

Review: The speech corpus and database of Japanese dialects

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The Speech Corpus and Database of Japanese Dialects (henceforth *SCDJD*) is a recording of readings of words, phrases, sentences, and texts in Japanese dialects. The focus of the speech material is on prosody, in particular, on accentual variations, and to a lesser extent on intonation. In addition to the dialectal materials, *SCDJD* contains speech of the minority language Ainu, Japanese traditional singings, school children's speech, and speech by the foreign learners of Japanese. It consists of nineteen CDs, which are referred to as speech corpus and three CD-ROMs which are referred to as a database.

SCDJD is the outcome of a national research project *Integrated Studies on Prosodic Features of Current Japanese Language with Application to Spoken Language Education* (project leader Miyoko Sugito), which was funded by the Ministry of Education, Science and Culture in Japan for the period of 1989-93. The project stands out both in its scope and scale, involving nearly three hundred specialists. The project was divided into four major groups, engaged in (1) collection of speech data and dialectal analysis, (2) creation of a speech database, (3) acoustic, physiological, and linguistic analysis, and (4) pedagogical application (for details, see Sugito 1994).

The thought behind the project is an increasing awareness of the importance of studying dialects. The regions in which Standard Japanese is spoken are rather limited. Instead, it is the dialect which is closely linked with everyday life of the region. Yet many of the dialects are currently undergoing a rapid change due to the influence of mass media. A detailed analysis of each dialect is urgently needed, as well as the preservation of dialects in a permanent form.

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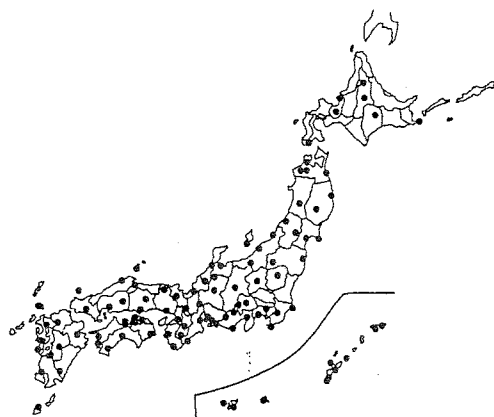


Figure 1. The 105 survey points across Japan (from Sugito 1994).

A significant portion of *SCDJD* contains the speech material called the 'National Survey Checklist', which was compiled specifically for the project. The content of the National Survey Checklist with information on the exact quantity as well as the main phonetic features around which the material was prepared, is summarised in Table 1. The speech of two elderly or middle-aged dialect speakers was recorded at 105 different survey points across the country, as shown in Figure 1. The entire material in the National Checklist was recorded by every informant.

National common items (1) and (2)

These two CDs contain speech of a single speaker for each of four cities, Aomori, Tokyo (NHK announcer), Kyoto, and Kagoshima. Other speakers of these variants are also represented in the volumes *Western and Eastern Japanese dialects*. Aomori is a representative of Tohoku dialect, which deviates markedly from Standard Japanese in its vowel quality and rhythmical structure. Kyoto, a representative of Kansai dialect which was a standard form of Japanese until about 100 years ago, contrasts drastically with Tokyo (Standard) in its pitch accent pattern, among other things. Kagoshima, the southernmost prefecture of the main island of Japan, differs from Standard Japanese both in accentual and rhythmical structure. Items of the National Survey Checklist A-1, A-2, B-1, C, D are contained in

Table 1. Summary of National Survey Checklist, according to the 1990 (May) revised version.

Contents	Target feature(s)
A <i>Vowel/accents items</i>	
A-1 Nouns and adjectives in isolation (18 words)	vowel quality
A-2 Mono/bi-moraic nouns in isolation/sentence (28 words x 2)	accent
B <i>Word/phrase accent items</i>	
B-1 Addition to A-2 with five more particles (28 words x 7)	accent
B-2-1 to 6-mora-length nouns in isolation, with <i>ga</i> -particle, and in a short sentence (234 words x 3)	
B-2-2 Verbs and adjectives in isolation (83 words)	
C <i>Verbs and adjectives with their agglutinated forms</i> (58 words x 7/4/3)	accent
D <i>Question intonation</i> (26 units)	intonation
E <i>Text items</i>	
E-1 <i>Momotaro</i> (dialect version)	intonation, pause etc.
E-2 <i>Momotaro</i> (standardised version) (6 sentences)	
E-3 Weather forecast (standardised) (10 sentences),	
E-4 <i>Kiri</i> (standardised) (15 sentences)	
F <i>Educational items</i>	
Greetings (8 sentences)	general
Question and answer (19 units)	
Telephone conversation (7 units)	
G <i>Numerals and Japanese syllabaries</i>	general

volume 1 and items B-2-1 and B-2-2 in volume 2. Speaker age varies from 49 to 80.

Western Japanese dialects (1) - (6)

These six CDs contain speech from the southern and western parts of Japan including Okinawa, up to Ishikawa and Toyama prefectures. With few exceptions, a single speaker represents each prefecture, speakers' ages varying between 61 and 88. Volumes (1), (4), (5) contain items A-1, A-2, and D while Volumes (2) (3) (6) contain items B-1 and B-2-2.

Eastern Japanese dialects (1) - (5)

These five volumes contain speech from the eastern and northern parts of Japan, starting from Hokkaido down to Gifu and Aichi regions. Volumes (1) and (3) contain items A-1, A-2, D while volumes (2), (4) and (5) contains items B-a and B-2-2, speaker age varies from 58 to 80.

Momotaro and weather forecast

This CD contains the readings of the famous story for children, *Momotaro* 'Peach-boy', and the weather forecast which was specifically written for the

recording (cf. items E-1,2,3). For *Momotaro*, both standardised and dialect versions are presented by the same speaker. It contains recordings made in the following seventeen prefectures, twenty-one survey points: Tokyo, Hokkaido (2 survey points), Aomori, Yamagata, Miyagi, Tokyo, Toyama, Shizuoka (2 survey points), Aichi, Kyoto, Osaka, Nara, Okayama, Shimane, Yamaguchi, Hukuoka, Kagoshima, and Okinawa (2 survey points). The speakers' ages varied from 58 to 81.

The dialectal version of *Momotaro* is highly enjoyable, as it exhibits not only the phonetic variations but also lexical and grammatical variations in the dialect. It is suitable for demonstration and for some basic analysis among dialects. Most of the speakers in this CD differ from those who recorded word and phrase items contained in other volumes. It would have been ideal to have the same speaker throughout, from a purely phonetic point of view.

Recitation by school children

This CD contains readings of texts by children at various levels of primary school. Children represent five places; Tokyo, Osaka, Hyogo, Akita, and Saga. Variations in the dialectal background, however, turned out to have little significance since their speech exhibits little trace of their dialects. It is clear that they have practised readings well beforehand with Standard Japanese as a model and presumably children with best performance were chosen for the recording. It would have been more interesting to record the real dialects spoken by this younger generation. The CD also includes an NHK announcer explaining to the children how to read text successfully, by paying attention to meaningful units, pause and intonation. This seems to be redundant. Also, it is not clear why these five places were chosen instead of the same four places represented for the 'National Common Items' volumes.

The speech of Ainus

Ainu is a minority language spoken in the northernmost part of Japan, which is now on the verge of extinction. It is widely accepted that Ainu is genetically distinct from Japanese (cf. Oono 1957). This volume contains ten speakers of Ainu, representing Hokkaido and Karahuto dialects, who are all above 64 years of age at the time of recording. The speech material consists of mainly story tellings but also includes dialogs and a folk song. Except for two recent recordings (1990 and 1991), they are selections from earlier recordings gathered during 1955 and 1978. This partly explains the poor quality of the recordings, which includes much background noise. The

recent ones recorded by an 88 year-old woman, the last speaker of the Karahuto dialect, are in good condition. Her speech, however, is not very intelligible due to old age. Precious collections, but the poor recording quality is unfortunate.

Ryukyu dialects

This CD is dedicated to the recordings of the Ryukyu (Okinawa) dialects, one of the two major dialects of Japanese. The other dialect, called a main island dialect, includes all other variants of Japanese (cf. Hirayama 1968). It contains the speech of Ie-sha and Nakijin (one speaker each), which both belong to Northern Ryukyu dialect. Speech material consists of syllables and mono-, di-, and tri-syllabic words.

Apart from a contrast between laryngealised vs non-laryngealised sounds, Ryukyu dialects contain many other interesting features such as preservation of [p] and extra vowels, which are considered to correspond to the features of Old Japanese. Ryukyu dialects are also known to exhibit different rhythmical and accentual patterns. For this volume, the entire speech material is accompanied by accent marks as well as the marks to indicate difference in laryngealisation, which makes the user comfortable. It is unfortunate, however, that identical materials were not used for Ryukyu dialect in order to enable more direct comparisons, even though many of the words are taken from the National Survey Checklist.

Japanese learners' speech

This CD contains the speech of five learners of Japanese with background from Indonesian, Korean, Thai, Chinese, and French. The speech materials are of three kinds: two types of dialogue and one monologue. The materials are phonologically balanced to include major syllable types and some characteristic intonations. Here, not only the age of the speakers (from 25 to 64) but also their durations of stay in Japan (1,7 to 28 years) vary considerably. It would have been more significant if the learners' backgrounds had been more evenly balanced.

Japanese traditional and western singing

This CD presents a unique collection of traditional Japanese singing styles and other oratory styles including: *syoomyoo*, *kyoogen*, *noo*, *gidayuu-bushi*, *tokiwazu-bushi*, *naga-uta*, *ji-uta*, *Yamada-ryuu soo-kyoku*, *minyoo*. In addition, three kinds of modern western singing – soprano, tenor, and baritone – were sung by professional singers. A uniform phrase *kaede*

irozuku yamano asawa 'in the morning when maple leaves turn red' was sung by a singer representing each singing style. It was first sung like a telling, and then in a proper singing style. Each singer then pronounced the five Japanese vowels both in singing voice and in ordinary voice. Apart from these common items, some singers made extra performances as typical for their preferred styles.

This volume is distinct in its evenness of recording quality apparently because all the speakers were professional singers and because all the recordings were made in a soundproof studio. An accompaniment of a detailed commentary for each singing sample makes this volume highly enjoyable.

In addition to the above nineteen CDs, *SCDJD* provides three CD-ROMs. They are: *Momotaro* and Weather forecast (E-1,2,3), Sound and accent items (A-1 and A-2), and Interrogative intonation (D). The contents of CD-ROMs are basically the same as those contained in CDs. Speech data which were not included in *SCDJD* are stored on over 1000 DATs and located in Tokyo and Osaka.

SCDJD makes a large speech corpus of various kinds highly accessible. The materials are carefully constructed to allow some basic comparison of dialectal accent patterns. It should be a valuable tool for phoneticians, dialectologists, and language researchers and can be used by students and specialists alike. It requires, however, some basic knowledge in Japanese since all the materials are written in Japanese script.

Founded on the rich tradition in the study of accents, the *SCDJD* presents a joint effort of the Japanese phoneticians and researchers in related areas to mark the end of the 20th century. An admirable achievement.

Acknowledgement

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Computer simulation of word associations and crossword solving

Bengt Sigurd

When you say *house* to somebody, he or she might associate to *mouse* or to *mortgage*. People's associations to words follow two main paths: form or meaning – sometimes both. Associations to form may be associations to the written form (spelling) or to the pronunciation (or to the pronunciation derived from the spelling). The spelling might influence the associations. If you hear the word *bill* you might associate it to *money*, but if you have seen the spelling *Bill* the association *Clinton* is more natural, at least to an American these days.

There has been much research concerning associations and suggestions that some associations are more normal than others (see e.g. Hörmann 1979). When given the word *Tisch* (*table*, *table*, respectively) 29% of the German subjects first answered *Stuhl*, 53 of the French subjects *chaise* and 84% of the English subjects *chair*. When presented with the word for *hand*, 20% of the German subjects, 25% of the French subjects and 26 of the English subjects replied with the word for *foot*. The response to the word for *soft* was in about 40% of the cases words for *hard*, the response to words for *eating* was in about 25% of the cases words for *drink*. The word *Haus* elicited *Hof* from 14% of the German subjects. *Maison* was answered by *toit* by 14% of the French subjects and *house* was answered by *home* by 25% of the English subjects.

Psychologists have long taken an interest in the free associations and lists of associations. Some experiments have also measured the reaction times. Free associations interested Freud as unexpected associations or avoided associations could have sexual reasons according to him. Psychologists have noted that children have more syntagmatic associations, i.e. associations to words which often follow, as e.g. *dog* : *barks*, *fine* : *weather*. Adults tend to have more paradigmatic associations, i.e. associations to words of the same grammatical category, as illustrated by *cat* when the stimulus is *dog*, and *run* when the stimulus is *walk*.