Survey of standardisation in Tsuruoka, Japan : Comparison of results from three surveys conducted at 20-year intervals

Survey of standardisation in Tsuruoka, Japan:

Comparison of results from three surveys conducted at 20-year intervals

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Abstract

This paper presents some preliminary results on the changes in the Tsuruoka dialect in the post-war years. The National Language Research Institute conducted three surveys on linguistic changes in Tsuruoka in 1950, 1971 and 1991. This paper makes the following points. (1)The third survey, conducted in 1991 after a 20-year interval, made it possible to investigate linguistic change over a period of forty years. (2)Standardisation of segmental phonemes is progressing rapidly and word accent more gradually in Tsuruoka. (3)The results of the three surveys support a model of language change in society proposed by Nomoto and Egawa in 1974.

Introduction

This paper will present some preliminary results from a research project entitled "The linguistic life of a local society — changes in the Tsuruoka dialect in the post-war years —" which, by conducting large-scale surveys at regular intervals, attempts to trace the spread of standard Japanese in one part of northern Japan.

The National Language Research Institute has conducted three surveys on linguistic change in Tsuruoka (鶴岡), a city on the west coast of northern Japan, in 1950, in 1971, and again in 1991. The purpose of the surveys was to investigate the status of the local dialect and the influence of various social factors on the spread of the standard language. This was of particular interest in the rapidly changing society of post-war Japan when the project began. This paper, using results from the third survey, makes the following points.

(1) The third survey, conducted in 1991 after a 20-year interval, made it possible to investigate linguistic change over a period of forty years.

(2) Standardisation of segmental phonemes is progressing rapidly and word accent more gradually in Tsuruoka.

(3) The results of the three surveys support a model of language change in society proposed by Nomoto and Egawa in 1974.

Project Organisation

The project is funded by the Japanese Ministry of Education and based at the National Language Research Institute in Tokyo. The following persons and organisations co-operated in conducting the research related to the 1991 phase of the project: Kiyoshi Egawa, Masato Yoneda, Seiju Sugito, Yasuo Kumagai, Masao Aizawa, Masamitsu Ito, Kikuo Maekawa, Yoshimitsu Ozaki, Shoichi Yokoyama, Masaru Inoue, Takuichiro Onishi, Rieko Ikeda, Hiroe Shirasawa, Tokie Tsujino, Michiyo Tsukada, Yoshiko Isobe, Junko Yoneda (the National Language Research Institute), Ryoichi Sato (Ferris University), Motohisa Imaishi (Hiroshima Women's University), Fumio Inoue (Tokyo University of Foreign Languages), Makoto Takada (Tsukuba University), Shinji Sanada (Osaka University), Toshiaki Suzuki (Toyama University), Yasuo Yoshioka (Kumamoto Junior College), Motoei Sawaki (Shinshu University), Kazuo Kato (Kanazawa University), Kazuyuki Sato (Hirosaki University), Hiroyuki Kanazawa (Okayama University), Yoshimichi Mizuno (Kyoto Institute of Technology), Tetsuo Nitta (Hiroshima Bunkyo Women's College), Katsumi Shibuya (Osaka University), Koichi Shinozaki (Tokyo Metropolitan University), Shingo Hayano (Sophia University, Graduate School), Shiro Hori (Tsuruoka City Library).

Background

Tokyo, the capital of Japan, is the centre of economy, culture and language. Throughout Japan, local dialects are changing under the influence of Standard Japanese. The change involves the adoption of the pronunciation, vocabulary, etc., of the language of the Tokyo area, which is, roughly defined, Standard Japanese.

Figure 1 shows the location of Tsuruoka, a small city on the Japan Sea coast of Yamagata Prefecture, in northern Japan. Figure 2 shows the main dialect groupings of Japan. The dialect of Tsuruoka is part of the Tohoku dialect group — Tohoku is the northeastern part of mainland Japan. Tsuruoka itself covers about 235 square kilometres and has a population of about a hundred thousand. The central 'old city' area was the target of the three surveys. The target area is six kilometres wide and four kilometres long, and has a population of about sixty thousand.

Figure 3 shows the numbers of informants in each survey. A survey consists of two separate parts: an area survey and a panel survey. In the area survey, we take a random sample of people to get a synchronic picture of the spoken language in the
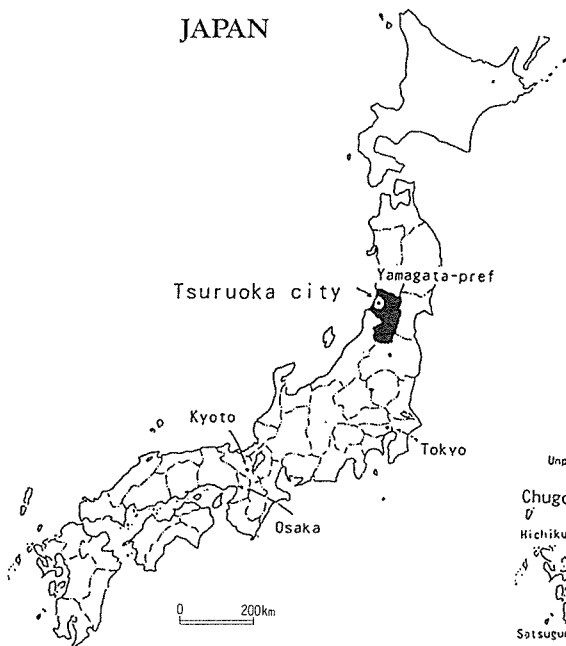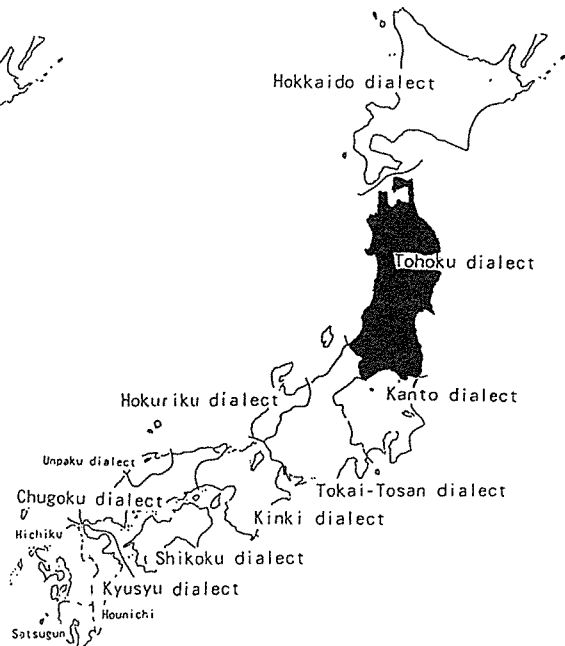
Figure 1 : Map of Japan   Figure 2 : Dialect map of Japan

area. In the panel survey, we trace the same people over the years to investigate how particular individuals have changed their way of speaking.

In 1950, we conducted an area survey only, using 577 informants randomly selected from the Register of Residents kept at the Municipal Office. In 1971, we conducted an area survey with 457 new informants, again randomly selected. In addition, we conducted a panel survey with a hundred and seven of the 577 informants from the original 1950 area survey. Finally, in 1991, we conducted an area survey with 405 new randomly selected informants, and a panel survey with 314 informants. Of these 314, 261 were informants from the 1971 area survey and 53 were informants from both the 1950 area survey and the 1971 panel survey.

We employed the same methodology in 1950, in 1971 and in 1991, to allow close comparison of the results from the three surveys. The method was similar for both the area survey and the panel survey. Each informant was interviewed individually using a questionnaire. The interview lasted about 40 minutes. The area survey also included an additional questionnaire which was mailed to the informants ahead of time and collected at the time of the interviews. Below is shown the distribution of the informants who participated in the area surveys by sex, age and educational background.

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Table 1 : Distribution of informants by sex, age and educational background

		1950		1971		1991	
			%		%		%
Total		577	(100)	457	(100)	405	(100)
Sex	Male	243	(42.1)	204	(44.6)	181	(44.7)
	Female	334	(57.9)	253	(55.4)	224	(55.3)
Age	15–19	98	(17.0)	60	(13.1)	47	(11.6)
	20–24	64	(11.1)	50	(10.9)	21	(5.2)
	25–34	130	(22.5)	88	(19.3)	65	(16.0)
	35–44	118	(20.5)	101	(22.1)	100	(24.7)
	45–54	84	(14.6)	75	(16.4)	61	(15.1)
	55–69	83	(14.4)	83	(18.2)	111	(27.4)
Education	Low	383	(66.4)	189	(41.3)	105	(25.9)
	Middle	169	(29.3)	217	(47.4)	199	(49.1)
	High	25	(4.3)	51	(11.1)	101	(24.9)

The informants' ages ranged from 15 to 69. With each survey, the number of informants in the lower age group decreased, and the number in the highest group increased. Educational background is described as low, middle and high: up to middle school, up to high school, and beyond junior college, respectively. In Tsuruoka, as in the rest of Japan, the number of people with a higher educational background is increasing.

Results of the Survey

A wide range of items were included in the survey, including: pronunciation, accent, grammar, and vocabulary; items of personal history including age, education, occupation, place of birth etc.; and items related to language use. Although we are still working on the analysis of the data from the 1991 survey, we have some results on pronunciation, including word accent. In each of the three surveys, we investigated a total of

Figure 3 : Numbers of informants in each survey, Tsuruoka

31 items, representing nine types of difference between the Tsuruoka dialect and the standard language, including differences in labialisation, palatalisation, voicing, nasalisation, and vowel quality. In the following list of words we surveyed, the phonemes we were investigating are emboldened.
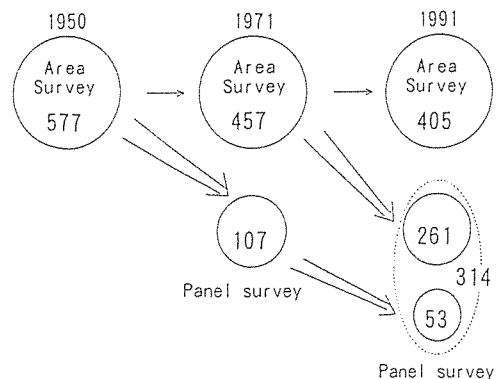
Type	spelling	standard	Tsuruoka	gloss
Labialisation I	火曜日	[kajoːbi]	[kʷajoːbɨ]	Tuesday
	西瓜	[suika]	[suɨkʷa]	water melon
Labialisation II	蛇	[hebi]	[ɸe̜bɨ]	snake
	百	[hjakui]	[ɸjakɯ]	one hundred
	髭	[çige]	[ɸiŋe̜]	beard
Palatalisation	税務署	[zeːmuʃo]	[dʒe̜ːmüʃo]	tax office
	背中	[senaka]	[ʃe̜naga]	back
	汗	[ase]	[aʃe̜]	sweat
Voicing	松	[matsui]	[madzü]	pine
	柿	[kaki]	[kagɨ]	Japanese persimmon
	靴	[kuitsui]	[küdzü]	shoes
	鳩	[hato]	[hado]	pigeon
	旗	[hata]	[hada]	flag
	蜂	[hatʃi]	[hadʒɨ]	bee
	口	[kuitʃi]	[küdʒɨ]	mouth
	猫	[neko]	[nego]	cat
Nasalisation	帯	[obi]	[õbɨ]	belt
	窓	[mado]	[mãdo]	window
	鈴	[suzui]	[sũdzü]	bell
Centralisation I	狐	[kitsuine]	[kɨdzɨne]	fox
	烏	[karasui]	[karasɨ]	crow
	墨	[sumi]	[sɨmɨ]	Chinese ink
	地図	[tʃizui]	[tʃɨzɨ]	map
Centralisation II	島	[ʃima]	[sɨma]	island
	団扇	[uitʃiwa]	[üdzɨwa]	paper fan
	知事	[tʃizi]	[tʃɨzɨ]	governor
	芥子	[karaʃi]	[karasɨ]	mustard
Vowel shift I	煙突	[entotsui]	[e̜ntotsü]	chimney
	駅	[eki]	[e̜gɨ]	station
Vowel shift II	糸	[ito]	[ɨdo]	thread
	息	[iki]	[ɨgɨ]	breath
Word accent	猫	[neˈko]	[ne̜ˈgo]	cat
	旗	[haˈta]	[hada]	flag
	背中	[seˈnaka]	[ʃe̜ˈnaˈga]	back
	烏	[kaˈrasui]	[kaˈraˈsɨ]	crow
	団扇	[uiˈtʃiˈwa]	[üdzɨˈwa]	paper fan

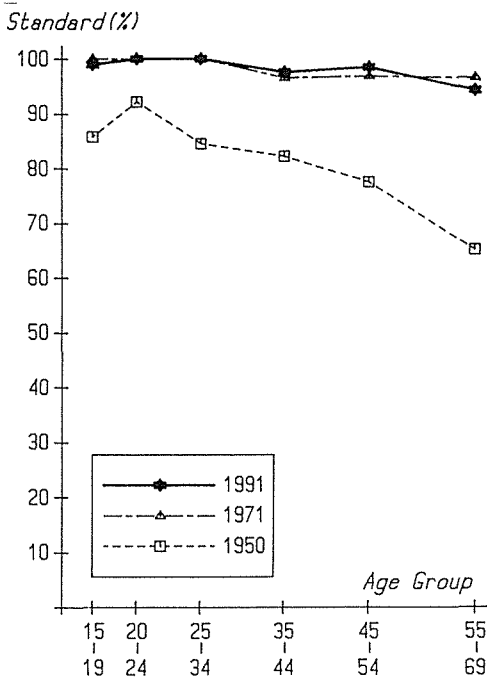The pitch marks are those standardly used in works on Japanese: ˥ represents a fall in pitch and ˩ a rise in pitch.

Standard(%)

100
90
80
70
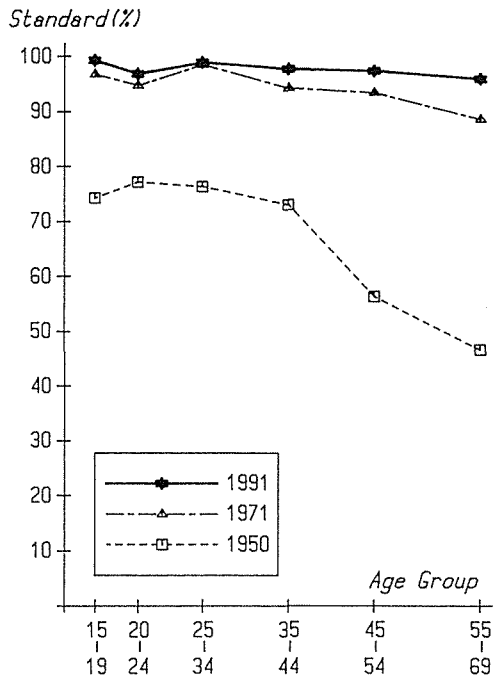60
50
40
30
20
10

Age Group

1991
1971
1950

15 20 25   35   45   55
19 24 34   44   54   69

Figure 4 : Non-labialisation I

Standard(%)

100
90
80
70
60
50
40
30
20
10

Age Group

1991
1971
1950

15 20 25   35   45   55
19 24 34   44   54   69

Figure 5 : Non-palatalisation

Standard(%)

100
90
80
70
60
50
40
30
20
10

1991
1971
1950

Age Group

15 20 25   35   45   55
19 24 34   44   54   69

Figure 6 : Devoicing

Standard(%)

100
90
80
70
60
50
40
30
20
10

1991
1971
1950

Age Group

15 20 25   35   45   55
19 24 34   44   54   69
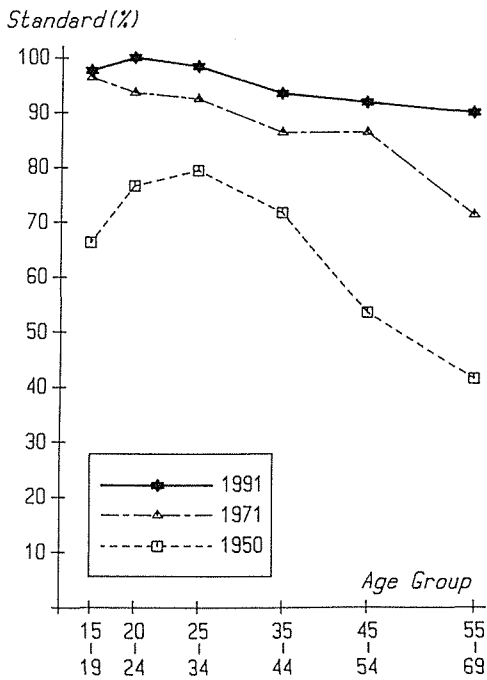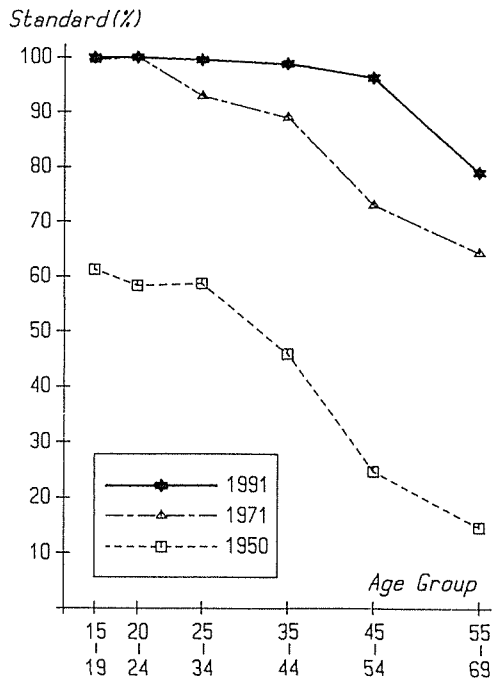
Figure 7 : Non-labialisation II

The level of standardisation turns out to vary according to the type of phoneme: consonants are more standardised than vowels, which are more standardised than word accent (pitch contour).

Consonants

The graph in figure 4 shows the rate of standardisation for *non-labialisation type I*. This is the item which had become most standardised by 1991. With *non-labialisation type I*, standardisation has reached its final stage, with all the age groups showing over 90% —most people produce the standard phones most of the time. In the graph the 1991 result is plotted with filled circles. In *non-labialisation type I*, the velar [k] of the standard language sometimes corresponds to a labio-velar [kʷ] in Tsuruoka dialect. Examples are the initial [k] in standard Japanese 火曜日 [kajoːbi] 'Tuesday' and the medial [k] in 西瓜 [suika] 'water-melon', which are pronounced in the dialect as [kʷa joːbɨ] and [suɨkʷa]. The vertical axis of the graph, represents the rate of use of the standard language pronunciation. It can be seen that almost everybody uses the standard-Japanese pronunciation. Standardisation is proceeding smoothly, because the local dialect itself already has the [k] phoneme.

Figure 5 shows the rate of standardisation for non-palatalisation. The standardisation has also reached its final stage by 1991. Standardisation is proceeding smoothly, because the dialect has the consonants [s] and [z].

Figure 6 shows another example of this type. Intervocalic voiceless consonants [k], [t], and [ts] in the standard language correspond to their voiced counterparts in the dialect. The dialect already has the consonants [k,t,s], and thus standardisation is proceeding smoothly as in the previous case.

Figure 7, for *non-labialisation type II*, shows a slightly different pattern. The oldest age group lags behind the other groups in standardisation. The same is true for figure 8, showing *non-nasalisation*. In the dialect, inter-vocalic [b], [d], and [g] nasalise a preceding vowel, as in [õbɨ], which is pronounced as [obi] in standard Japanese. Except for the oldest age group, most of the informants pronounce the word without nasalisation. We assume this pattern represents a stage of standardisation immediately preceding the previous one.

Vowel position

Finally, figure 9 shows a pattern where only the youngest groups have arrived at the ceiling. The age groups from 35 up in 1991 retain approximately the level of standardisation of 20 years ago. The same is true for three other types of vowel change,

shown in figure 10 — figure 12. It is interesting that these items all concern vowel quality. This suggests that vowels are harder to change than consonants.

We combined the data for all the segmental phonemes, in the same way as in previous surveys, to give a total score for standardisation. We gave one point for a standard pronunciation and no points for a Tsuruoka dialect pronunciation. We assigned points for all 31 items investigated and calculated the total scores for each informant. I will refer to these total scores as the phonetic scores. Figure 13 shows the distribution of cumulative phonetic scores. The graph's X-axis shows the phonetic scores and its Y-axis the percentage of informants. Over the period of the three surveys, the curve becomes progressively steeper. By 1991, over 90% of the informants scored between 27 and 31 points, and the lowest score was 9 points.

The graph in figure 14 shows the distribution of phonetic scores by age. It shows that, overall, standardisation is progressing smoothly with time. In 1950, standardisation was most prominent in the 25 to 34 age group. In 1971, standardisation was highest in the youngest age group (15 to 19 years) and phonetic score decreased progressively with age. By 1991, standardisation was all but complete, except for the oldest age groups.
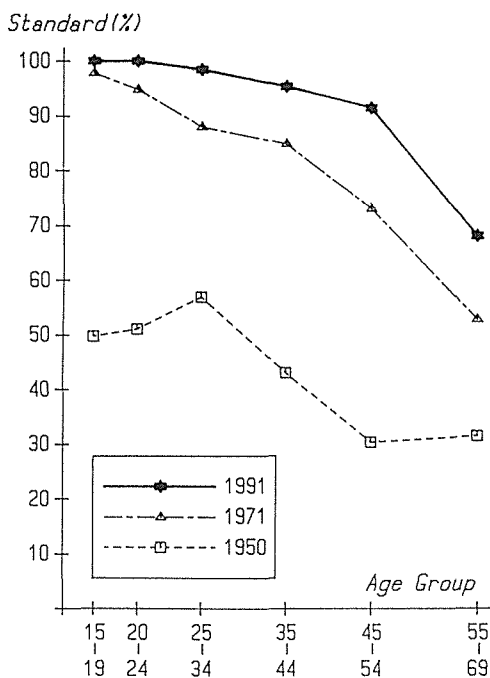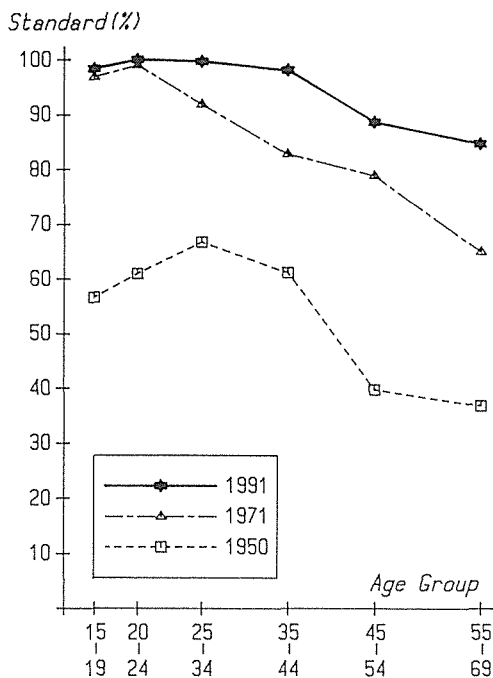

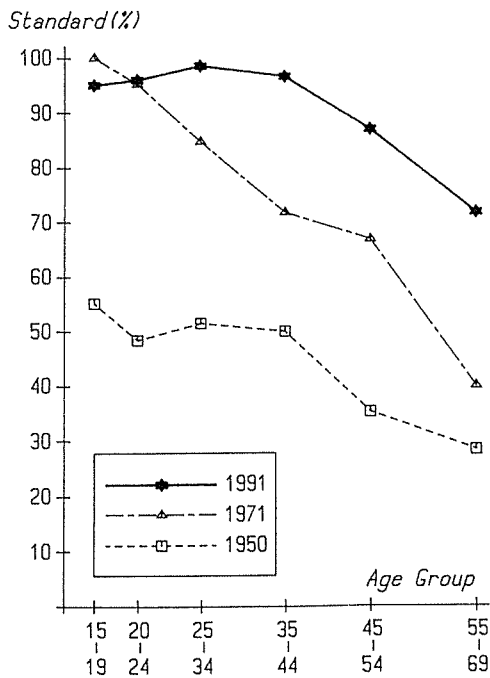Figure 8 : Non-nasalisation

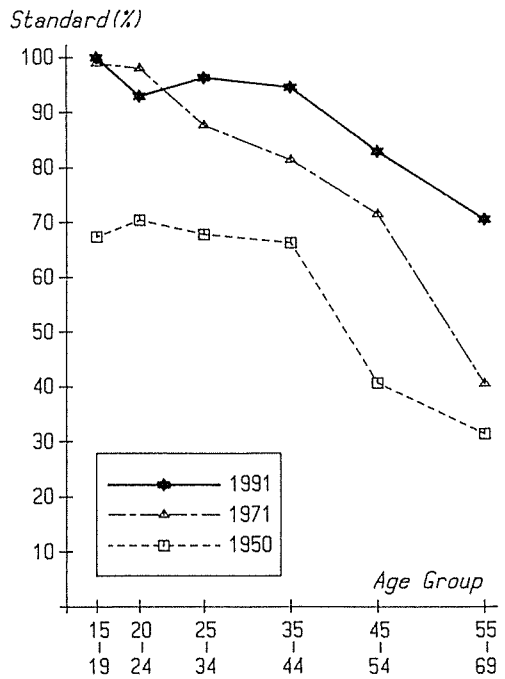Figure 9 : Non-centralisation I

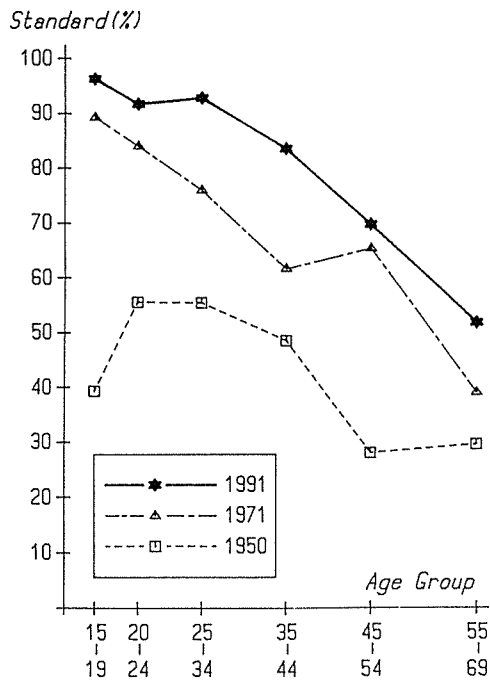Figure 10 : Vowel shift II

Figure 11 : Vowel shift I

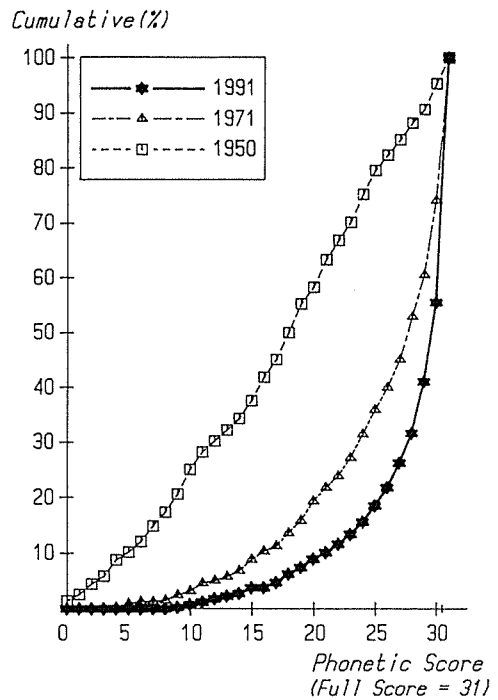Figure 12 : Non-centralisation II

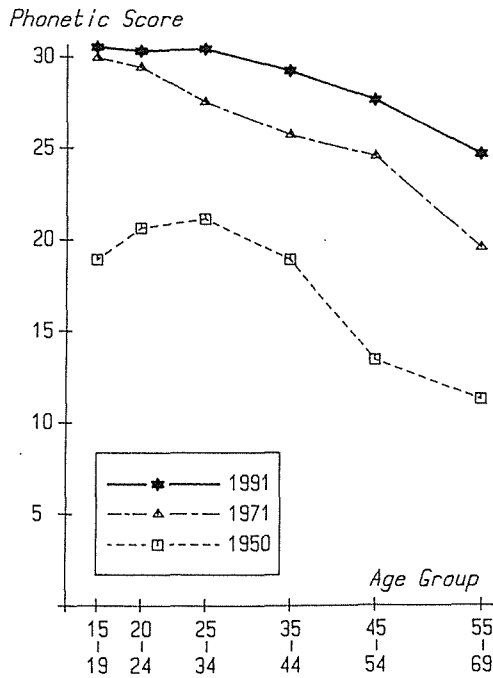Figure 13 : Cumulative phonetic scores
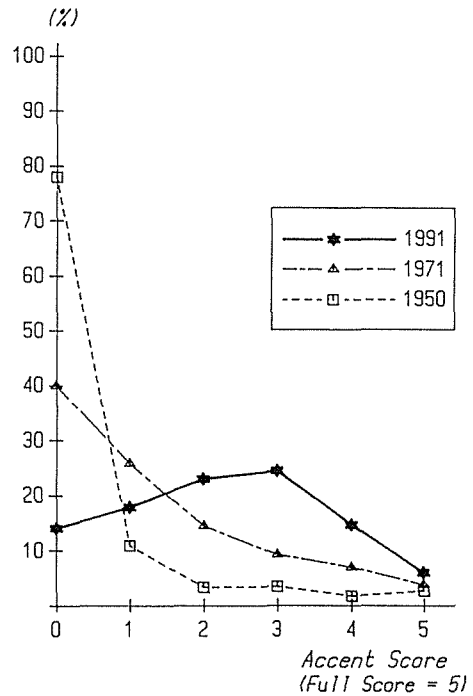
Figure 14 : Phonetic scores by age

Figure 15 : Distribution of accent scores

Word Accent

Japanese has phonemic pitch accent. Both the inventory of pitch contours and the pitch contours of individual words vary between dialects. To investigate accent in Tsuruoka, the same five words were tested in each of the three surveys:

Word	Tokyo	Tsuruoka	English
猫	[neˈko]	[neˌˈgo]	cat
旗	[haˌta]	[hada]	flag
背中	[seˌnaka]	[ʃeˌnaˈga]	back
烏	[kaˈrasɯ]	[kaˌraˈsɨ]	crow
団扇	[ɯˌtʃiˈwa]	[üdzɨˌwa]	paper fan

The pitch contours used in the Tsuruoka dialect for two of these words, 旗 and 団扇, are not found in standard Japanese at all. The contours of the other words are used in standard Japanese, but not in those words. For analysis of the survey results, we follow the same method as for the phonetic scores: we score one for a standard Japanese accent and zero for a local accent. Figure 15 shows the distribution of accent score, and figure 16 shows the distribution of accent score by age. We see here that

standardisation has not progressed very much over the years. Notably, even the youngest group has achieved only 60% standardisation, and the oldest group barely 35%. By comparing this graph to the graph in figure 14, it can be seen that the total accent score obtained by the youngest age group in 1991, about 60%, is almost the same as their phonetic score in 1950. These results support the oft-repeated claim that it is difficult to change one's accent. Compared with standardisation of segmental phonemes, accent standardisation is proceeding slowly.

The Nomoto-Egawa Model

It should be possible to explain these results, and account for the patterns with a simple model of language change. Figure 17 summarizes one such model, a model proposed by Kikuo Nomoto and Kiyoshi Egawa in 1974 in their report on our 1971 survey.

Comparing the patterns of standardisation for different age groups in 1950 and 1971, Nomoto and Egawa suggested the following progression. Initially, they assumed, there was a stage, stage 0, where there was no standardisation for any age groups. In the next stage, stage I, standardisation had not progressed much. They noted a distribution with a peak in the 25 to 34 age group. In the next stage, stage II, standardisation was more advanced in the younger age groups than in the older age groups. Lastly, in stage III, all the age groups have reached saturation level.

Thus standardisation of the language proceeded in three stages. In the first stage, people around the age of 30 were the most influenced by the standard language. During the shift from the first to the second stage, standardisation in the lower age groups progressed rapidly, relative to that in the higher age groups. In the third stage, the standard language is used throughout the society, with the older age groups catching up with the younger ones.

Some justification can be given for this model based on social changes between the two surveys. Before 1950, transport was less developed and individuals' contacts with outside areas were restricted. Given these circumstances, speakers around the age of thirty were the most likely to have a wide range of interaction with others, and so were more open to standardisation. This was the biggest impetus for the first stage of standardisation in 1950. By 1971, transport had improved greatly, increasing individual mobility. Furthermore, with the development of the mass media during the 1960's, the exposure of all age groups to the standard language increased. The Royal Wedding in 1959 and the Tokyo Olympic Games in 1964, helped to spread television throughout Japan. As a result, we find rapid standardisation in the lower age groups, which are
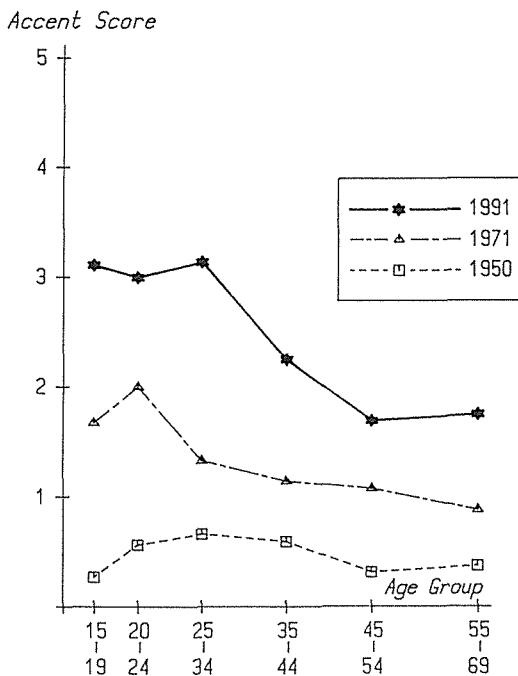
Accent Score
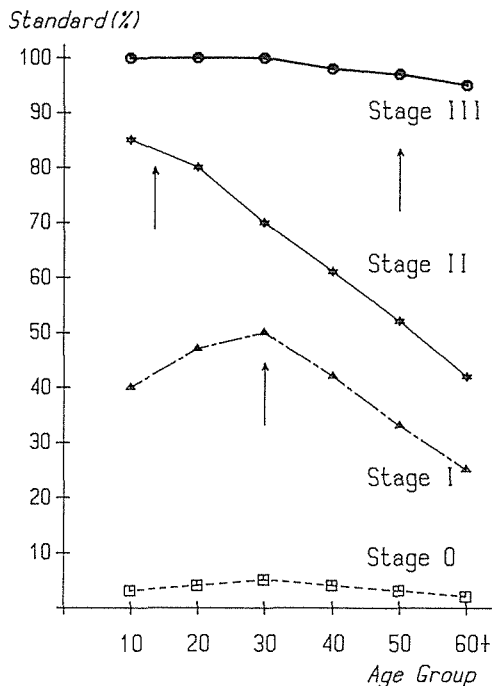
Standard (%)

Figure 16 : Accent scores by age

Figure 17 : Nomoto-Egawa model

the most sensitive to language. This was the main impetus for the second stage.

Of course, when Nomoto and Egawa proposed this model, they were working from rather sparse data. We now have the means to check their ideas. Returning to the survey results we have seen so far, we see that phonetic standardisation (figure 14) was at Stage I or the beginning of Stage II in 1950, at Stage II in 1971, and at Stage III in 1991. Accent standardisation (figure 16), which has progressed more slowly, was at Stage I in 1991.

I should like to look now at the change in particular groups of individuals over time. So far, the informants' ages have always been plotted on the horizontal axis. If the same person is plotted always in the same place, we can see just when people learn the standard language. The graph in figure 18 shows the phonetic scores in relation to the informant's date of birth, so unlike the previous graphs, the age of informants is lower and further right on the horizontal axis. This type of graph makes it easier to see the change for a given age group. Comparing the results for 1950 and 1971, standard-isation for informants born between 1916 and 1935, that is, those who were 15 to 34 years old in 1950, had progressed. However, comparing the results for 1971 and 1991, there was little change in the level of the standardisation for informants born between
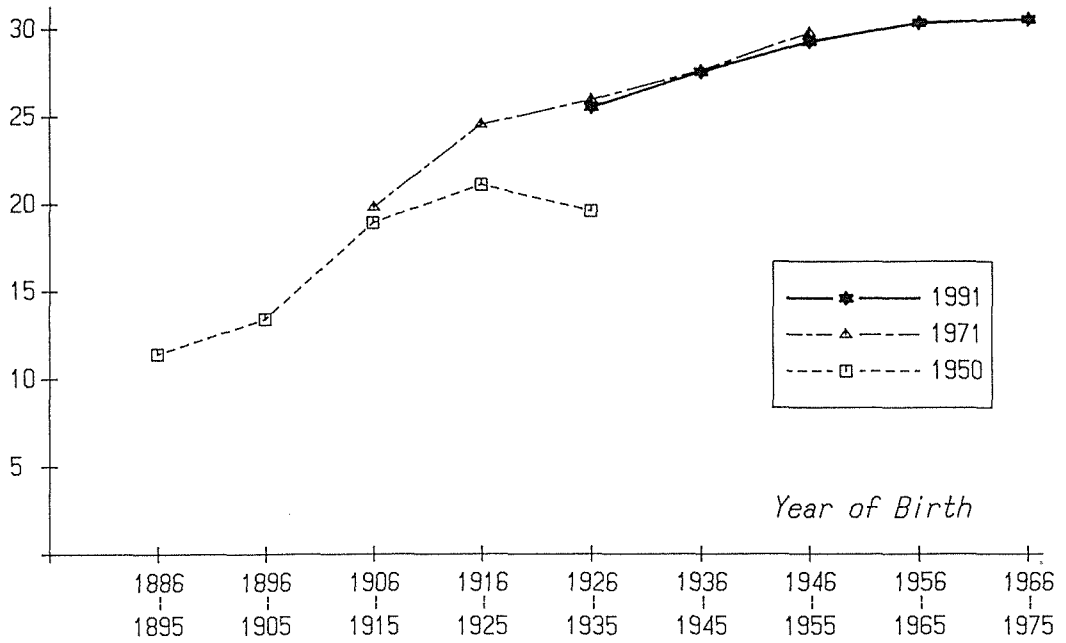
Phonetic Score

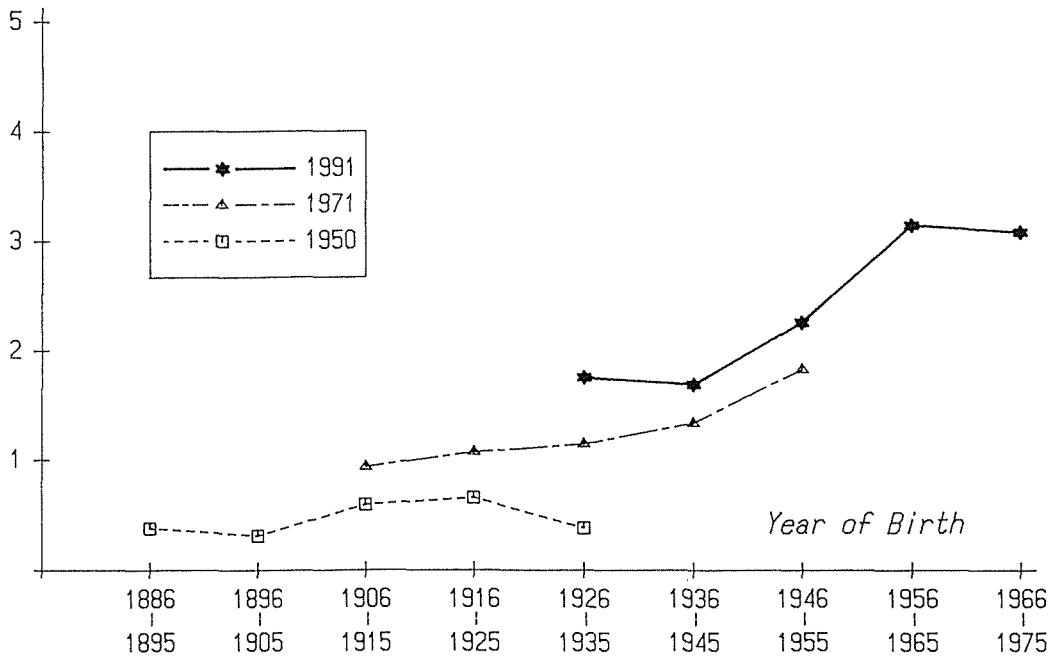Figure 18 : Phonetic score by year of birth (Full scole = 31)

Accent Score

Figure 19 : Accent score by year of birth (Full score = 5)

1926 and 1955 — people who were 15 to 44 years old in 1971. By 1971 then, this age group had stopped changing: in other words, this is the third stage of the Nomoto-Egawa model. In the case of accent though, it can be seen that there is a progressive improvement for all age groups, plotted in figure 19. Presumably the improvement will continue into the future. This is in marked contrast to figure 18.

Conclusion

In these three surveys, the oldest informant was born in 1881, and was 69 years old in 1950. The youngest informant was born in 1975, and was 15 years old in 1991. Thus we were able to obtain data on informants of an age range of about 100 years by conducting three longitudinal surveys of linguistic change at twenty-year intervals. These data enable us to make a number of substantial observations on language change in real time: (1) standardisation of pronunciation of segmental phonemes is progressing rapidly, and of pitch accent more gradually in Tsuruoka; (2) standardisation in Tsuruoka validates the Nomoto-Egawa model empirically.

This paper is our first report on the 1991 survey. We are working on a more detailed quantitative analysis of the phonetic data. This will include correlations with language consciousness, and other social factors, such as education, residential history, and occupation. We are doing the same with the lexical and grammatical items, which have not been discussed in this paper.

In addition to the 1991 survey, we conducted another survey in 1992 to investigate the effect of situation on language use in Tsuruoka. This survey was motivated by our belief that in the past surveys, we were looking at the most standardised aspects of language life, namely the language used in the most formal situations. By introducing another variable, i.e. situations, into our study, we hope to look at the informants' language ability in a more comprehensive manner. This, in turn, will help us to evaluate the results of our past surveys with respect to our initial purpose, namely an investigation of language standardisation in the everyday lives of dialect speakers.

References

The National Language Research Institute (1953) *Kokuritsu Kokugo Kenkyujo Hokoku 5 Chiiki Shakai no Gengo Seikatsu: Tsuruoka ni okeru Jittai Chousa* [Language Life in a Regional Society: An Actual Investigation of Tsuruoka City]. Tokyo: Shuei Shuppan.

—— (1974) *Kokuritsu Kokugo Kenkyujo Hokoku 52 Chiiki Shakai no Gengo Seikatsu: Tsuruoka ni okeru 20 Nen Mae to no Hikaku* [Language Life Style in a Regional Society: A Comparison of the Past and the Present on Tsuruoka City with a Twenty-Year Interval].

Tokyo: Shuei Shuppan.

—— (1988) *An Introduction to the National Language Research Institute: A sketch of its achievements* (third edition).

NOMOTO, Kikuo. (1975) How much has been Standardized over the Past Twenty Years? Fred C. C. Peng. (ed.) *Language in Japanese Society.* Tokyo: University of Tokyo Press.

CHAMBERS, F. K. (1995) *Sociolinguistic Theory: Linguistic Variation and its Social Significance.* Oxford UK & Camridge USA: Blackwell.

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鶴岡市における共通語化の調査

—約20年間隔で行われた3回の調査を比較して—

米　田　正　人

（国立国語研究所）

キーワード

概　要

　国立国語研究所では昭和25年度と昭和46年の2度にわたって文部省科学研究費の交付を受け，山形県鶴岡市において地域社会に於ける言語生活の実態調査を実施した。それにより，戦後四半世紀の急激な社会変化の中で方言が共通語化していく過程について，その実態や社会的な要因を明らかにした。本研究は，これらの成果を受け継ぎ，鶴岡市において約20年間隔の第3次調査を実施するとともに，言語変化を将来に向けて経年的に調査記述していくための基礎構築を目的として行われた。

　また，本報告は平成3年度および4年度の文部省科学研究費補助金（総合研究（A）），研究課題名「地域社会の言語生活—鶴岡市における戦後の変化—」（課題番号03301060）（研究代表者　江川清）の交付を受けて行った調査研究のうち，音声，アクセントの共通語化について一部をまとめたものであり，平成5年8月，カナダのビクトリア大学で行われたMethods Ⅷ（方言研究の方法論に関する国際会議）で口頭発表した内容に加筆訂正したものである。