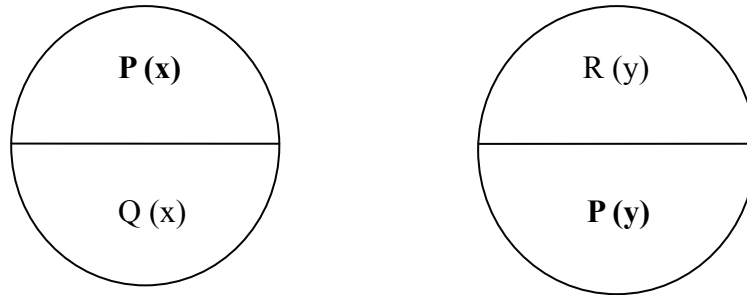
This paper confines itself in investigating one particular pattern of distribution appearing on the maps, *complementary distribution*, discussing why and how it became to be existent, with pointing out the universal factors which could be at work in any dialect of any language. Theoretically this study is much indebted to the works by a Japanese scholar Yoshio Mase, notably Mase (1992).

All instances illustrated below are excerpts from our *Interpretative Maps*, but since the original maps are complicated in some respects and will be difficult for the readers to grasp at a glance, I will show simplified maps here. This treatment is also adopted for the purpose of generalization for lexical change.

## 2. Geographically complementary distribution

Through mapping a certain number of lexical features and comparing their distributions, we often find that one particular lexical form is shared by two or more semantic categories or referents but is complementary in its geographical distribution. This situation can be generalized and sketched in Fig. 1. Here, each large circle represents the surveyed area. Word forms appearing in the surveyed area are represented by “P” and “Q”, their semantic categories or referents are represented by “x”

and “y”, and the whole linguistic sign is represented by such devices as P(x) and Q(y).



**Fig. 1**

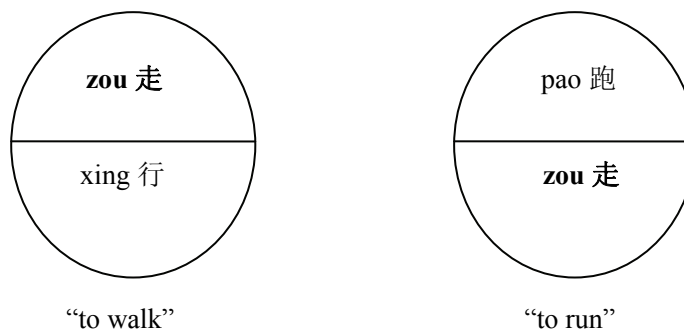
Complementary distribution of the form P with respect to the referents x and y

Usually P(x) and P(y) are continuously or adjacently distributed but scarcely overlap with each other. This implies that the dialects have avoided to trigger the homonymic clash of the form P between the two referents x and y. Three instances are introduced in the following sections.

### 3. Complementary distribution as a result of referential shift

One case of complementary distribution is that came into existence due to the referential shift of one form, from its original referent to its related referent, in other words, from one semantic category to its adjacent semantic category. In the following figures, the referents are noted outside large circles and only the word forms are noted inside the circles due to the limit of space. Since word forms are fully abundant in their phonetic variations and it is actually impossible to cite all these, they are uniquely represented in Pinyin Romanization of Standard Chinese together with Kanji transcription. Such a notation, in effect, represents the etymon of each word.

Ex. 1 “to walk” and “to run” (the original maps, authored by Natsuka Miki, appeared on Iwata ed. 2009, pp. 250-253)



**Fig. 2**

In this figure, the circles roughly indicate the whole Chinese speaking territory, and the horizontal lines symbolize the isoglosses formed by the Northern and Southern forms.

It is known that the older type of the lexical system, *xing* for “to walk” vs. *zou* for “to run,” is

preserved in South China. In North China, the form *zou* shifted to denoting the action “to walk” and a new form *pao* replaced it for denoting the action “to run.” A consequence of this lexical change is that the form *xing* was expelled from the lexical system in the Northern dialects. This change can be considered either as the result of lexical push chain or pull chain, as summarized as follows (the sign → represents the direction of structural pressure):

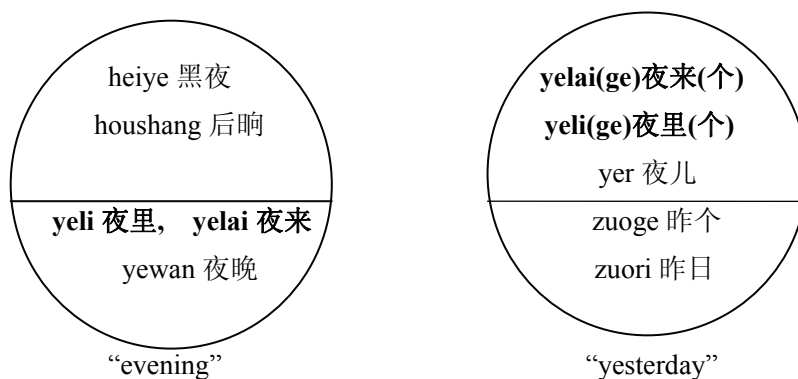
Q            →            P (x)            →            P (y)  
*pao* 跑        →        *zou* 走(to run) →        *zou* 走(to walk) → \**xing* 行(to walk)

Two explanations are possible to account for this change. One, since the new form *pao* took the semantic category “to run,” *zou* was pushed out from the original category, eventually having changed its referent to “to walk.” Two, since *zou* changed its referent to “to walk,” the dialect rendered the form *pao* for filling up the semantic *case de vide* “to run.” The new form *pao* originally designated animal’s action of ‘digging the earth by forefeet,’ thereby changing to represent horse’s action of running, and finally became to be employed for the action of human being (Wang 1958).

Interestingly, a new change, again a referential shift, occurred to the dialects in South Jiangsu (the area of Northern Wu dialect), where the form *pao* shifted to denoting the action “to walk,” expelling out the form *zou* from the lexical system. For the semantic category “to run,” these dialects rendered synonymous verbs that actually enhance the degree of the action “to run,” such as *ben* meaning “to run quickly” or “to hurry,” and *tao* meaning “to escape.”

*ben* 奔, *tao* 逃 → *pao* 跑(to run) → *pao* 跑(to walk) → \**zou* 走(to walk)

Ex. 2 “evening” and “yesterday” (the original maps, authored by Ray Iwata, appeared on Iwata ed. 2009, pp. 92-97)



**Fig. 3**

This figure simply illustrates the representative varieties of word forms among some tens of varieties which are used to denote “evening” and “yesterday.” The horizontal lines which indicate the isoglosses generally coincides with the Huai-Qinling (淮河-秦岭) line. Two southern forms, *yeli* for “evening” and *zuoge* for “yesterday,” do not necessarily cover the whole Southern area, but tend to concentrate in the Yangtze River Basin.



The use of the suffix *ge* 个 for “yesterday,” though it is not obligatory, is quite frequent in the Northern zone, while this suffix is never used in the southern forms for “evening.” Thus the forms appearing on the two maps “evening” and “yesterday” are not necessarily homophonous in all details. Nevertheless, the distribution of these two forms *yelai* and *yeli* is evidently complementary with regards to their referents. Why?

Again this situation came into being by the referential shift. It is noted that the stem *ye* in the forms *yelai* and *yeli* has been used as that representing the semantic category “night” or “evening” since Ancient Chinese, and that *-lai* and *-li* reflect the final weakening process (so a sort of grammaticalization process) of the substantial morpheme *-wan*, meaning “to be late,” i.e. *yewan* > *yelai* > *yeli*. It is assumed that the form *yelai* or *yeli* must have been used in the Northern zone as the form for denoting the semantic category “night” or “evening” up until the pre-modern époque, forming a continuous distribution with that we nowadays witness in the Southern zone. Later at a time a referential shift occurred as schematized as follows:

Q            →            P (x)            →            P (y)

*heiye* 黑夜    →    *yelai* 夜来(evening) → *yelai* 夜来(yesterday) → \**zuori* 昨日(yesterday)

This was very probably the case of lexical pull chain, instead of push chain. Namely, since the form *yelai* shifted from the semantic category “evening” to “yesterday,” the semantic *case de vide* of “evening” was filled up by such forms as *heiye* “black night” and *houshang* “late afternoon.”\*

Iwata (2007) suggests that the identical type of referential shift occurred to the Ancient Chinese dialects, in which such forms as *zuoye* 昨夜, literally meaning “last night,” was used for denoting “yesterday.” This usage of *zuoye* type forms, including those taking any other stems than *ye* meaning “evening” (e.g. *ming* 暝, *bu* 晡), have been preserved in some modern dialects in the Southern zone, cf. the map appearing in the [Appendix].

As the notion of “last night” is associated with that of “yesterday” in Chinese, the notion of “morning” has been likely associated with that of “tomorrow”. So there are a number of modern dialects which still use such forms as *mingzhao* 明朝, literally meaning “brilliant morning,” for denoting “tomorrow.” As a matter of fact, the forms of this type, *mingzhao*, gain a much wider distribution area than the *zuoye* type forms for “yesterday,” even scattering in the Northern zone.

#### 4. Complementary distribution as a result of phonetic attraction and homonymic crash

The two instances cited in the preceding section concern with the complementary distribution formed by the two mutually related semantic categories. Curiously there are also cases where complementary distribution is formed concerning the semantic categories or referents which

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\* As requested by the editor of this proceedings, Map 10, which was included in *Interpretative Maps of Chinese Dialects, Volume One*, will be reproduced as [Appendix] at the end of this text. This is actually another technique for illustrating the complementary distribution of the stem *ye* 夜: the black symbols indicate *ye* used for “yesterday” and the blue symbols indicate that for “evening” or “night”.

seemingly bear no close relationship.

Ex. 3 “magpie” and “sparrow” (the original maps, authored by Yuko Kizu, appeared on Iwata ed. 2009, pp. 114-119; Iwata ed. 2012, pp.56-59)

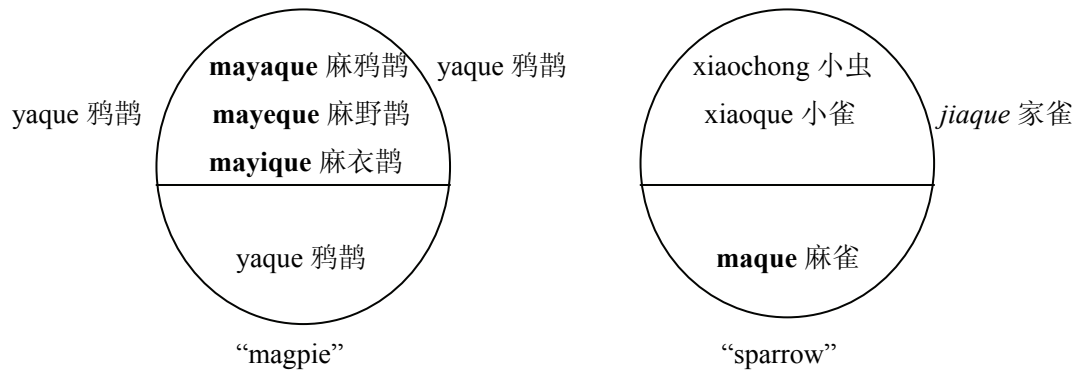


Fig. 4

The situation illustrated here resembles that shown in Fig. 3 in that horizontal isoglosses generally coincide with the Huai-Qinling (淮河-秦岭) line and that the Southern forms (*yaque* for “magpie” and *maque* for “sparrow”) tend to be distributed in the Yangtze River Basin. A noteworthy difference between Fig. 3 and Fig. 4 is that the distribution range of the Northern forms in the latter is much narrower than that in the former. The Northern forms for “magpie” (*mayaque* etc.) and those for “sparrow” (*xiaochong* etc.) generally concentrate in the Central Plain 中原, and are surrounded by the other forms, particularly *yaque* for “magpie” and *jiaque* for “sparrow.”

In the taxonomy of birds, “magpie” belongs to the Corvidae family, but “sparrow” belongs to the Passeridae family, and they do not necessarily resemble in their morphological features. Nevertheless, the Northern forms for “magpie” and the Southern forms for “sparrow” share the two common elements: the initial element *ma* and the final element *que*. The difference between the two forms lies in the presence or absence of the second element, *ya*, *ye*, *yi*, so that the Northern forms for “magpie” are mostly trisyllabic (*mayaque* etc.), while the Southern forms for “sparrow” are mostly bisyllabic (namely *maque*). Another difference, though minor, is that the tone of the first element *ma* is Tone Ib in the Southern *maque* for “sparrow,” while *ma* in the Northern forms for “magpie” is pronounced in Tone II (Shang) in not a few dialects.

In spite of such differences, the Northern and Southern *ma+(X)+que* type forms evidently form the complementary distribution, suggesting that dialects needed to avoid homonymic collision.

As a first step for accessing to the historical truth, we speculate what forms ever existed in the Central Plain. They should not have been the forms that we nowadays witness in this area. For “magpie,” there is no reason for it to take the element *ma*, which probably meant “speckled.” Judging from the geographical distribution, the older form should be *yaque*, which surrounds the *mayaque* type forms. Why did the Northern dialects need to prefix the element *ma* to *yaque*?

As were the cases for most Chinese basic vocabularies, the oldest must be a monosyllabic unmotivated form *que*, and the geographical distribution suggests that it once changed to the bisyllabic form *yaque*, literally meaning “crow-magpie,” in the North of the Yangtze River. Note that “magpie” and “crow” belong to the same family, Corvidae, and the two birds much resemble in their shapes. That is to say, dialect speakers motivated the form for “magpie” by prefixing the element *ya* to the original form *que*.

On the other hand, Northern forms for “sparrow” lack the motivation. Especially, the most frequent form *xiaochong*, literally meaning “small insect,” actually has no relevance in expressing the feature or configuration of this bird “sparrow.” In other words, this word form itself suggests that the original form was replaced by this nonsense word due to any factor.

Based on the considerations mentioned above, we reconstruct the most plausible scenario of change:

- 1) The Northern form for “sparrow” once was *maque*, that is, the form *maque* once formed a continuous distribution from the Northern area to the Yangtze Basin.
- 2) At that time, the Northern form for “magpie” was *yaque*, thus constituting a minimal contrast with the form for “sparrow”: *yaque* vs. *maque*.
- 3) Later on, the form *yaque* began to be phonetically attracted by the form *maque*, and as the result the first syllable *ma* in the word for “sparrow” was eventually *copied* and prefixed to the form for “magpie”, thus giving birth to a trisyllabic form *mayaque*.
- 4) The birth of this new form for “magpie” meant the formation of a new lexical contrast with the form for “sparrow,” namely *mayaque* vs. *maque*. Crucially, however, this situation brought about the crisis of homonymic clash since the second syllable *ya[ia]* in the form *mayaque* tended to be pronounced with a weak stress. This tendency in trisyllabic structure was commune to the majority of Northern basic vocabularies, and in this case it is also reflected in the change of vocalism, *ya[ia] > ye[ie], yi[i]*.
- 5) The conflict between “magpie” and “sparrow” for a single *ma+(X)+que* type form eventually ended in the defeat of “sparrow,” which after all changed to such forms as *xiaochong*.

The function of phonetic attraction (*attraction paronymique* in French) has been recognized by a very few linguists in contemporary historical linguistics in spite that its significance was sufficiently demonstrated in the works by the founders of linguistic geography (Dauzat 1922). It could occur to any two words which phonetically resemble with each other, and significantly its occurrence does not presuppose the similarity of the referents or the semantic contents. For example, the French word for “a stick of brush,” *guipillon*, changed to *goupillon*, as it was phonetically attracted by the word for “fox,” *goupil*.

As for Northern Chinese words for “magpie,” they have been also attracted by the words other

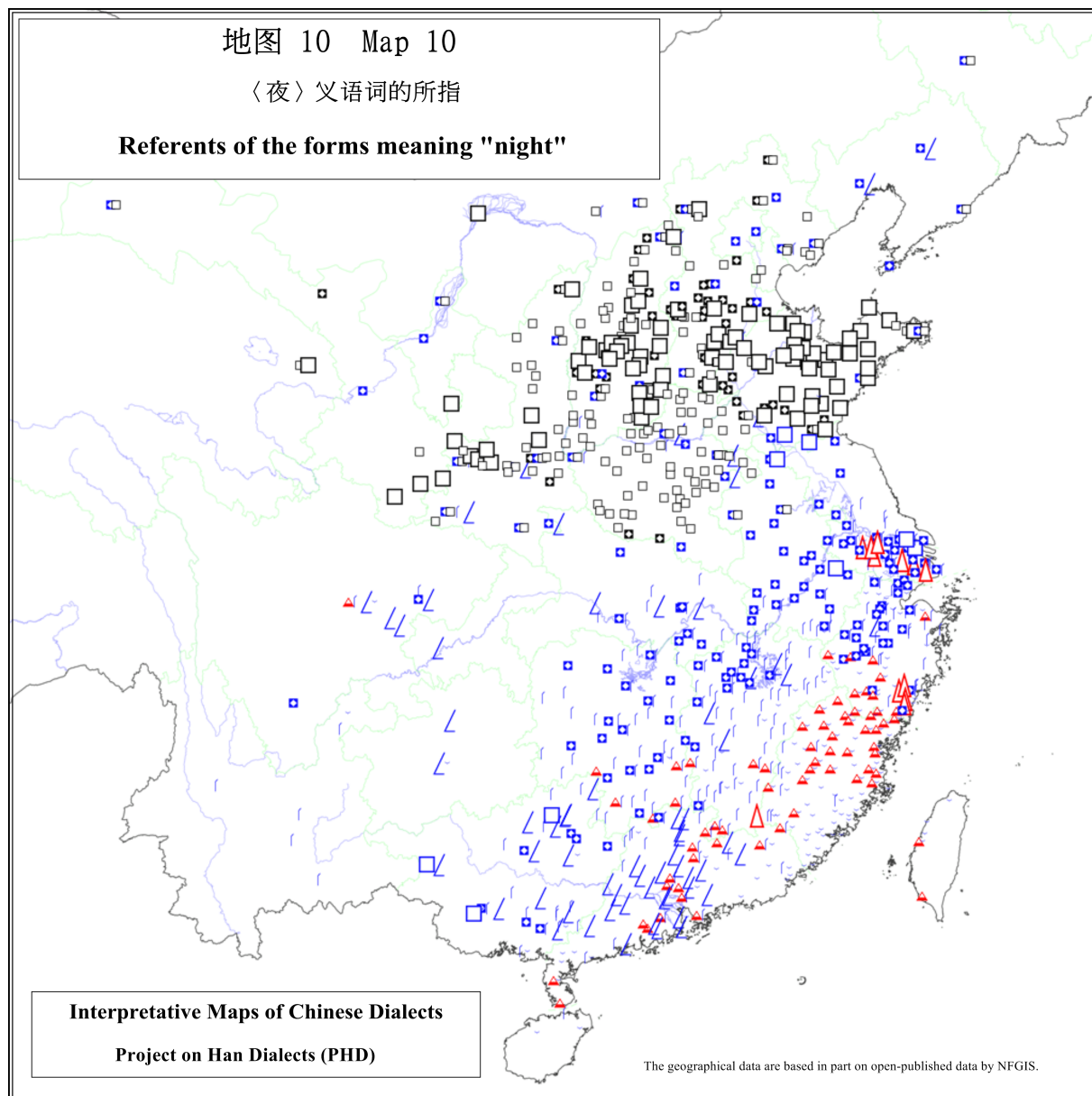
than “sparrow.” There are not a few dialects where the form *mayaque* was phonetically attracted by the form for “ant,” *mayi*, and eventually changed to *mayique*, with its second syllable being pronounced in the light tone.

#### 5. Concluding remark

A criticism often offered by comparative side is that interpretation in linguistic geography is not always explicit, but is rather arbitrary. This is because language reflects the activity and mentality of human beings, and the regular sound change, which proceeds along with the operation of phonetic law, is often interpreted by various factors, such as folk-etymology and phonetic attraction. Since their operations in lexical changes are capricious, we can call them *un-mechanical factors*. This is the very reason why our logic is usually complicated. However, to my belief, it is yet indispensable for historical linguistics to investigate the history of each basic word by taking those un-mechanical factors into considerations. For avoiding the arbitrariness in interpretation, we need to establish general principles for accounting for the distribution reflected on the map. As one of such attempts, this paper demonstrated the case of *geographically complementary distribution*, suggesting that at least two possible factors could be involved in forming such a distribution: referential shift and phonetic attraction.

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A. 指晚上或夜里 / meaning "evening" or "night"

- ◆ 夜里 yeli
- 夜来 yelai
- ∟ 夜晚 yewan
- ┌ 夜晡 yebu, 夜头 yetou, 夜间 yejian, 夜 ye etc.
- ∨ 暗冥 anming, 暗晡 anbu, 黄昏 huanghun etc.

B. 指昨天 / meaning "yesterday"

- ◆ 夜里(个) yeli(ge), 夜儿里 yerli, 夜了个 yelege
- 夜来 yelai
- 夜日 yeri, 夜儿 yer, 夜个 yege, 夜们 yemen etc
- ▲ 昨夜 zuoye
- ▲ 昨暝 zuoming、 昨晡 zuobu etc.

# The Introduction of *Linguistic Atlas of Chinese Dialects*

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## 1. Background

The Chinese dialects have a long history, are profuse in number, and highly complex. The differences between them are in fact even greater than the differences between many European languages. From the mid 20<sup>th</sup> century, the Chinese dialects have undergone immense change. Characteristic features of the dialects in every local are swiftly disappearing. Some of the weaker, minor dialects are fast approaching extinction.

The compilation of dialect atlases is an important method in this effort. It is an indispensable tool in the task of describing, exhibiting, and preserving a record of, the features and distribution of a large number of dialects across a wide-ranging area. Since the end of the 19<sup>th</sup> century, many countries have invested great effort in surveying dialects and compiling linguistic atlases for publication, including France, Germany, Sweden, Italy, Denmark, England, Czechoslovakia, America, Canada, Japan, the Philippines, and Thailand.

As early as the 1920's, Lín Yǔtáng, Liú Fù and others of their eminent generation boldly conceived of developing maps of the Chinese dialects based on actual fieldwork. After this, Y. R. Chao, W. A. Grootaers and other scholars compiled many maps of the Chinese dialects one after another. In the 1980's, the Chinese Academy of Social Sciences and the Australian Academy of the Humanities jointly compiled *The Language Atlas of China* (published in 1987). This was the first atlas to comprehensively catalogue and chart the distribution of Chinese dialects and the minority languages of China, and is of pioneering significance. In the 1990's Ray Iwata and other Japanese scholars published six atlases as "research reports" under the title *Kango hōgen chizu (kō)*. The Japanese atlases were a useful initial exploration into mapping the features and characteristics of Chinese dialects, and an important contribution to that effort.

Maps of the distribution of dialect characteristics (or "distributional maps") are a principal format for dialect atlases, and are also a fundamental tool in various linguistic studies, including geographical linguistics, historical linguistics, sociolinguistics, and linguistic typology. For a long time scholars in China and abroad have been earnestly awaiting the appearance of a comprehensive collection of maps of the distribution of dialect characteristics. Chinese dialect research has achieved enormous advances since the start of the 20<sup>th</sup> century and an extraordinarily plentiful amount of data has been accumulated. Yet the data is from different



periods, varies greatly in content and detail, comes from a strongly diverse field of linguistic informants, and was compiled by fieldworkers of highly disparate background and training using widely variant methods. At the same time there are also many regions whose dialects have never been surveyed. Clearly such a heterogeneous set of material is inadequate for the development of a completely systematic and uniform atlas of the Chinese dialects reflecting reliably comparable data. Under this background, the field research and surveys of *the Linguistic Atlas of Chinese Dialects* began.

## 2. Research Process

The *Linguistic Atlas of Chinese Dialects* which is compiled on the basis of the unified field survey fully reflects the original language characters of Chinese dialect in 20<sup>th</sup> century at the first time. From the project approved to the results for publication, the whole process lasted for 8 years. The work for the project can be divided into the following phases:

### 2.1 Initial Preparation

During this period we have held many meetings and conferences on methodology and theory, focusing on the selection of survey sites, compilation of survey contents and formulation of a standard for fieldwork procedures. We also carried out trial surveys of twenty sites around China and specially issued the *Survey Handbook for the Linguistic Atlas of Chinese Dialects* and the *Work Guide for the Linguistic Atlas of Chinese Dialects*.

### 2.2 Fieldwork

The fieldwork and surveys for the project took four years to complete. Further details regarding the fieldwork and surveys are given below in Part 3, “Field Research and Surveys.”

### 2.3 Data Collation, Database Set-up, and Compilation of Map Contents

#### (1) Data Entry

Most data was first recorded by hand in copies of the *Survey Handbook for the Linguistic Atlas of Chinese Dialects* and then entered into computer later. Approximately 70% of the data was entered by the fieldworkers themselves, the remaining 30% was entered by staff hired by the project team. The data for all sites was entered into the standardized Word documents, one each for phonetics, lexicon, and grammar. The font used for the International Phonetic Alphabet (IPA) was IpaPanADD, version 3.0.

#### (2) Proofreading of Data

The proofreading also included verification of the original data and the standardization and unification of the orthography. In addition to the proofreading done by those entering the data, the work of the project team went through all the data for an initial proofreading, a follow-up proofreading, and a final proofreading. But the data for some sites was given a fourth, and even a fifth proofreading.

#### (3) Development of the Data Base

After completion of the final proofreading of the data in the Word documents,

they were converted to Excel worksheets, and then compiled into a database. By the end of December 2006, all 930 sites had been successfully entered into the “Database for the *Linguistic Atlas of Chinese Dialects*.”

#### (4) Compilation of Map Contents

“Map contents” refers to the specific items for entry on the maps. The work to compile the map contents began in the first half of 2005 and was carried out over a year of frequent discussion and revision. By the end of 2006 we had basically finalized the map contents for the Phonetics, Lexicon, and Grammar sections.

#### 2.4 Collation and Mapping

“Collation” refers to sorting and classification of the data to correspond to the selected map contents. The results of the collation are embodied in the individual legends for each map. The process of collation included retrieving data from the database, compiling collation tables, discussion of the results, revision, and finalization. All collation tables were subject to the final approval of the chief editor. Following final approval, the database was utilized in a cartographic information computer system to produce the maps. After the production of initial drafts, all the maps went through a process of examination, proofreading, and revision before finalization.

It needs to explain that the total number of raw data about 930 places entries in the database exceeds one million. To attempt to manage that amount of data manually is unimaginable, computerized databases were a highly essential component of the project work. They brought great convenience to the storage, searching, retrieval, and comparison of the data. At the same time they served as the foundation for the computerized production of the maps. In the production of the maps, we integrated all the dialect data and the Topographic Database of the National Fundamental Geographic Information System of China (NFGIS) at 1:4M scale and utilized specialized database management software and ArcView 9.1 mapping software developed by the Environmental Systems Research Institute (ESRI) in the United States to develop a “Geographical Database of Chinese Dialects.” We used this geographical database to produce the maps.

### 3. Surveys

All of the data processed in this atlas were through the survey work by the project team themselves; and all data was collected using a uniform methodology developed expressly for the project.

Innumerable difficulties and problems were encountered in the course of the survey work and data analysis, which was highly complex and involved work. We will limit our review to a brief explication of the research and survey work.

#### 3.1 The Survey Sites

There were 2864 administrative units in Mainland China at the end of 2006 (including counties, autonomous counties, Mongol and Manchu administrative divisions, autonomous Mongol and Manchu administrative divisions, county level cities, metropolitan jurisdictions, etc.), while comparable data is lacking for Hong Kong, Macao, and Taiwan. From all of these places, we selected a total of 930 sites