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WORD-ACCENT CHANGE IN PROGRESS IN JAPANESE
--- MULTI-VARIATE ANALYSIS OF SOCIOLINGUISTIC GROUPS ---

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1. SUMMARY
Pronunciation change in the word accent of loanwords of European origin is now in progress in Japanese. In this study extensive data were acquired, and the relationships between accent usage and speakers' sociopsychological characteristics were ascertained with the use of a multivariate analysis. The influence of social groups on linguistic change was also observed.

2. THEORETICAL FRAMEWORK
Words familiar to speakers are generally found to proceed faster in linguistic change. Social groups are also influential in the adoption of new forms. Linguistic phenomena as a result function as a symbol of group identity. Recent changes in the accent of loanwords in Japanese give clear examples of the influence of these group factors.

3. RECENT CHANGES IN THE ACCENT OF LOANWORDS
Japanese pitch accent has a distinctive function and the position of high pitch can distinguish segmentally minimal pairs, e.g. hashi (HL = falling = marked accent) 'chopstick' and hashi (LH = flat = unmarked accent) 'bridge'. Loanwords of European origin are usually pronounced with the marked accent, falling at the third syllable from the end (i.e. antepenultimate mora).

However, a change in the accent of European loanwords is currently occurring among young people; several loanwords are pronounced with the flat, unmarked accent. Use of the new accent seems to be characteristic in certain social groups whose members are familiar with the words in question. For example, riders of motorbikes pronounce the word baiku 'bike' with a flat unmarked accent. People using computers tend to pronounce disuku 'disk' with a flat accent. The general public, however, tends to pronounce these words with the marked (antepenultimate) accent.

4. METHOD OF RESEARCH
Accent in loanwords has been extensively surveyed among university students in the Tokyo metropolitan area to ascertain the use of accent in loanwords. A cassette tape was made by a
veteran broadcast announcer, in which each word was pronounced in two or three possible (flat or falling) pitch accents. The tape was played back to university students in classrooms, and the students were asked to tick the accent they usually use or hear in a questionnaire. At the end of the questionnaire, they were asked to check extralinguistic questions related to social and sociopsychological attributes.

As the geographical differences of accent are quite conspicuous in Japan, only the students born and brought up in the Tokyo metropolitan area were selected for the statistical analyses below.

5. RESULTS
5.1. Overall tendency of flat accent
A flat accent not recorded in accent dictionaries was found to be widely used. Students showed more flattening of accents than had been reported earlier in other accentual research. The differences in real time and apparent time verify that accent flattening is now in progress in Tokyo Japanese.

5.2. Multivariate analysis of accent and attributes
The data was analyzed by "Hayashi's Quantification Method Type 3" (hereafter "Hayashi 3"), a multivariate analysis which was developed for non-numerical, categorical data and which gives similar results to factor analysis. "Hayashi 3" was applied to the answers for accent usage and sociopsychological attributes, first separately and later jointly. The results showed that words pronounced with flat accent can be classified according to the semantic fields of the words, that students can be classified by sociopsychological attributes into introversive and extroversive types, and that the semantic fields of words and sociopsychological attributes of students show a close relationship.

5.3. Sociopsychological traits of users of flat accent
Cross analysis between the use of the flat accent and the sociopsychological attributes showed that in general the newer flat accent is used more often by students with active and extroversive characters. In Figure 1 the number of words with flat accent is counted for each student and average values are computed for the sociopsychological attributes. The sociopsychological attributes are arranged in the order of values of the 1st axis of "Hayashi 3". It shows that students with extroversive traits

![Figure 1. Average number of flat accent by sociopsychological attributes](image)
(righthand side) tend to use more flat accent and those with introversive traits (lefthand side) less flat accent.

5.4. Social groups and flat accent

Thus clear relationships have been ascertained between the flattening of accent of loanwords and the general sociopsychological attributes of the subjects. But at the same time, many students are found to pronounce words which are connected with their hobbies or social activities with a flat accent. Though the extroversive students adopt the flat accent more widely, even the introversive students who are generally slow in adopting the new accent use the flat accent in those fields which are closely connected to their interests.

Several typical examples are shown in Figure 2. In Figure 2a, students who ticked the item "I like mountain climbing" (who are generally classified in introversive types as shown in Figure 1) adopt the flat accent more in technical loanwords 'zakku' (< Sack, German), 'haaken' (< Haken, German) and 'zairu' (< Seil, German), than those who did not tick the item. Figure 2b shows that those "interested in audio equipment" (who are also classi-
fied in the introversive group) use more flat accent in the related terms 'gitaa' (guitar), 'bideo' (video) and 'disuku' (Compact Disk) than those who are indifferent. Figure 2c shows that those who 'like motorbikes and cars' use more flat accent in words like 'balku' (motorbike), 'hoiiru' (wheel), 'mafuraa' (muffler) than those who are indifferent.

6. LINGUISTIC PROCESS OF DIFFUSION

The basic reason for the influence of these small 'interest' groups is that loanwords in Japanese (and in general) have lexicologically special characteristics. Their meanings are often very specific, so that they are not used so often when considered in the community as a whole; but they are used very often in certain small social groups. When a change occurs in a loanword, the new phenomenon is often used in a group, and has a good chance of spreading within the group. But outsiders have little chance to notice the new phenomenon.

New accent then works as a kind of jargon symbolizing identity for group membership. The flat accent becomes a 'marker' to show degrees of the 'accommodation' of group members.

The accent flattening spreads to other loanwords specific to the group. The basic mechanism of this change in progress can be explained by the theory of 'lexical diffusion'. Accent flattening is a reflection of a long historical tendency in Japanese. Flat unmarked accent in loanwords symbolizes that the words are no longer 'foreign' to the speakers. The new flat accent is now becoming symbolic of 'experts' in a certain field. This kind of speakers' evaluation would be a typical case of the 'embedding problem' of sound change in progress (Labov 1972). When the social group in question has a high social prestige, the accent flattening diffuses outside the group.

7. CONCLUSION

In this study, a suprasegmental phenomenon was found to be undergoing a change in progress, and sociopsychological attributes of the speakers were found to be influential in the use of the new flat accent. The application of a multivariate analysis successfully verified this relationship.

The influence of spontaneously-formed groups on language has been ascertained in nearly homogeneous social groups of university students. This phenomenon is suggestive of the incipient process of linguistic diffusion in small groups (and in small geographically isolated villages). In a homogeneous social stratum at least, linguistic differences are determined by so-called sociopsychological attributes. The sociolinguistic study of linguistic change should now move beyond the classical model of social stratification and expand itself into the field of the sociopsychological study of language use (Inoue 1986a, b).

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