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## CONTINUUM OF FUJIAN LANGUAGE BOUNDARY PERCEPTION: DIALECT DIVISION AND DIALECT IMAGE

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### Abstract

It is argued that the dialects of South China are as different from each other as the European languages are. This paper reports on a perceptual dialectological investigation of linguistic difference in Fujian Province, where dialectical difference is said to be intense. The dialect image technique was applied, so informants were asked to partition a map with lines. The geographical areas as partitioned according to “same as my variety”, “similar to my variety” and “cannot understand at all” were analyzed. Since varieties in “cannot be understood at all” exist side-by-side in Fujian Province, there are several dialects which have the status of independent language according to linguistic difference perceptions. Hokkien and the Hakka language are perceived as separate languages. Hokkien (or Min) is further divided into several subdialects, including Southern Min, Eastern Min, Northern Min, etc. Although mutual intelligibility is difficult for any two geographic extremes, there is a chain of mutual intelligibility between neighboring locations. It is also perceived that they are part of the Chinese language (Mandarin, Putonghua being the standard). Certain cities such as Fuzhou and Xiamen are associated with the image of “correct”. Their respective varieties are considered socially high and their mutual intelligibility is low. They occupy the social status of independent language.

### Keywords

Fujian, Southern Min, dialect division, dialect image, linguistic boundary

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**CONTÍNUUM SOBRE LA PERCEPCIÓN DE LA FRONTERA LINGÜÍSTICA DEL FUJIAN:  
DIVISIÓN DIALECTAL E IMAGEN LINGÜÍSTICA**

**Resumen**

Se argumenta que los dialectos del sur de China son tan diferentes entre sí como lo son los idiomas europeos. Este artículo da cuenta de una investigación dialéctica perceptiva sobre la diferencia lingüística en la provincia de Fujian, donde se dice que la diferencia dialectal es intensa. Se ha aplicado la técnica de imagen dialectal, por lo que a los informantes se les pidió que dividieran un mapa con líneas. Se analizaron las áreas geográficas divididas de acuerdo con “lo mismo que mi variedad”, “similar a mi variedad” y “no puedo entender nada”. Dado que las variedades en “no se puede entender nada” existen una al lado de la otra en la provincia de Fujian, hay varios dialectos que tienen el estatus de lenguaje independiente según las percepciones de diferencia lingüística. Hokkien y el idioma Hakka se perciben como idiomas separados. Hokkien (o Min) se divide además en varios subdialectos, incluyendo el Min del sur, el Min del este, el Min del norte, etc. Aunque la inteligibilidad mutua es difícil para dos extremos geográficos, existe una cadena de inteligibilidad mutua entre ubicaciones vecinas. También se percibe que son parte del idioma chino (siendo el estándar el mandarín, putonghua). Ciertas ciudades como Fuzhou y Xiamen están asociadas con la imagen de “correcto”. Sus respectivas variedades se consideran socialmente altas y su inteligibilidad mutua es baja. Ocupan el estatus social de un lenguaje independiente.

**Palabras clave**

Fujian, Min del sur, division dialectal, imagen dialectal, frontera lingüística

**1. Languages and dialects**

*1.1 The treatment in introductory books in linguistics*

Introductory books in linguistics such as Bloomfield (1932) claim that the dialects of Southern China are as distinct from one another as are European languages such as Portuguese, Spanish, French, and Italian. However, they do not offer any empirical findings on the degree of mutual intelligibility behind these claims. In another area, Chambers & Trudgill (1980) established the concept of a dialect continuum. They argue that, for Romance languages such as Portuguese, Spanish, French and Italian, a study of

the degree of mutual intelligibility between neighboring villages would reveal a continuum which transcends national borders. The same holds for the Germanic languages. The Scandinavian languages are so similar that “semi-communication” is possible, such that even if a group of individuals each speak their respective national language they can understand one another (Gooskens & Heeringa 2012). Catalan is a mutually intelligible dialect of Spanish and Languedoc is one of French, but they are both pushing for the status of independent language, and thus for membership in the Romance language continuum. Serbo-Croatian, from the former Yugoslavia, is divided into 2 to 4 languages according to the government’s language policy. Mutual intelligibility among languages should be reexamined under this new perspective.

The same concept could be applied to the Japanese archipelago (Inoue 2001). There is a continuum of mutual intelligibility among the dialects of Honshu. However, there are multiple claims concerning how to divide Okinawan (the Okinawan dialect or Ryukyuan language) (Inoue 2016). Okinawan was designated as an endangered language by UNESCO, but a detailed investigation remains to be seen.

From this perspective, whether a continuum exists among the dialects of Southern China is a significant question. Due to the spread of Putonghua, differences in language perception can be expected between college students and adults. The following sections focus on the language situation in Fujian Province.

### *1.2 Degree of mutual intelligibility among Chinese dialects*

Previous research on mutual intelligibility among Chinese dialects includes quantitative studies such as Cheng (1988). Tang (2009) took it a step further, surveying the degree of intelligibility among 15 Chinese dialects with a reliable methodology and producing convincing results. Tang’s research is a significant contribution as it confirmed the degrees of mutual intelligibility using actual survey data. He utilized Levenshtein Distance to measure the proximity between words, and applied cluster analysis to a large amount of data, also including sentence proximity between dialects. Using the results from various approaches, he showed a continuum in language difference. He also confirmed a large difference between the northern and southern dialects, agreeing with

the current wisdom concerning the divisions of the Chinese dialects. As for the southern dialects, he concludes that mutual intelligibility is low but does exist to a degree. However, the degree of intelligibility, or of commonality, is low, at 10-30%. This approximates the figures between European languages of any given branch. Contrary to the Tang's conclusion, it could be said that it confirmed the large degree of language difference in the southern dialects, as claimed in introductory books of linguistics. Speakers will typically judge a variety as "Cannot understand at all" when they can only catch 20 to 30 percent of the words. When the information in the utterance does not get across, more speakers will respond that it is unintelligible.

For mutual intelligibility, languages which meet the "Cannot understand at all" level, or range, are unusual. Among the European languages, the existence of languages within a single country which are ranked as "Cannot understand at all" is uncommon. Swiss German is an exception, and is thought to have arisen due to its geographic separation by deep valleys combined with the self-sufficiency of its territory. The territory was settled after the great migration of the Germanic tribes, so it has had one thousand and a few hundred years to develop. English and the other dominant languages transcend national borders, having spread via colonialism starting in the Age of Exploration, so they would require a survey which spans the whole world map. The expansiveness of the areas of mutual intelligibility of English, Spanish, Portuguese and the likes is an extreme. Excepting for pidgin and creole varieties, they are thought to be mutually intelligible throughout the world.

A survey of the size of the language difference in Southern China from a language perception perspective is needed. First, an introduction to the main points of the existing literature on the Chinese dialects is provided.

Tang (2009) and Tang & Heuven (2007, 2015) conducted surveys on the degrees of mutual intelligibility in 15 Chinese dialects. See Figure 1. Of the varieties in and near Fujian Province, Fuzhou, Xiamen, and Meixian were included in the survey.

According to cluster analysis results of degree of word intelligibility, the surveyed dialects can be divided between the Putonghua varieties of Northern China and dialects of Southern China. See Figure 2. If you compare the level where the Putonghua varieties start to break off (around 6 on the axis), the Southern China dialects have already

broken into 6 distinct varieties, and even a little higher on the graph there are 4. It seems appropriate to treat Southern China's dialects as distinct languages. In Fujian Province, Fuzhou, Xiamen, and Meixian break off at a mid level cluster, so they are quite distinct. Their level of mutual intelligibility ranges between 14-25%, so the language difference within Fujian Province is markedly large compared with that of the Northern China Putonghua varieties.

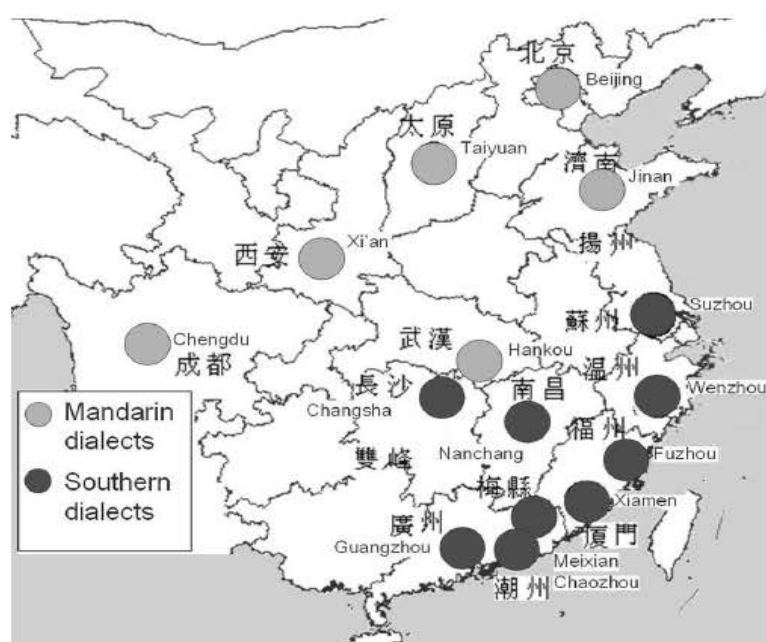
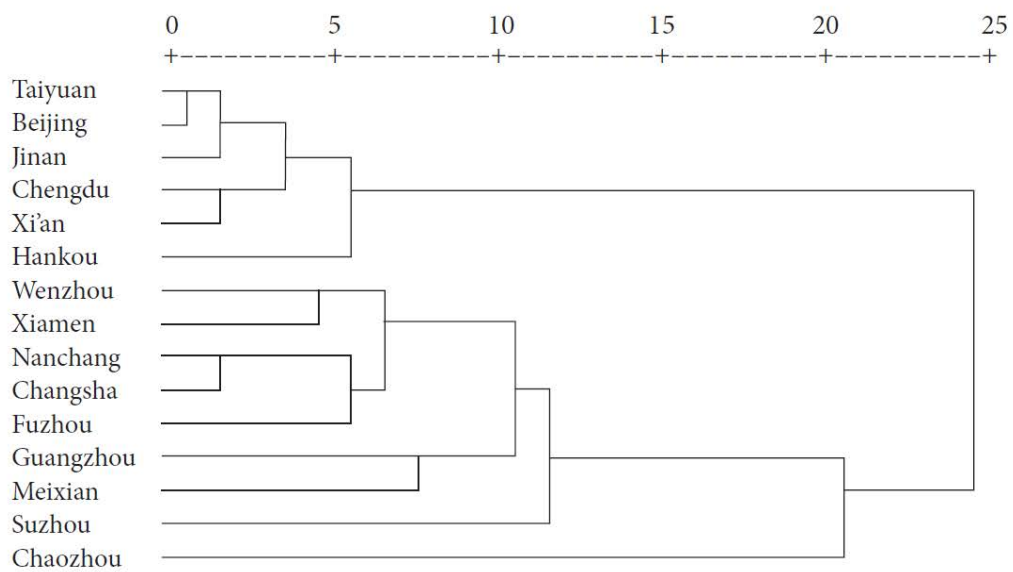
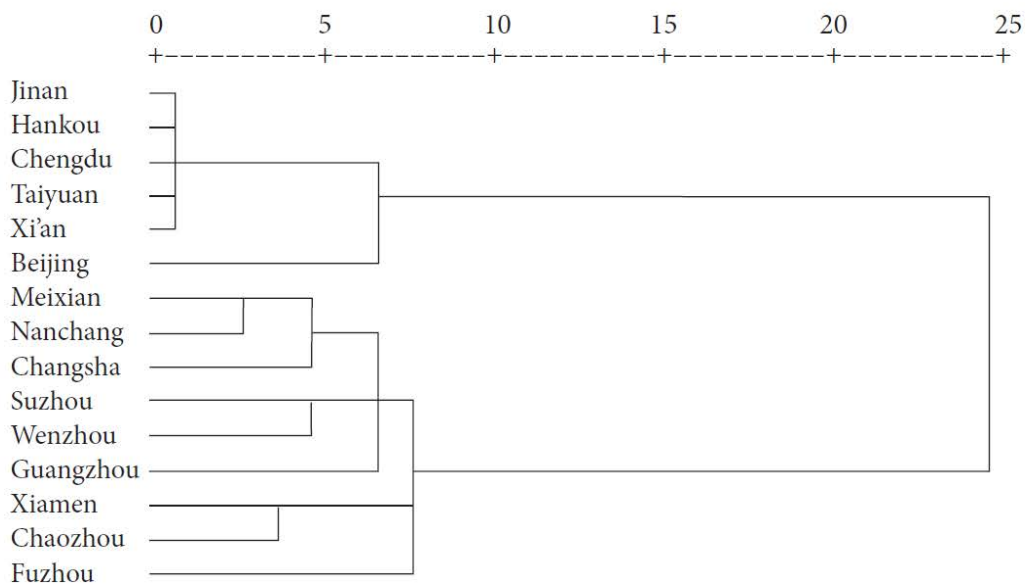


Figure 1. Approximate geographic locations of the 15 Chinese dialects targeted.

Figures taken from Tang & Heuven (2015)



**Figure 2.** Dendrogram (using average linking between groups) based on word intelligibility scores obtained for all 225 combinations of 15 speaker and 15 listener dialects.



**Figure 3.** Dendrogram (using average linking between groups) based on sentence-level intelligibility scores (further see Figure 1).

Cluster analysis at the sentence level also reveals a 2-way partition between the Northern China Putonghua varieties and the Southern China dialects. See Figure 3. The following explanation is similar to that of Figure 2. If you compare the level where Putonghua varieties start to break off (around 6 on the axis), the Southern Chinese

dialects have already broken off into 4 or 5 varieties. Even at a higher level, they have broken into 3. It seems appropriate to treat the Southern China dialects as distinct languages. In Fujian Province, Fuzhou and Xiamen break off at a high level cluster, and Meixian at a mid-level cluster. According to the numbers, their mutual intelligibility is only between 3-28%. Compared with the almost 60% degree of mutual intelligibility among North China Putonghua varieties, and then with the languages of Europe (Gooskens & Heeringa 2012), they seem to qualify as different languages.

### *1.3 Center and periphery*

It is difficult to define a language. For national languages, they are metaphorically said to have an army, or a national flag, and they have standard and written forms. It is also important to have a name. Like color terms and constellations, words have the effect of dividing up our contiguous world into parts. Words are used to categorize.

For varieties which are not national languages, the degree of mutual intelligibility serves as a clue, but intelligibility levels form a continuum, so distinguishing clear boundaries is difficult. There are tribes in Africa which label surrounding languages as “1-day languages”, “3-day languages”, etc. These names represent a scale which accounts for the number of days needed to learn to understand that language.

In order to get a grasp on a continuum like this, the concept of “prototype” (or “Idealtypus”) is useful. It positions things in terms of center and periphery, and is useful when dealing with a continuum where it is difficult to ascertain boundary lines. The concept can be employed for the continuum of language and dialect. However, the difference between periphery and center is often vague, so caution is required.

### *1.4 Perceptual dialectology*

The continuum of language and dialect is also related to perceptual dialectology. Perceptual dialectology research is conducted using the dialect images and mental maps held by speakers as evidence (Preston 1989, Inoue 1999). Grootaers attempted to draw a dialect map near Beijing during war times (Grootaers 1976, 1994). His work introduced

the dialect image survey to Japan, but failed to successfully apply it to Chinese (Inoue 2011). The situation in Southern China is also lacking from Preston (1989, 1999) and Preston & Long (2002). Applying the perceptual dialectology methodology to Southern China is a worthwhile endeavor.

## **2. The Language situation in Fujian Province and the survey method**

### *2.1 The language and dialect distribution map of Fujian Province*

Figure 4 is a simplified map. The map we had our informants fill in for the survey was more detailed, including the names of cities, towns and villages (See Fig. 6). However, since it is too small to read when fitted to this manuscript, we have provided a simplified bilingual map from the internet. Fujian Province is located in the Southeastern region of China, has an area of 121,400 km<sup>2</sup>, is 530km latitudinally and 480km longitudinally. This is about the size of New Mexico (or England or the Kanto and Chubu regions of Japan put together). The population is 37 million (as of 2010), similar to California and about half of Germany (1.5 times Japan's Chubu region). Unlike the northern half of China, it is filled with steep mountains, likening it to an enlarged version of Japan's Chubu region.





Figure 4. Map of Fujian Province

The dialect difference in Southern China is well-known, but the difference within Fujian Province is also highly pronounced. There is even a mass media body in Hokkien (Oda 2015). There is an established body of descriptivist research on it (Akitani 2008; Akitani *et al.* 2012, etc.), but the dialect perception in Fujian Province is also worthwhile to investigate.

This paper uses Figure 5 as the representative dialect map (Fujian 2006). It seems that it is difficult to determine the boundary lines, so there are several alternative versions. The divisions in the map in Asher *et al.* (2000) do not match up with other maps. There are even differences in the line between Wu Chinese of the north and Hakka Chinese of the west. An internet search also turns up a variety of different maps, and there seems to be no agreement even on the boundaries between Hakka Chinese and Min Chinese (Hokkien). This is partly due to a lack of precision in past surveys. It is likely also because of the difficulty in determining boundaries in a geographic dialect continuum. They do not refer to the degree of mutual intelligibility behind the selected partitions.

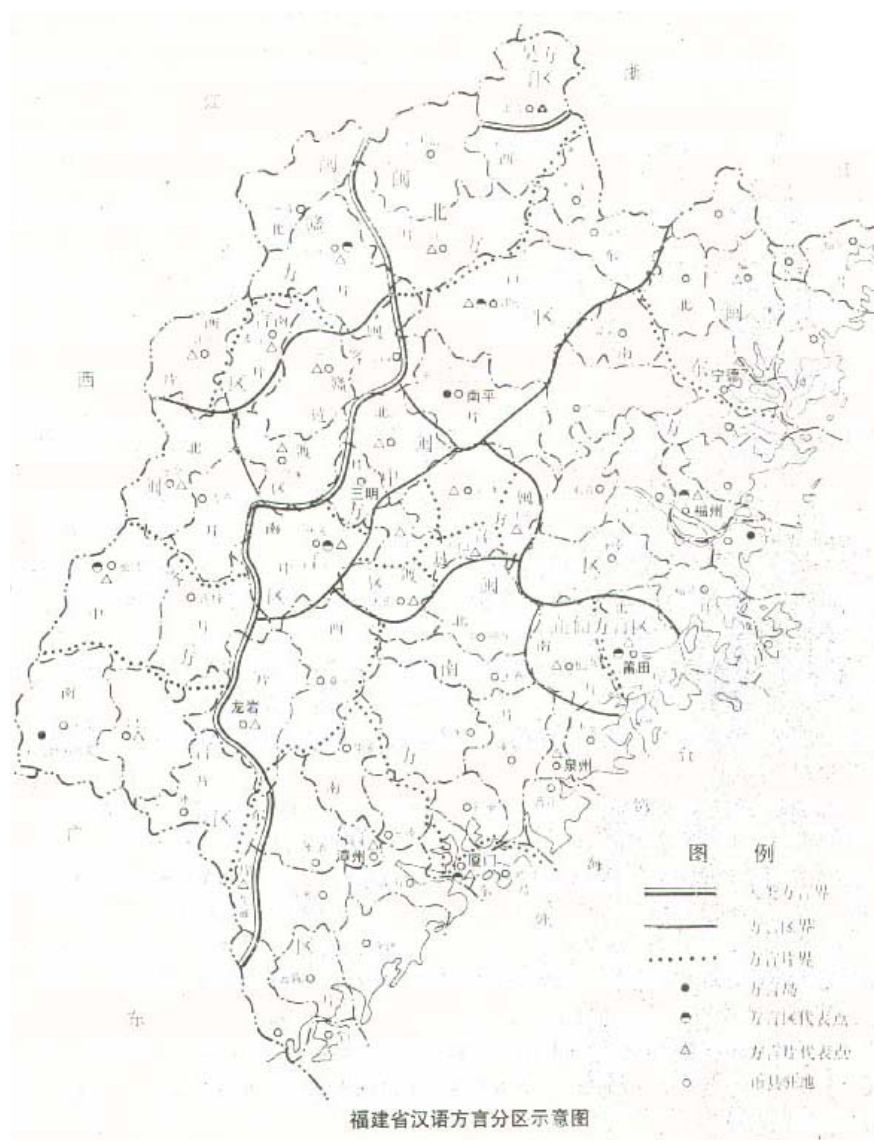


Figure 5. Map of dialect division of Fujian Province

## 2.2 Survey method

This study differs from that of Tang (2009) in that it does not ask for judgments based on audio recordings. It uses the dialect image technique. It relies on the judgments and stereotypes of the speakers instead of the actual state of the language. Each of the speakers filled in the map based on their past experiences. Since many of them do not customarily think about geography or maps, there is a chance that they had to guess to fill it in. While the prototypical center is firm in the perception, the outer boundaries are often not so, so caution is needed. As will be seen in the figures in the following pages, most of the student participants used rough circles, showing their clear perception of the center but lack of confidence in the periphery. It is also possible that they were influenced by the government's past divisions. That even people who do not speak the language or are not scholars can be surveyed is an advantage of this method. Citizens of Tokyo may be aware that Kansai dialect is different, but many do not know where the boundaries are. The many versions of Misao Tojo's maps of Japanese dialect division are reminiscent of this problem.

According to a pre-survey group interview with students, students use Putonghua (Pekingese, Mandarin Chinese, Standard Chinese) in most cases, and their respective dialects only when they talk to someone from the same region as them. Four students, from Gutian County, Putian, Amoi, and Changting, were not able to understand one another at all when they spoke in their respective dialects. However, students from eastern Gutian and Putian claimed they "somewhat understood" each other. In other words, students from Fujian do not use their dialects to achieve "semi-communication." The language difference is so great that semi-communication is untenable. In this respect, it would be intriguing to see what kind of mutual assimilation took place in Southern Min of Taiwan (Li Zhongmin 2014).

On the other hand, in the cities, Putonghua is spreading rapidly and, for instance, in Xiamen students in elementary schools now learn their own dialect in school. According to Chinese scholar Hiroyuki Akitani (personal correspondence) the situation is as follows. "University students are around 18 to 22 years old so, while it would vary depending on where they are from, it would be more common for them to have been

raised on Putonghua rather than their dialect. I especially felt a need to be cautious with individuals from Chengguan. For instance, I do not think the daughter of an acquaintance of mine, who resides in the center of Fuzhou, would be able to answer these questions at all”.

Given this, informants who spoke only Putonghua were instructed to fill in the map (provided in the appendix) as they thought their father would.

The same survey form was used for all three surveys. I had students fill in group questionnaires, but the adults were interviewed personally. The first survey was on 3rd year students of the Japanese department at the Fuqing Branch of Fujian Normal University. After a lecture, I explained the survey in Japanese in the classroom. A Japanese language instructor gave supplementary instructions in Chinese after. The second survey was an on-site investigation of Eastern Min and Western Hakka Chinese. I explained in Japanese, and a Japanese language instructor who had accompanied me explained in Chinese and assisted the informants in filling in the map. Three of the speakers were researchers (university-affiliated) of Hakka Chinese. The third survey was on 4th-year students in the Japanese department at the Fuqing Branch of Fujian Normal University. This time, the survey forms were sent by mail and a Japanese language instructor carried out the survey.

Table 1 shows the tabulation of the results. Most of the students were from the central region of the coast of Fujian. Female speakers far outnumbered male speakers, of whom there were only a few.

Adult		Student			
Survey 2			Survey 1	Survey 3	sum
Min Hakka 閩客方言 (Yongding 永定縣)	3	Western Hakka 西部客家語	5	3	8
Min Hakka 閩客方言 (Longyan 龍岩市)	4				
		Western Hokkien 西部福建語	20	19	39
Eastern Min 閩東方言 (Gutian 古田縣)	2	Eastern Hokkien 東部福建語	12	6	18
Fuqing 福清	1				
		other Provinces 他省出身	12	0	12
total	10		49	28	77

Table 1. Respondents by area and generation

### 3. Result 1: Adult language difference perception in Fujian Province

#### 3.1 Summary of the results

Informants were asked to divide their maps into 4 areas using 3 types of lines. There were 4 stages of intelligibility, but the intermediary level and unintelligible levels were difficult to differentiate for many people, so some of the maps were filled in without one of them.

a. Same	Same as my language	Inside bold line
b. Similar	Similar to my language	Inside the normal line
c. Different	Different from my language	Inside dotted line
d. Unintelligible	Cannot understand at all	Outside dotted line

It is noteworthy that all the student respondents from other provinces (mostly speakers of Southern dialects in Figure 1) replied that Hokkien was unintelligible. Even some of the Fujianese students left the map blank. The “correct” and “pleasant” categories were also left blank in some replies.

Here, three stages (a. same, b. similar and c. = d., unintelligible) were transferred from each response onto transparent sheets to be superimposed on a master map.

Before detailing the results, Table 2 below is a schematic diagram of them. Meixian, Xiamen and Fuzhou, underlined below, are the areas surveyed in Tang (2009), mentioned above. According to Figure 5, the dialects of southern Fujian Province can be separated as follows (Fujian Province 2006). Min Dialect (Fuzhou), Fuxian Dialect (Putian),<sup>1</sup> Southern Min Dialect (Xiamen), Central Min Dialect(Yong’an), Northern Min Dialect (Jian’ou), Changting Dialect (Changting).

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<sup>1</sup> According to the following description, Fuzhou, Putian and Quanzhou are mutually unintelligible. However, it’s unclear whether the residents of neighboring villages along the borders can understand one another. “For me, the most surprising thing was that Putian is different from both Fuzhou and Quanzhou. I can speak Quanzhou, but I cannot understand Putian at all. It is not something minor like an accent. People from Fuzhou cannot understand Putian either. There are three different languages in 3 areas within a 2 hour car drive. Furthermore, while Fuzhou and Quanzhou each have a good size population of speakers, Putian’s is very small. Before people from Putian leave its borders, first they have to learn a new language”. (Chen Shinzhi 1989: 100.)

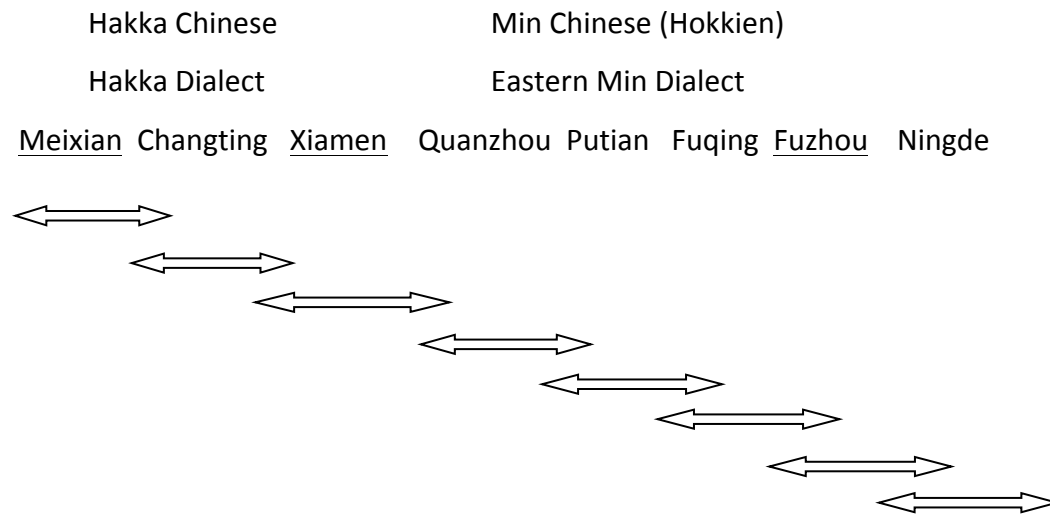


Table 2. Dialect continuum in Fujian

### 3.2 Example of an adult response

Figure 6 is an example of a map completed by an adult who speaks Gutian Eastern Min Dialect. It is from an interview with a woman from a mountain village located on the highway (Gutian County Huangtian Feng Ting Village Shuang Kang Cun). Reportedly she was raised in her home village in a perfectly normal way, but as an adult ended up having the occasion to talk to outsiders due to her work for the government party and the village. The boundary of intelligibility had been marked as reaching Ningde City going eastward, and reaching Fuqing City going southward, but she corrected this. When she met people from Fu'an City, she could not understand them at first but after an extended period of contact she learned to understand them. Below is a personal statement about intelligibility among the dialects. It reinforces Akitani Hiroyuki's statement (personal correspondence).

"The east side of Gutian is part of the Houguan dialect group, close to Fuzhou Dialect, and the west side belongs to the so-called Ningde dialect group. People from Fuzhou can understand until Luoyan, but I hear that as soon as they enter Ningde it stops being understandable. Putian belongs to Ningde City and the Ningde Dialect group is distributed around the province, so I had thought that it should be able to deal with a



Ningde-like dialect, but it seems that empirical research like what you are doing is necessary after all”.

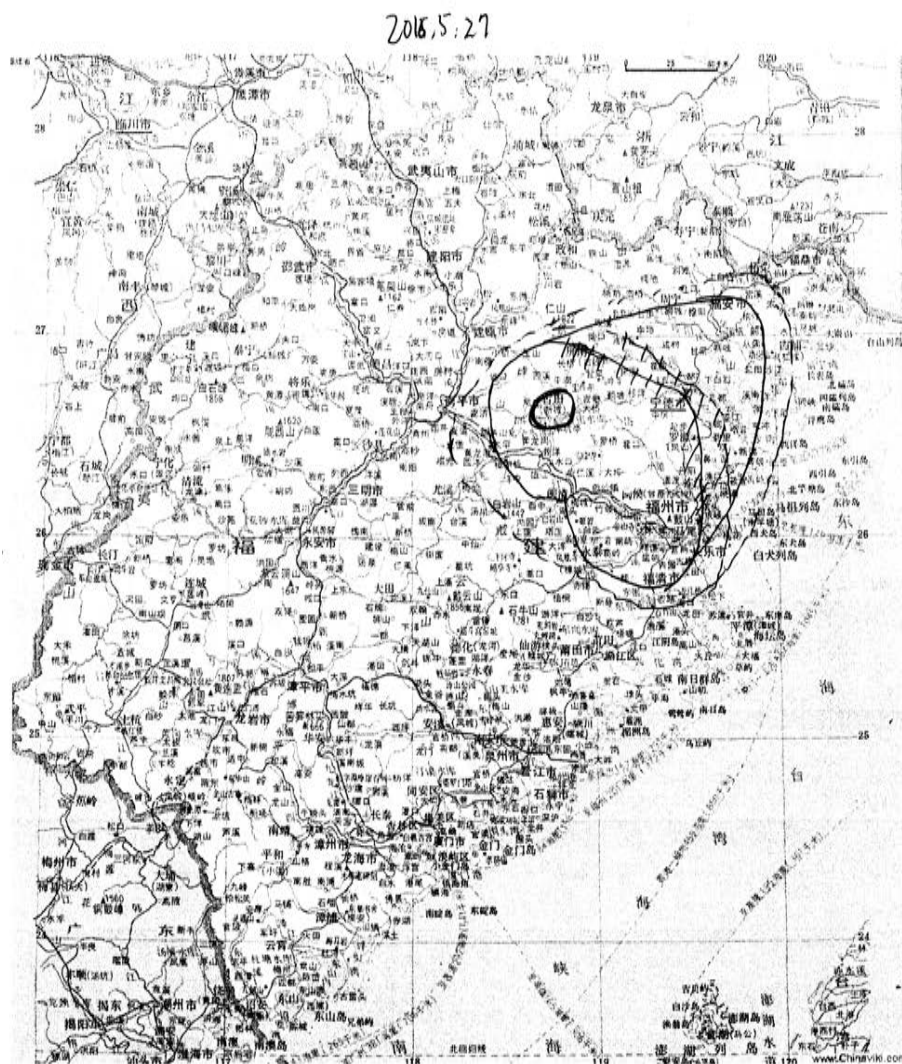


Figure 6. Example of perception by an adult

### 3.3 Adult perception of same language

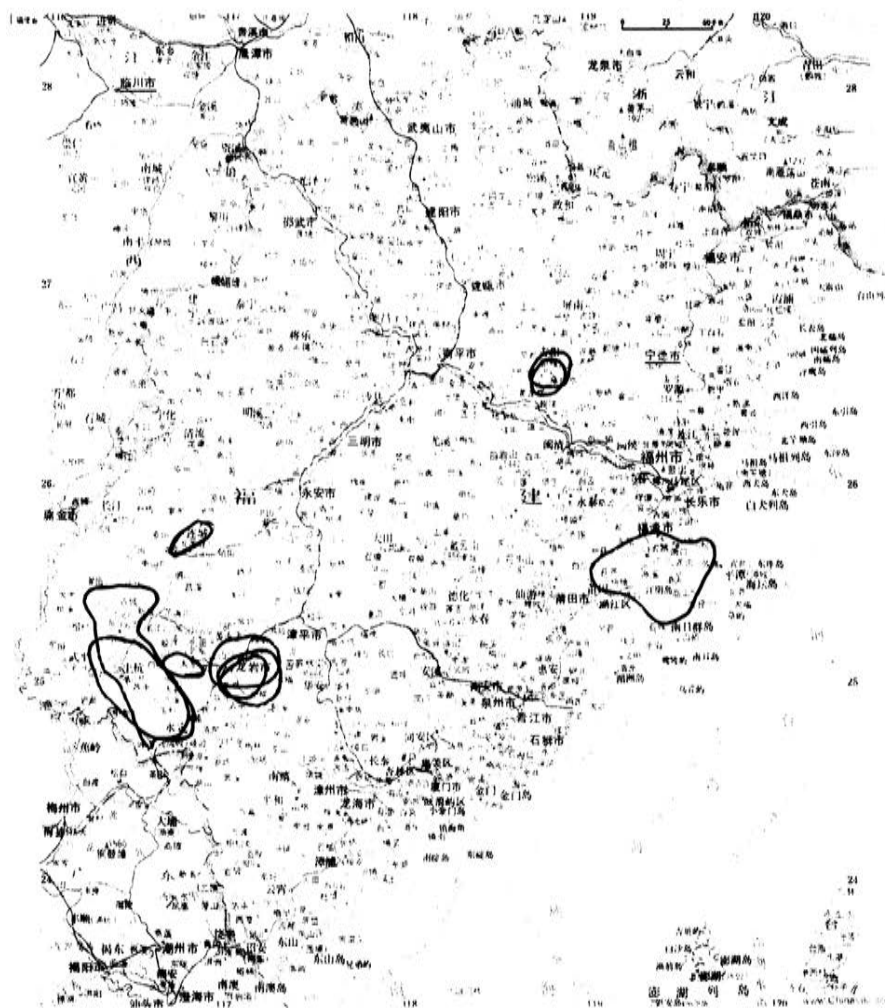


Figure 7. Perception of same language by adults

Figure 7 shows “same language perception”, the area where one’s own language is spoken. This survey was carried out in 2 areas and 3 sites: Gutian County on Eastern Min dialect and on Hakka Chinese’s Changting Dialect (Yongding County and Longyan City). The data of a Fuqing resident has also been included. The maps from the survey informants have been transferred to transparent sheets and superimposed on a simplified map (the simplified map is blurred so as to make the perception lines stand out). In the mountain areas, the areas corresponding to same language perception were small, tending to include one’s hometown area only and exclude the neighboring villages. For city respondents the areas are wider.



### 3.4 Adult perception of similar language

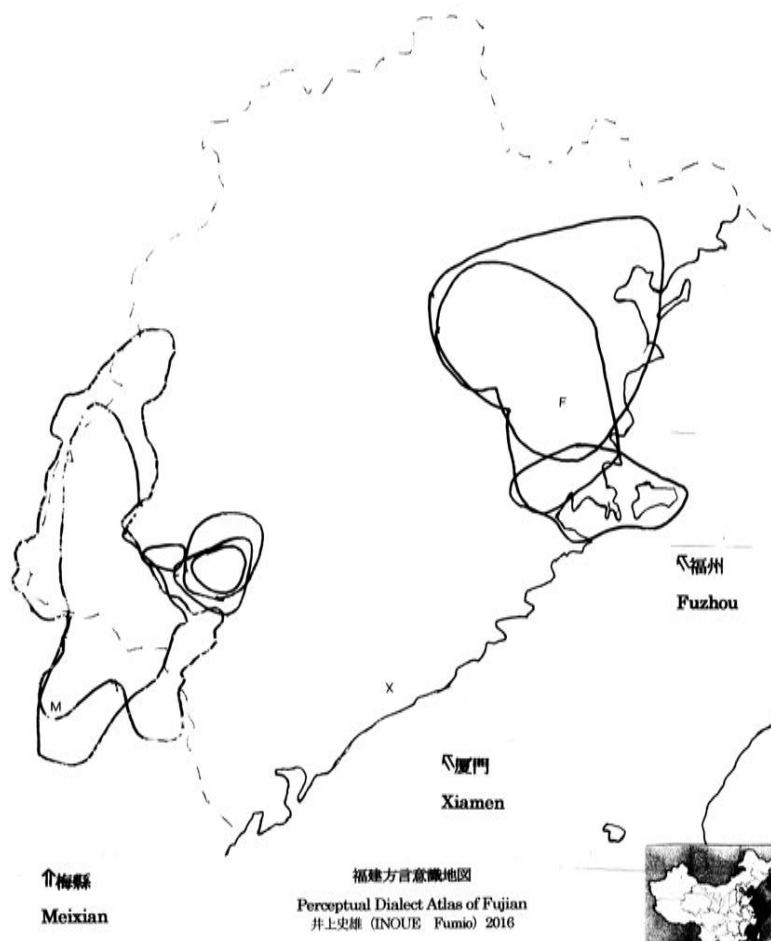


Figure 8. Perception of similar language by adults

Figure 8 includes the results from all the adult respondents for perception of similar language, the area where the variety spoken is similar to the respondent's. To make the lines stand out, the map is simplified. It marks the coast, the provincial boundary and the three city names (with arrows in the ocean) (Fuzhou, Xiamen, Meixian). The bottom right is a miniature map of China.

Even in the mountain areas, the area of similar language perception is larger than “same,” including areas outside of the respondents' home villages. Western Hakka even acknowledges similarity with Meidong County in Guangdong Province more to the west.

Eastern Gutian even seems to be perceived as similar to Fuzhou. This coincides with the general trend of unilateral acknowledgement of similarity by rural regions to big cities.

### 3.5 Adult perception of unintelligibility

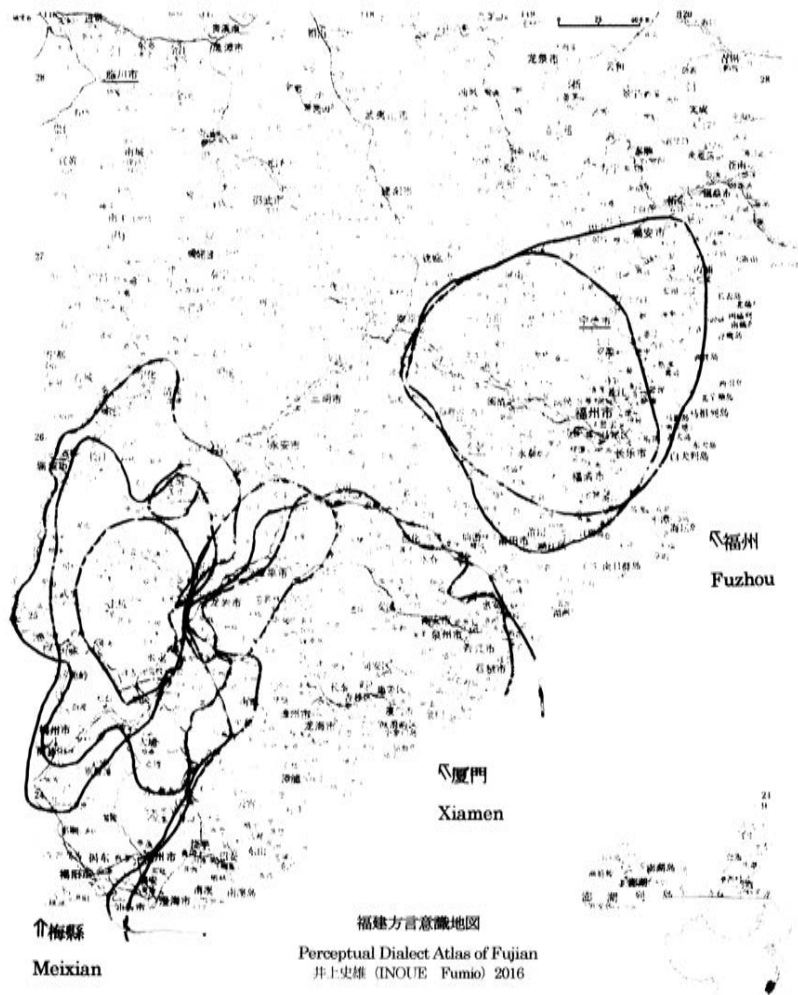


Figure 9. Perception of unintelligibility by adults

For the survey, informants were asked to mark “unintelligible”, the area they cannot understand at all, by leaving it outside of the dotted line. The inside of the dotted line is the area that they can understand at least somewhat. In Figure 9 the basic map is blurred so as to make the lines stand out.

The area is larger than that of Figure 8. Separate field surveys were carried out in the west and the east so they do not overlap. The speakers of Hakka Chinese from the western edge say they understand most of the Hakka in Fujian province, but looking at

speakers from the eastern side, most of the Hakka in Fujian Province and that extending to the west is unintelligible. Outside a radius of about 100km the dialect becomes unintelligible.

There is general perception of a difference between Hakka Chinese and Hokkien and there were few responses with a large enough radius to include both. The boundary between Western Hakka and Central Hokkien is quite thick, but some lines do overlap. This is likely due to an unclear perception of the boundaries by the speakers, or imprecise drawing on the map.

#### 4. Result 2: Student language difference perception in Fujian Province

##### 4.1 Student perception of same language

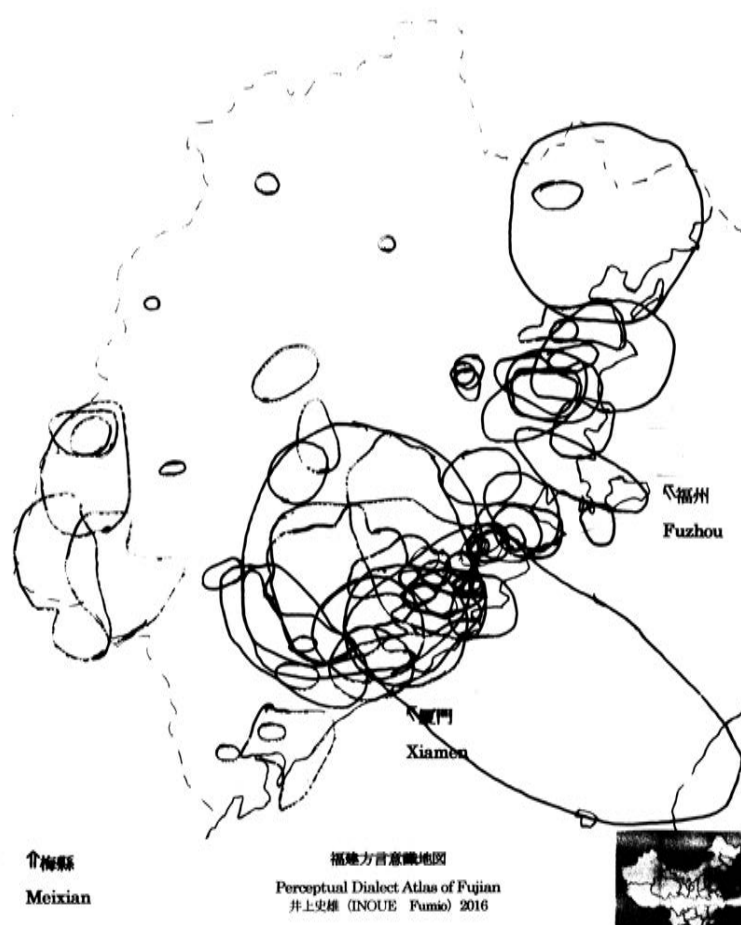


Figure 10. Perception of same language by students

Section 4 discusses college students in Fuqing. First, Figure 10 shows the responses to same language perception. Along the urban coast where there are a large number of native students, particularly around Xiamen, the lines marking same language perception overlap. However, due to a firm perception of the boundary between Western Hakka and Central Fujian Dialect, there is a blank area. There is overlapping between eastern Fuzhou, Fuqing and Putian. Also, there is little overlap between Putian and western Quanzhou City. There is great overlap from Quanzhou City going through Shishi City to Xiamen. It is likely perceived as a continuum. The area is larger than that shown by the adults. Most responses are between 20 and 100 kilometers in diameter. Note that there is one student who included the Southern Min of Taiwan. There is a marked difference in the perception of “same language” from the adult respondents

#### 4.2 Student perception of similar language

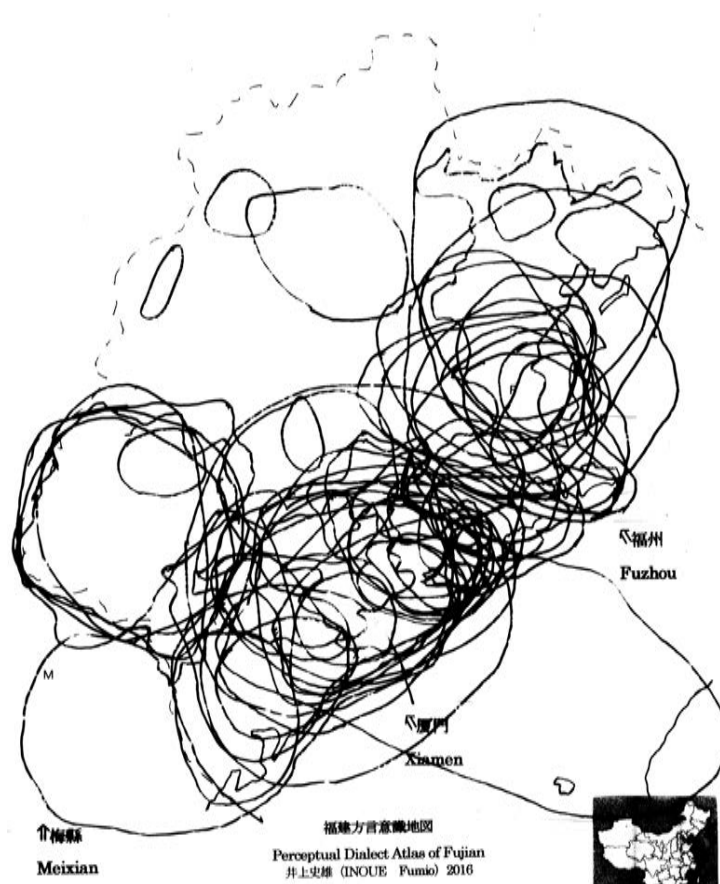


Figure 11. Perception of similar language by students

Figure 11 shows student perception of similar language. Looking at the lines drawn by students from the east (Eastern Min Dialect), most of the students drew similar lines, including Fuzhou, Fuqing and Putian. Many have a diameter of about 100 kilometers.

Now note the lines for speakers from the west (Southern Min Dialect), the north (Northern Min Dialect), and of Changting (Fujian Province Hakka) Dialect. Similarity perceptions for the Hakka dialect at the western edge is largely in agreement. One speaker of Hakka at the southwest edge acknowledges similarity outside of the province, in Guangdong Province. The core of central Southern Min is around Xiamen and similarity lines for the western edge vary, ranging from Western Xiamen to the western edge of Fujian Province. The eastern edge overlaps around the west side of Putian. Along the coast, the perceived boundary seems to be at the west of Putian.

#### 4.3 Student perception of unintelligibility

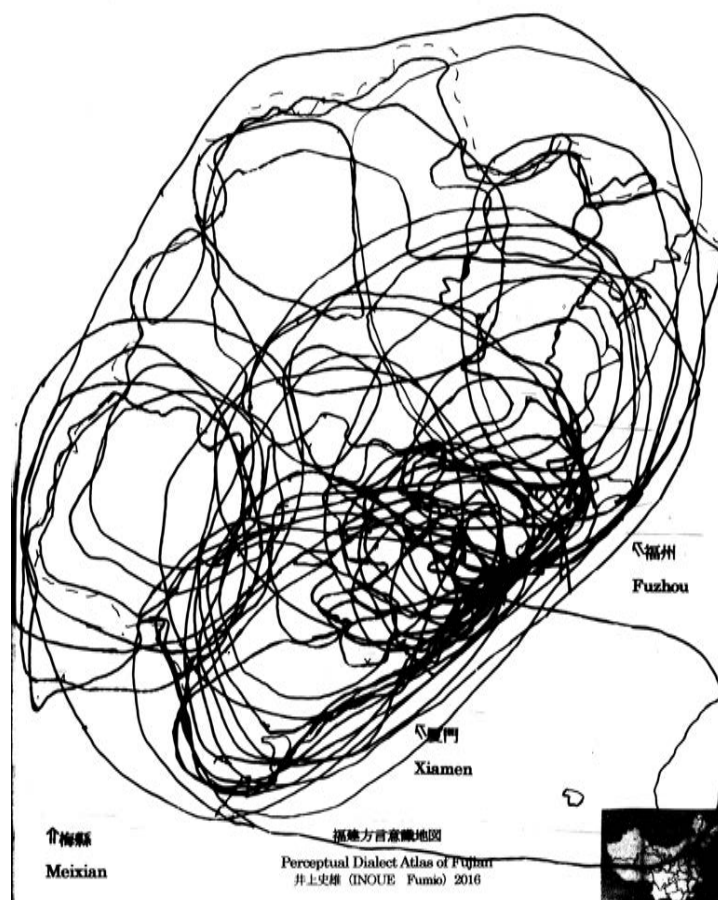


Figure 12. Perception of unintelligibility by students

Figure 12 shows student “unintelligibility”, the areas whose varieties respondents cannot understand at all. One student from the east (Eastern Min Dialect), marked that he/she could understand the language throughout Fujian. He/she was probably ignoring, (or had forgotten about) Hakka Chinese in the West. However, most of the students marked a restricted area, including only Fuzhou and Fuqing. Most responses had diameters between 200 and 300 kilometers. Compared to “similar” in Figure 11, the area is significantly larger.

Take note of the lines drawn by speakers from the west (Southern Min Dialect), the North (Northern Min Dialect) and Changting (Fujian Hakka). There are two centers, one around Southern Min Chinese’s Southern Min Dialect and one around Hakka Chinese’s Hakka Dialect. Compared to “similar” from Figure 11, the area is much larger. However, the basic pattern is the same.

The reason for the overlap between the areas for Changting Dialect on the western edge (Fujian Hakka Chinese) and those for Southern Min Dialect in the center is likely imprecise knowledge by the students of the exact boundary lines. It may also be because it does not match the boundary of Longyan City. From Quanzhou city, going through Shishi City down until Xiamen there is a good deal of overlap. In cities along the coast, the area of intelligibility is large. Diameters of between 200 and 300 kilometers are most common. The presence of large areas of unintelligibility within Fujian Province is noteworthy. This is unthinkable in Europe and Japan, and even more so in Northern China.

Mutual intelligibility is not symmetrical, speakers of a socially lower variety (at least claim to) understand the socially higher variety, but the reverse does not hold. Also, speakers of a simplified system understand the more complex variety, but the reverse does not hold. Between the east and west of Fujian, students from the west claim they do not understand the language in Fuzhou. On the other hand, students from the east which includes Fuzhou, claim to understand down until around Xiamen. Meanwhile, Putian of Fuzhou City forms the center of a small buffer zone, marking both Xiamen and Fuzhou as unintelligible. This speaks of the possibility of a dialect continuum/chain.

## 5. Result 3: Overall perception of similarity and unintelligibility by Fujian adults & students

### 5.1 Collective perception of language difference in adults & students

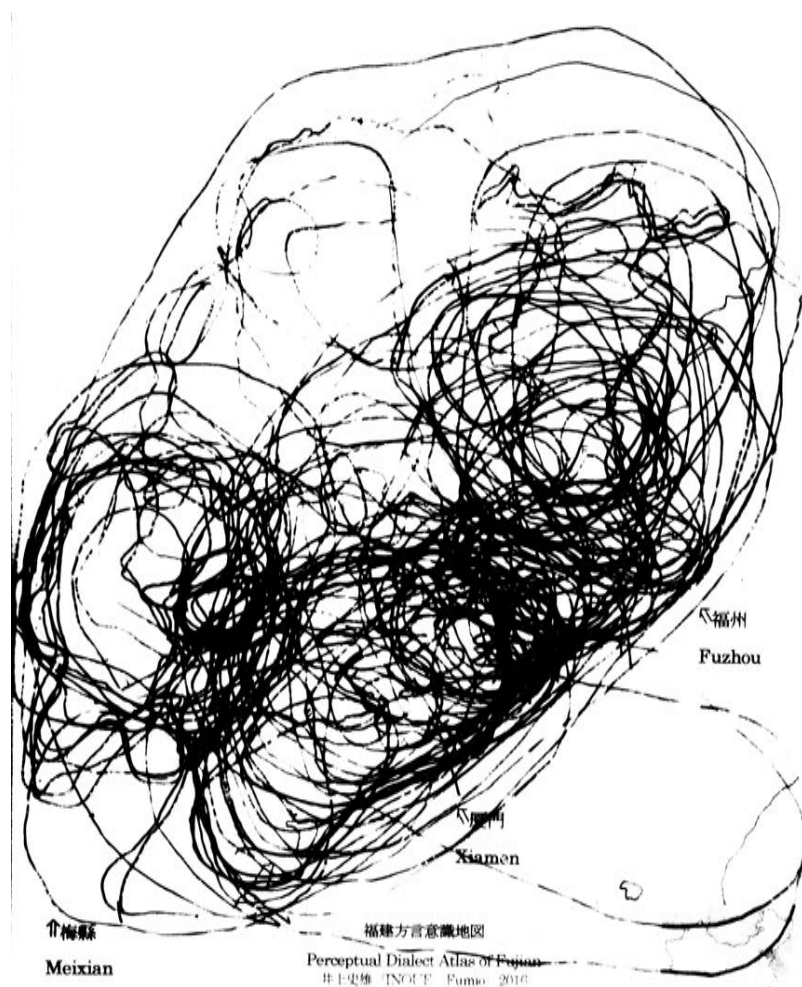


Figure 13. Perception of similarity & unintelligibility by adults & students

Figure 13 includes all adult and student responses for all regions (1st-3rd Surveys) for perception of similarity and unintelligibility. Basically, it includes the lines from Figures 8-9 and 11-12 and excludes the same language perception lines. The positioning of the lines may appear to be mixed, but there are also places where they overlap. When we compared the similarity perception maps and unintelligibility perception maps separately, the size of the areas seemed different, but when they are all stacked the

boundary lines are largely in agreement. Starting from the west, three zones, the Hakka Chinese area of Longyan city, Xiamen and its surrounding cities, and Fuzhou stand out. Putian in west Fuzhou City represents a buffer zone which is either independent or belongs to both zones. There were few people who filled in the northern part of the map, but it seems to indicate existence of several perceptual dialect areas. Looking at the whole map, it is similar to the dialect map in Figure 5. Speaking generally, the dialectal perception of the residents and the linguistic analysis of researchers have some points in common. Presently, Fujian Province has 1 sub-provincial division (Xiamen) and 8 prefecture-level cities, but those boundaries do not agree with the lines in Figure 13. The fact that the city divisions were not indicated on the survey map may be related. However, city/village names, rivers, mountains, roads and railroads were marked on the survey maps.

The above concludes the analysis of adult & student perception of dialect similarity and unintelligibility. The areas considered as speaking the same language were quite small. Additionally, the overall areas where mutual intelligibility is possible are modest in size. Fujian is divided into several regions which are mutually unintelligible.

According to Tang (2009)'s survey of Fuzhou and Xiamen, the mutual intelligibility was only 10 to 20%. Thus, they can be considered separate languages. The problem is whether Putian, located in-between, has an independent status or not. There are speakers from the east and the west who consider it part of the area whose variety they can understand. In either case, the seven "dialects" of Fujian which are acknowledged by dialectal researchers (Figure 5) are mutually unintelligible according to speaker perception, so according to standard linguistic reasoning of mutual intelligibility, they can be considered separate languages.

Meanwhile, as Figure 13 shows, the areas perceived to be mutually intelligible show significant overlapping among speakers. Along the coast, a continuum/chain of intelligibility can be seen. In particular, the overlap of the boundary lines between Hakka Chinese in the west and Southern Min is noteworthy. In cities where both languages interact, bilinguals who speak both varieties form a different kind of continuum.

Given the above, the idea of the intelligibility continuum/chain proposed in Chambers & Trudgill (1980) has been confirmed by superimposing the responses of a



large number of respondents on a map. In summary, at a 100 km distance one will find “do not understand at all” varieties, but there will be people who do understand it along the way. If one goes from village to village, asking whether the residents can understand the neighboring village, there will be no boundary line where they “do not understand at all.” A dialect continuum/chain exists in Fujian.

## 6. Result 4: The dialect image of Fujian Province

### 6.1 Varieties perceived as “correct”

In addition to the dialectal perception map, the survey also covered dialect image. The following items were included on the survey form.

- |   |                 |
|---|-----------------|
| a. Correct Area: where the variety is used  | Horizontal Line |
| b. Pleasant Area: where the variety is used | Vertical Line   |

“Correct” was chosen to represent the image of intelligence. In Figure 14 the place names on the map are blurred so as to make the transferred lines stand out. The fact that there are few people who answered is probably because most of them had never really thought about it before. One map is used here also for 4 adults from the field survey. The areas do not overlap and the mountain regions are not included. Judging by Figure 10, this is in part because few speakers are from that region.

Starting from the east, the responses are concentrated around four areas: Fuzhou City, Quanzhou (Chaozhou), Xiamen, and Changting (Hakka). These are also areas that do not overlap in Figure 13. Western Changting would be the representative of Changting Dialect (Hakka). Eastern Fuzhou City would be the representative of Eastern Min dialect. Quanzhou City and Xiamen in the middle show that Southern Min dialect has 2 centers. In Figure 13, there is little overlap between these two cities.

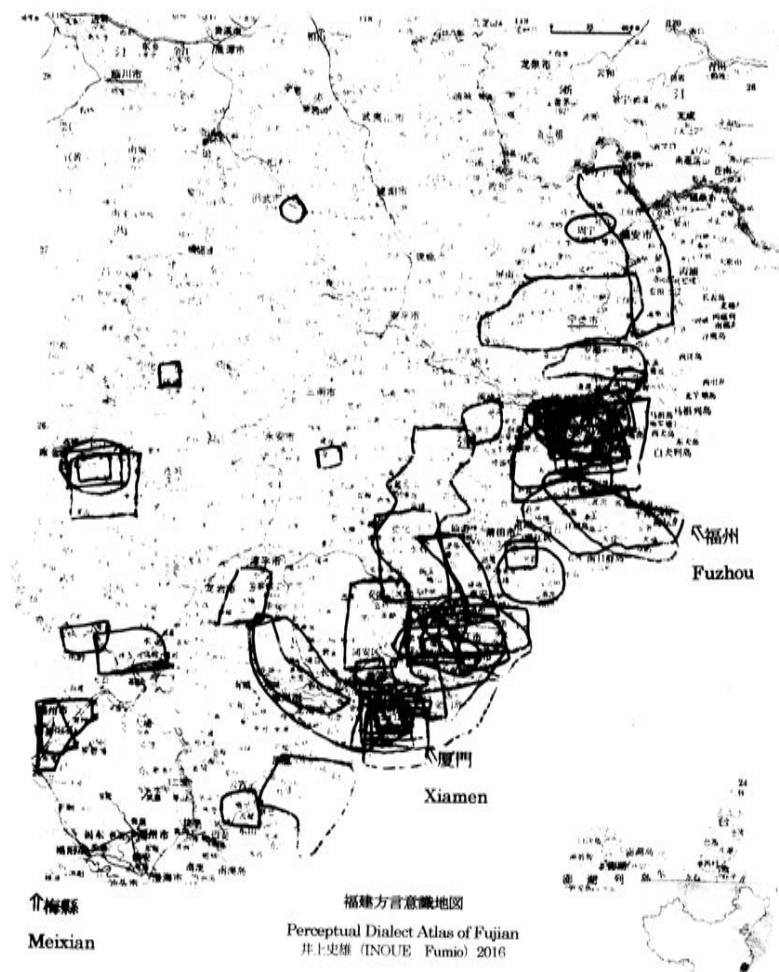


Figure 14. Dialects with a “correct” image

In the previous section we asked for the outer boundaries of the dialect regions. In this section we asked about the center or standard for each dialect.

The centers coincide with the dialect map composed by researchers (Figure 5). Speaker boundaries mostly coincide, but the speakers are not trained so they sometimes make mistakes. This is because while the center is clear, the periphery tends to be vague. The overlap of Quanzhou City and Xiamen is because the lines were drawn imprecisely or because the answer included both of them. Note, some people marked 2 separate places as “correct”.

The total number of respondents for “correct” was 36/49 for Survey 1, 13/28 for Survey 3, and 2/10 for Survey 2 (Adults), for a total of 51/77. This part was often left

blank. It's likely that many of the respondents had never thought about the "correctness" of a language variety before.

In general, "dialects" are not associated with the image of "correct," but a "language" can be. In Europe, the standard variety is based on the urban variety (or the traditional written form, as in Italian). In Japanese, it is often based on mass media announcers (Smakman 2006). In Chinese, Putonghua (Beijing pronunciation) is a descendent of Beijing Mandarin. It is noteworthy that there are standards for correctness for the Southern China "dialects" which are independent from that.

The relation between Southern China's dialectal difference and Putonghua has points of similarity with that between the medieval European languages and Latin. It also has points in common with modern northern Europe's languages and English. Rethinking language difference from the perspective of standards of mutual intelligibility and correctness is a worthwhile endeavor.

## 6.2. Varieties perceived as "pleasant"

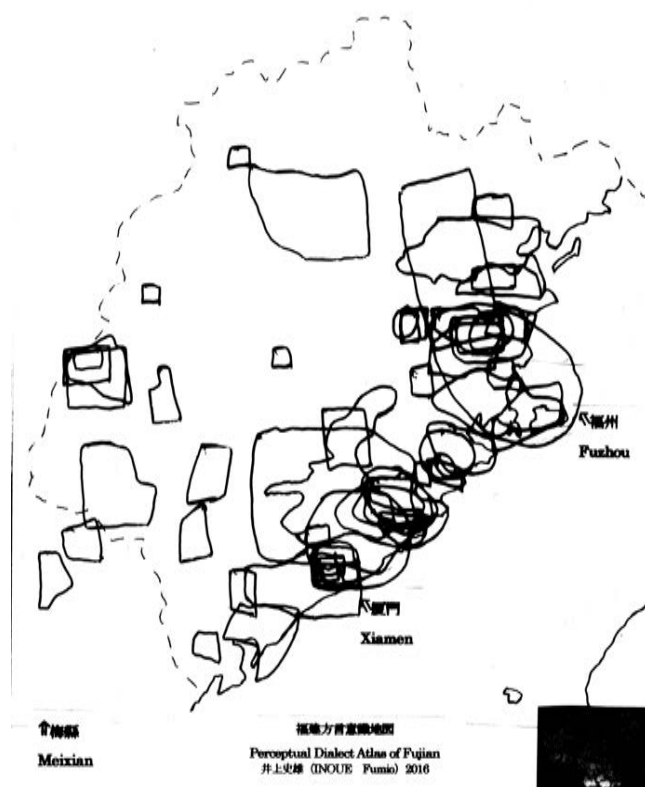


Figure 15. Dialects with a "pleasant" image

In order to represent the emotional image “Kokoroyoi” was chosen. It is the same as “pleasant,” which was used in Preston (1989). For the survey, a teacher explained its meaning orally and indicated that it does not mean “fast,” as its character does in Chinese.

It is shown in Figure 15. Respondents for this item were also few so they were combined in one map. The overall trend is similar to “correct” in Figure 14. Aside from Fuzhou, Chaozhou, Xiamen, and Hakka, the varieties of the cities of Putian and Fuqing were also indicated. There is not as much concentration as for “correct.” This does not contradict the researcher’s dialectal map (Figure 5).

It was common for informants to indicate the same area that they marked for “same language” in Figure 10. This is why there are areas marked around the north mountain region. Pleasantness is associated with one’s native dialect and a self-oriented image, a trend also observed in English (Preston 1989). Generally people feel pride and affection for their own dialect, and associate “pleasantness” with it, but this is not the case for the Tohoku dialect in northern Japan (Inoue 1989).

## 7. Conclusion

The dialects of Southern China, according to the standard thinking of mutual intelligibility, possess the status of independent languages. Furthermore, subdialects within Hokkien (Min) including Southern Min, Eastern Min, and Northern Min, also possess a status close to independent language. Tang (2009) attempted to show that they are subdialects of Chinese using evidence of their commonalities, which he found by having informants listen to recordings and analyzing sentences and word lists translated into different dialects. However, both mutual intelligibility and commonality are minimal. Considering that the European languages are positioned as national languages even though mutual intelligibility with the neighboring languages is high, and are situated as independent languages because they have a different standard variety, it would appear that Fujian has many languages with low mutual intelligibility. There is

semi-communication among Scandinavian languages, but there appear to be no such accounts for Fujian's languages. That is, it seems that the language difference is too large to allow semi-communication. What kind of linguistic assimilation might have taken place in Taiwan? (Li Zhongmin 2014). It would also be interesting to see how a speaker of Taiwan's Southern Min would react to a recording of China's Southern Min and other Fujian dialects.

If there were a region where mutual intelligibility suddenly drops, it should be observed as an overlapping of many isoglosses on the language map (dialectal distribution map). In actuality, even in Chinese, nothing more than bunches of isoglosses are observed (Iwata 2008, Hidaka 2013), so it is consistent with the idea that change in degree of mutual understanding is gradual. This can also be seen in a distribution map of Fujian lexicon. In Iwata (2009) isoglosses are observed but they rarely overlap, even around the boundary between Hakka Chinese and Min (Hokkien). The overlapping of areas of mutual intelligibility and the continuum/chain of mutual intelligibility can also be seen in a lexical distribution map.

While for Europe or America, surveys of the geographic distribution of "do not understand at all" varieties are not necessary (or possible) because dialectal differences are small, it would be worthwhile for other languages. In Japan, a perception survey would have been almost impossible in the past. It was unusual for people to hear the various dialects around the country, even through the mass media (Inoue 2015). In a pilot survey in the 1960s, the Hachijo dialect (now an endangered language according to UNESCO) and mainland dialects were found to form a mutual intelligibility continuum. However, the standard variety has spread among the young generation, so it would no longer apply. At the time of the survey, informants from several locations listened to various recordings from each of the target regions. Now, recordings from each region of identical content, such as the folk tale "Momotaro", are available. By having a large number of people listen to (snips of) the recordings, it should be possible to quantify degrees of intelligibility. Responses of "do not understand at all" might come from recordings from Ryukyu dialect, Kagoshima Prefecture and Aomori Prefecture.

A survey of "do not understand at all" varieties would be useful for Southern China. Hokkien splits into several dialects. As was shown in Table 2, mutual intelligibility

is difficult for distant regions, but there is a continuum/chain. Quanzhou is part of that continuum. Hakka Chinese is separate.<sup>2</sup>

Putonghua has spread among the students and youth of China, but when they enter college they get the opportunity to hear other dialects and see whether they can understand them or not. Some researchers may think, “There is no point in asking the dialect perception of amateurs. They will not know. It will not be reliable at all.” However, this survey has shown that this method is basically trustworthy. Superimposing the perception lines of a large number of respondents reveals several distinct regions which mostly agree. In addition, it was discovered that each region has its own center of correctness.

According to evidence from Tang (2009), it seems appropriate to say that Fuzhou and Xiamen use different languages. It would be interesting to see the results if the Putian and Quanzhou variety was added to his analysis. However, according to this study of perception by the speakers, there is no language with its own status between Fuzhou and Xiamen. It is possible to situate it as a buffer zone, and by inserting Putian, the continuum/chain is completed. As Chambers & Trudgill (1980) claim, if residents of each neighboring village (or passengers of each neighboring railway station) were asked about mutual intelligibility (or actually made to listen to a recording), there would likely be no “cannot understand at all” responses with regard to a neighboring village’s variety.

Using modern survey technology and techniques, it would be possible to expand on the 15 locations in Tang (2009). Even short of that, in-depth research using the same methodology is needed for the dialects/languages of Southern China. It would be possible to use recordings from more locations at a given survey location. Just a few samples of Northern Mandarin varieties would be sufficient. This would also allow the addition of dummies such as Vietnamese and the Zhuang language to see how their

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<sup>2</sup> The following comment is from Hiroyuki Akitani. “The dialects of Putian and Xianyou are, as the late Professor Nicholas Bodman said, typologically close to the Southern Min dialect. They were then strongly influenced by Eastern Min, and evolved into their own dialect group. The best way to treat them would depend on the goals of the research. If I wanted to reconstruct the ancestor language of Southern Min, I would include, or at least reference, data from Putian Dialect. If I were dealing with mutual intelligibility, I would treat it separately from Southern Min.”

mutual intelligibility is ranked; then they could be compared with the South China dialects/languages (in order to ascertain the relative size of their differences).

Southern China, in particular Fujian Province, is an optimal field to conduct theoretical considerations of language and dialect. General (Western) language surveys should be updated based on field surveys.

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## Appendix Survey Form

### 福州方言意識調査票 説明

2016/05/26

自分がことばや方言について持っている意識について教えてください。  
福建省について記入してください。この紙には日本の例を示します。  
普通話しか話さない人は、自分の父親のつもりで書いてください。

① 自分が生まれ育った場所に **X** を書いてください。

② ことばの違いについて、線で囲んで示してください。

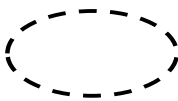
a. 同一 自分のことばと同じ範囲

太線 

b. 類似 自分のことばと似ている範囲

普通の線 

c. 相異 自分のことばと違う範囲

点線 

d. 理解不能 全く理解できない範囲

点線の外

③ ことばの感じ・イメージについて、  
線を引いて示してください。

a. 正しい correct ことばを使う範囲

横線

b. 快い comfortable ことばを使う範囲

縦線

ありがとうございました。別紙地図のみ提出してください。

