

UTTERANCE OVERLAP AND LONG SILENCE AMONG THE BAKA PYGMIES: COMPARISON WITH BANTU FARMERS AND JAPANESE UNIVERSITY STUDENTS

Daiji KIMURA

*Center for African Area Studies,
Kyoto University*

ABSTRACT The temporal structure of conversation was studied among the Baka Pygmies in southeastern Cameroon, in comparison with those of the adjacent Bakwele (Bantu farmer), and Japanese university students. A time sampling method was applied to analyze utterance overlap patterns. In Baka conversation, utterance overlap was not used strategically to take conversational turns, but rather a form of behavioral synchronization. Similarly, long silence was not a failure in the turn-taking, nor indication of the termination of a conversation, boundary of a sentence, or politeness, but can be regarded as a “mode of co-presence.” The Baka can co-present without continuous mutual utterance, probably because they live in a “high-context” situation.

Key Words: Baka Pygmies; Conversation; Turn-taking; Utterance overlap; Long silence

INTRODUCTION

Conversation is one of the most common medium in human social interaction. As for the study of conversation in anthropology, there have been two trends. One is an approach in sociolinguistics or ethnography of speech (e.g. Hymes, 1974), in which a conversational style is treated as a variable which explains social order. For example, differences in politeness in two societies is explained by the usage of terms of respect.

On the other hand, conversation analysis (CA) descended from phenomenological sociology, focuses on the interactional structure of conversation itself (e.g. Sacks et al., 1974). However, CA has been mainly applied in Western societies, and few anthropological work apply CA (Moerman, 1988; Sugawara, 1991; Kimura, 1990, 1991).

In this paper, I analyze two specific conversational characteristics of utterance overlap and long silence among the Baka Pygmies in southeastern Cameroon (Fig. 1), using a CA framework. According to CA, both utterance overlap and silence are minimized in usual conversations in Western societies. This principle entails the conversational system called “turn-taking.” In the Baka society, however, overlap and silence are quite frequently observed. This finding may be a counter example against the universality of turn-taking conversational systems in human societies, as well as basic data to understand the principles of social interaction of hunter-gatherers, including the Baka.

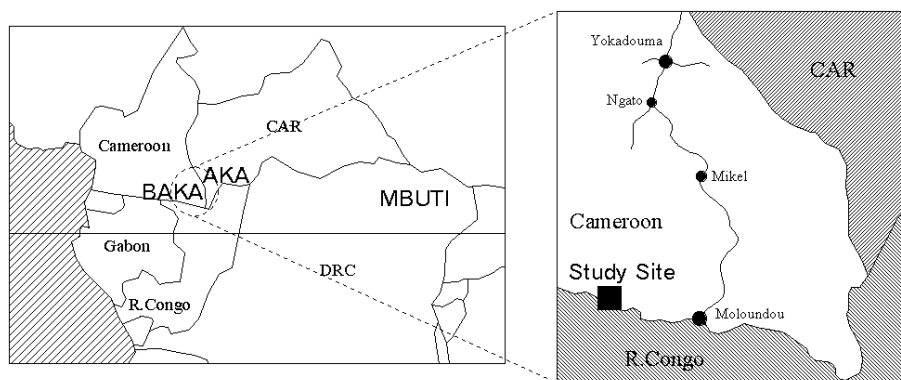


Fig. 1. Study area.



Fig. 2. Sight of a Baka's village.

To study the temporal structure of conversation, I employed the time-sampling method, which is commonly used in ethology (Martin & Bateson, 1986). For comparative analysis, I also observed two other ethnic groups; the Bakwele Bantu-speaking farmers living in the same area as the Baka, and Japanese university students. The comparison of conversational style between the Baka and the Bakwele has been already reported (Kimura, 1995) in Japanese. The data for Japanese was newly added for this paper.

To begin, I briefly describe how I became interested in the Baka conversational system. In September 1993, two colleagues and I conducted an extensive survey of the rain forest area of Cameroon (Fig. 1). A well-maintained and wide road for logging had been constructed there, and small dome-shaped huts (*mongulus*) were built along the road (Fig. 2). Stopping at one of these hamlets, we asked the Baka residents whether we could pitch tents near their huts, and they agreed. Having read the work of Colin Turnbull (1961) and my Japanese colleagues, I had expected that the so-called Pygmy people were lively and rather clamorous. However, their



Fig. 3. Baka's *mbanjo* (assembly house).

remarkable calmness struck me at the first encounter. I noticed especially that their response to our question was always delayed for an instant, when compared with the timing in Japanese conversation. This was also quite different from that of the neighboring Bantu people.

The following year, I entered a Baka hamlet for intensive survey. Everyday I attended the gathering at the assembly house (*mbanjo*, Fig. 3), and noticed that very long silences occurred frequently. However, once the talk became excited, their utterances overlapped quite often. It reminded me of the polyphony in their well-known singing and dancing (*be*). My intuition was that these features were not only the characteristic of their conversation, but also related closely to their basic attitude to social interaction.

SUBJECTS AND METHOD

I. Subjects

1. *The Baka*

The Baka inhabit the border area of Cameroon, the Republic of Congo, and the Central African Republic (Fig. 1). The population is estimated to be 30,000-40,000 (Ndii, 1968). They are one of the major so-called Pygmy groups in the African tropical rain forest, alongside of the Aka in Central African Republic, and the Mbuti/Efe in Eastern DRC (Democratic Republic of Congo; former Zaire) (Bahuchet, 1993). The Baka language belongs to the Oubanguian group (Greenberg, 1966), which is relatively remote from the Bantu language group.

The Baka are known to be a hunting and gathering people. However, in the last 30-40 years, their subsistence has shifted towards agriculture and commercial hunting/fishing, and the sedentarization has progressed (Stromayer & Ekobo, 1991). Even so, they still retain their own unique culture such as singing and

dancing. Their attitude to social interaction, which I analyze in this paper, is also quite different from adjacent Bantu farmers.

The intensive field study was conducted in the village called “Baka” ⁽¹⁾. It was located about 60 km upstream of Moloundou, a central town near the border of Cameroon and Republic of Congo (Fig. 1). The village was comprised of two clusters. Adjacent to the east cluster, there were several houses of the Hausa and the Bakwele. I stayed in the west cluster, which comprised of the Baka people only. In 1994, the population of the west cluster was 71 (18 adult males, 20 adult females, and 33 unmarried children). Most houses were farmer-like and rectangular, with mud walls. Traditional dome-shaped huts (*mongulus*) were few.

In August and September 1994, I conducted time sampling in the houses or the assembly hut (*mbanjo*). Simple benches were set up in the hut, and a fire was made at the center. The persons who came there were mostly adult men and children, but adult women were not excluded. They chatted, ate, played board games, or made tools.

2. *The Bakwele*

The Bakwele are a Bantu-speaking ethnic group living in southeastern Cameroon and northern Republic of Congo. They mainly engage in farming and fishery. According to Guthrie’s classification, they fall into Bantu A-85B (Guthrie, 1971). The Bakwele and Baka can understand each other’s language fairly well. In addition, most Bakwele and Baka adult men also can speak French and Lingala, the major lingua franca used in central Africa, as common languages.

Unlike the Mbuti/Efe in the DRC, no clear patron-client relationship was confirmed between the Bakwele and the Baka, but in some aspects of their interaction, social segregation was evident.

Two kilometers southwest to the “Baka” village in which I stayed, there was a Bakwele village called Ndongo, populated by some 100 people. It faced the Ngoko River, and reachable from Moloundou ⁽²⁾ by the outboard (Fig. 1).

The sampling was carried out in August and September 1994, at the “salon” of their house (Fig. 4), or in the courtyard in front of the house.

3. *Japanese*

To collect the third data set for comparison, I observed Japanese conversation in February and March 2000 at a cafeteria in a certain university in Japan. The speakers were mainly university students. Two additional data sets were also added in the analysis: one was collected in 1994 at the reception room of a certain Japanese office in Africa, and another was sampled in 2000 at the banquet of an academic assembly in Japan.

For sampling, I sat near the speakers, pretending not to listen to their conversation.



Fig. 4. “Salon” in Bakwele’s house.

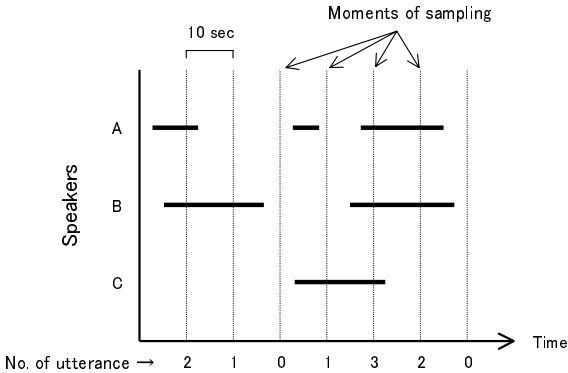


Fig. 5. Turn-taking and sampling method.

II. Method

1. *Preceding studies on turn-taking*

Before explaining the sampling method, I will briefly summarize the characteristics of the turn-taking system (Fig. 5). Suppose that three participants A, B, and C gather and start a conversation. The horizontal axis shows the time, and the utterance of three participants are represented by the solid bars. Participant A talks, stops, then B talks, stops, and so forth. Consequently we can obtain a sequence of utterance turns such as A-B-A-C-B...

The principle of turn-taking is that “one person talks at a time” (Sacks et al., 1974). This can be accomplished by keeping to the following two constraints.

1. Overlapping utterance must be shortened.

2. Silence between utterances must be avoided.

It has been assumed that this principle is unexceptionally observed in human conversation. For example, Moerman (1988) concluded the in Thai conversation, the principle was kept fairly well. However, the characteristics which I found in Baka conversation were violating both of these constraints.

2. *Sampling method*

In the time sampling, the numbers of speakers (2, 1, 0, 1, 3...) are counted at 10 second intervals (Fig. 5). Hereafter I will use the term “unit” to indicate one sampling instance.

The actual sampling was conducted at the very place where people gathered and talked, because audio recording does not record well subtle situations such as the incoming and outgoing of the participants, or interventions from far away. I selected the situation in which not less than 3 persons were present, without any “main involvement” (Goffman, 1963) other than talking. In some cases of Baka and Bakwele conversations, unmarried children attended the gathering. But they were not added to the number of participants, because they usually did not barge into adult conversations.

For these three ethnic groups of the Baka, Bakwele and Japanese, culture, history, and living environment were quite different. I tried to introduce uniformity to the sampling situations as much as I could ⁽³⁾.

Also, in participant observation, the question always arises of how the observer influences behavior. At the Japanese sampling, the speakers did not know of my data collection. But the Baka and Bakwele knew that I wrote down something in the fieldnote. To minimize my influence, I sat down beside them without speaking. I did not begin sampling before the gathering had settled and conversation was conducted in a calm atmosphere. Generally speaking, Baka and Bakwele people did not seem to be so nervous about such observations.

A series of sampling units that continued longer than 10 minutes was considered to be a sufficient data set for further analysis, and was labeled a “session.” In the field survey in 1994, 18 sessions were collected from the Baka, 9 sessions from the Bakwele, and 1 session from the Japanese. In 2000, I took 12 sessions from the Japanese. Total sampling time was 6.63 hours for the Baka, 2.65 hours for the Bakwele, and 3.27 hours for the Japanese.

RESULTS

I. Situations of Utterance

First, I describe the general conversational situations for the three ethnic groups.

1. *The Baka*

In Baka conversation, two or more utterances frequently overlapped. Unlike Western conversations which CA investigated, I never observed such cases when multiple utterances “collided” (i.e. occurred simultaneously), and speaker(s) stopped talking. Thus, Baka utterances could be described as “interpenetratable ones.”

Long silence frequently punctuating Baka conversation was another “curious” phenomenon. If the speakers were engaged in other activities, it would have been more natural. During such silent periods, however, the Baka did not devote themselves to eating, making tools, nor playing games. They solely sat together, without any utterance or conspicuous body movement, even for several minutes! ⁽⁴⁾ Such a situation was never observed among the Bakwele and Japanese conversations, and also is unlikely to be seen in Western societies.

2. *The Bakwele*

In comparison with the Baka, the Bakwele people tended to speak rather lively. At the time of observation, I had the impression that overlaps occurred rather frequently. However, as shown in the following analysis, actual overlaps were far fewer than that of the Baka. In case of utterance “collision,” one or both speaker(s) often halted talking. Silences in Bakwele conversations were also generally short. When a series of utterances was broken, somebody began talking before long.

Metaphorically speaking, the Bakwele’s each utterance was an inviolable “object,” and the duration of conversation was tightly filled with such utterances.

3. *The Japanese*

As for the Japanese conversations, I basically had the same impression as that of Bakwele. They seemed to obey the principle of turn-taking strictly. An interesting point was that utterance overlap tended to occur with laughter. It might be a characteristic of Japanese conversations.

II. Comparison of Utterance Density

From the sampled data, the value of “mean utterance number per sampling unit” can be calculated as

$$\frac{1}{q} \sum_{i=1}^q x_i$$

where q is number of sampling units in a session, and x_i is the number of utterance recorded in i th unit ($i = 1, 2, 3, \dots, q$). If utterances frequently overlap, the value becomes greater than 1, and conversations with few utterances result in a value near 0. I will call this value “utterance density.”

Fig. 6 shows the distribution of utterance density for each session. Mean value was 0.785 for the Baka, 0.882 for the Bakwele, and 0.973 for the Japanese. By Mann-Whitney’s U-test (two-sided), no significant difference is detected for each pair of three ethnic groups (Table 1). It means that, contrary to my impression, frequencies of utterance themselves do not so much differ in the three ethnic groups.

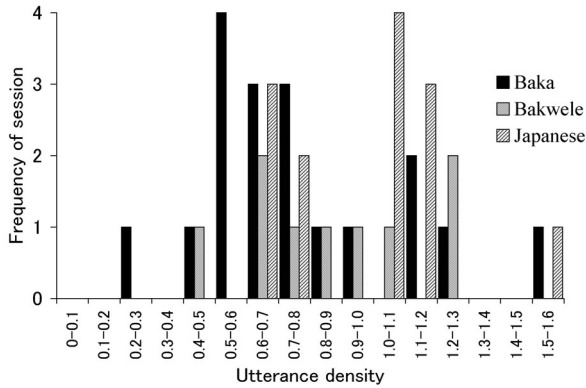


Fig. 6. Distribution of utterance density.

Table 1. Differences in utterance density for three ethnic groups.

	Japanese	Bakwele
Baka	not significant ($p>0.1$)	not significant ($p>0.1$)
Bakwele	not significant ($p>0.1$)	

III. Utterance Overlap

1. *Three models of utterance overlap*

From the time sampling of conversations, I obtained data set on the number of sampling units in which no utterance was heard, one utterance was heard, two utterances were heard, and so on. This data set shows the distribution of utterance overlap.

For the subsequent analysis, I will present three distribution models (Fig. 7).

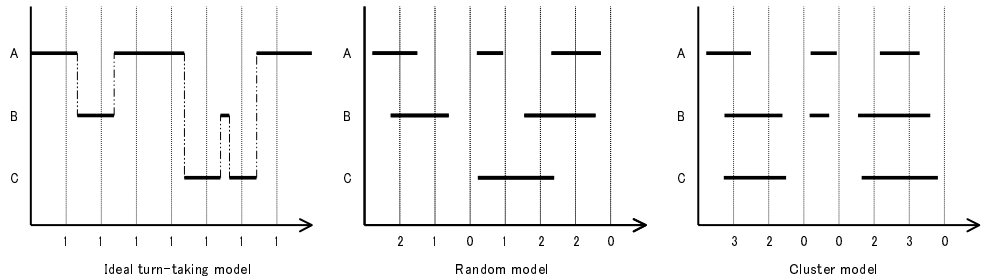


Fig. 7. Three models for utterance overlap.

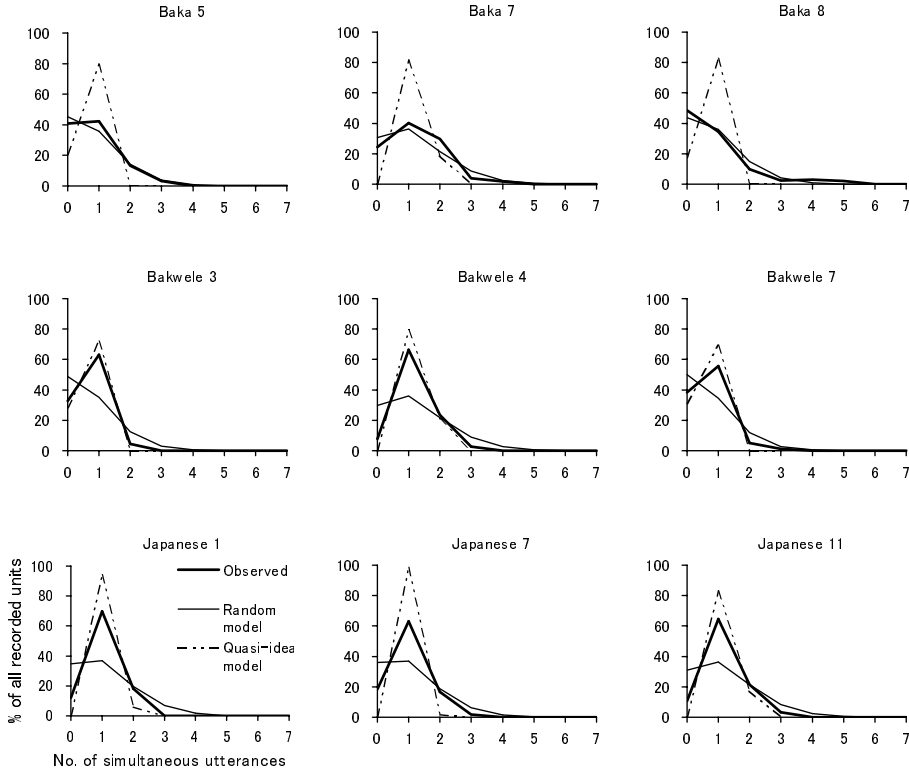


Fig. 8. Distribution of utterance overlap.

Ideal turn-taking model: Suppose that the principle of turn-taking system, “one person talks at a time” is strictly adhered to. Then, the number of speakers is 1 in every sampling unit.

Random model: If each utterance is given randomly, the distribution complies with the Poisson distribution. The shape of distribution varies in accordance with the mean of distribution (= utterance density).

Cluster model: In this model, overlapping and silence occurs more frequently than the random model. In other words, utterances occur in clusters.

2. Comparison of actual distribution and models

The actual distribution patterns are compared with above models. Fig. 8 shows three examples each for the Baka, for the Bakwele, and for the Japanese sessions. The horizontal axis shows the number of simultaneous utterances, and the vertical axis is the percentage of all recorded units. The thick solid line shows the distribution actually observed, and the thin solid line is the random model. The dotted line shows the quasi-ideal turn-taking model, or simply quasi-ideal model.

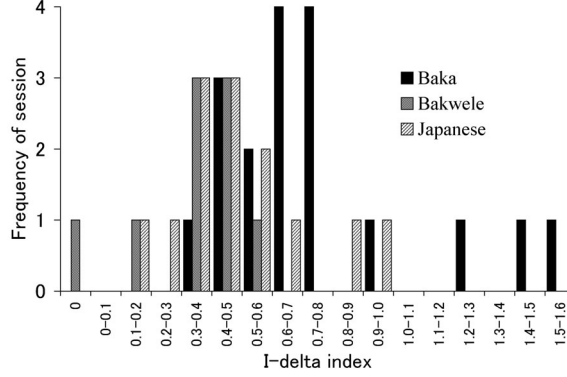


Fig. 9. Distribution of I-delta index for each session.

The values given here are slightly modified to adjust the utterance density to the actual value. This is why I called it “quasi” ideal model. (Cluster model is not shown here, because the fixed value for this model cannot be calculated.)

For the three ethnic groups, most of the observed values are between the quasi-ideal model and the random model. However, the Baka’s observed values are close to the random model, and Bakwele and the Japanese are close to the quasi-ideal model.

3. Distribution of I-delta index

In Fig. 9, this tendency can be seen more clearly. This graph shows each session’s I-delta index (Morishita, 1959) for overlap. This index is commonly used in ecology to show the degree of concentration of individuals. I-delta is defined as the following formula.

$$I\text{-delta} = q \frac{\sum_{i=1}^q x_i(x_i - 1)}{T(T - 1)} \quad (T = \sum_{i=1}^q x_i)$$

where q is the number of sampling units in a session, and x_i is the number of utterance in i th unit ($i = 1, 2, 3, \dots, q$). Index value less than 1 indicates that the distribution approaches the ideal turn-taking model, a value equal to 1 indicates a random distribution, and a value more than 1, a concentrated distribution.

Baka sessions show relatively higher I-delta index, i.e., the Baka’s utterance distribution approaches the random model (or cluster model in some cases). Using Mann-Whitney’s U-test, significant differences between the overlapping utterance of Baka - Bakwele, and Baka - Japanese are detected, but that of Bakwele and Japanese are not significantly different (Table 2).

Table 2. Differences in I-delta indices for three ethnic groups.

	Japanese	Bakwele
Baka	Baka>Japanese ($p<0.05$)	Baka>Bakwele ($p<0.05$)
Bakwele	not significant ($p>0.1$)	

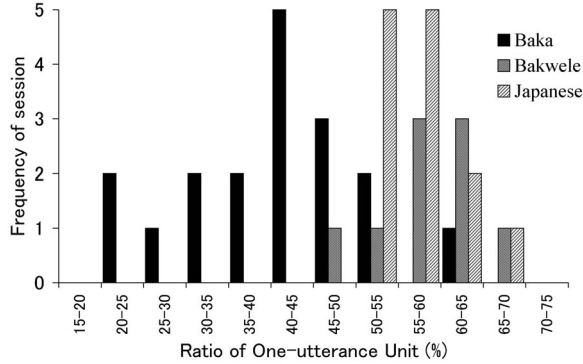


Fig. 10. Distribution of ROU index for each session.

4. Distribution of “Ratio of One-utterance Unit”

I introduce here another simple index “Ratio of One-utterance Unit (ROU).” If the principle of turn-taking is strictly adhered to, the number of utterance is 1 in every sampling unit (Fig. 7). Accordingly, the ROU value becomes 1. If turn-taking deviates from the ideal turn-taking model, then ROU decreases from 1.

As shown in Fig. 10, most Baka sessions indicate a lower ROU value, compared to those of the Bakwele and Japanese. It means that in Baka conversation, silence and/or overlap occurs more frequently. Mann-Whitney’s U-test shows the same tendency as I-delta analysis (Table 3).

Table 3. Differences in ROUs for three ethnic groups.

	Japanese	Bakwele
Baka	Baka>Japanese ($p<0.05$)	Baka>Bakwele ($p<0.05$)
Bakwele	not significant ($p>0.1$)	

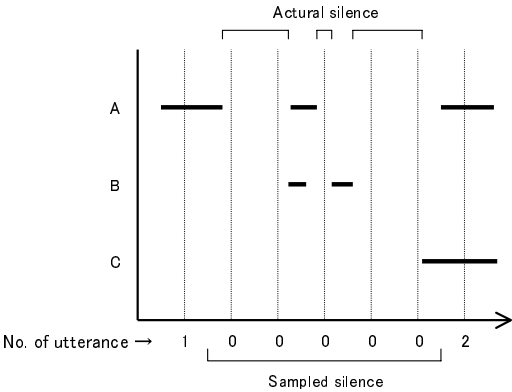


Fig. 11. Actual silence and sampled silence.

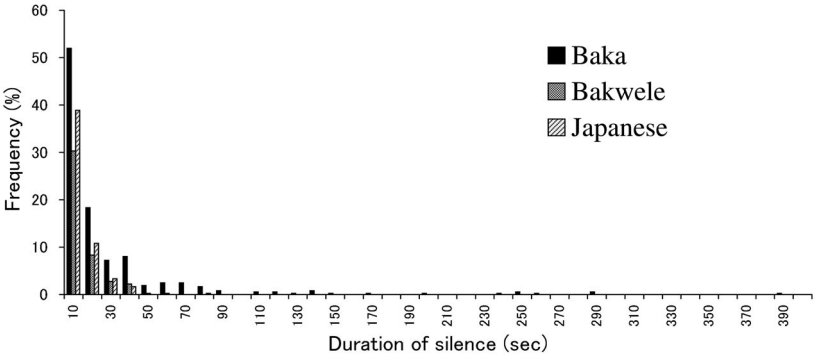


Fig. 12. Distribution of the duration of silence.

IV. Duration of Silence

Lastly, I examined the duration of silence. In this analysis, the length of silence is defined as follows. Suppose five units in a row contained no utterance (Fig. 11). Then they are treated as 50 seconds of silence, even though short utterances may occur in between observation instants. Thus in this analysis, only long-spanning silence is treated as data.

1. *Distribution of duration of silence*

In Fig. 12, the horizontal axis shows the duration of silence. All the silence observed in Bakwele and Japanese conversations ended within 80 seconds, whereas certain silences of the Baka continued much longer; the longest one observed was more than 6 minutes!

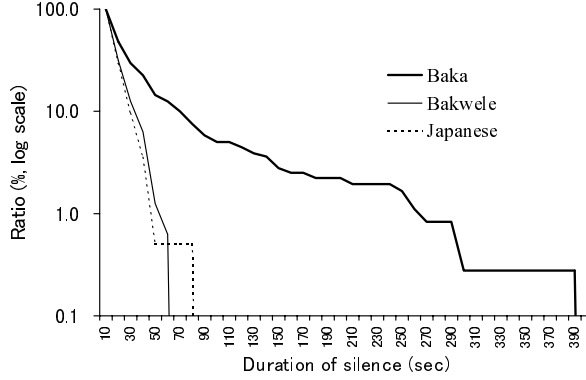


Fig. 13. Log-survivor curve of silence.

2. Log-survivor analysis

To highlight this trend, I introduce here the log-survivor analysis. In Fig. 13, the horizontal axis shows time t , and vertical axis, the “ratio of number of silence longer than t ,” in log scale, to obtain the “log-survivor curve.” If a certain phenomenon (such as silence) begins and ends randomly, the log-survivor curve becomes a straight line slanting to the right. Inclination of the line shows the occurrence probability of the phenomenon.

The curve for the Bakwele and the Japanese can be regarded as straight, and are similar to each other. The Baka’s curve is far apart from the Bakwele’s and the Japanese’s, and makes a downward convex. The convexity possibly shows that the very long silence in Baka conversations occurs in another kind of “interactional mode,” which is different from that of short silence.

V. Effect of Participant Number on Each Index

Each sampling session analyzed so far contains different numbers of participants. A question arises of how the number affects indexes, such as utterance density or I-delta. For this, correlation of participant number and each index is examined. A Baka data set containing 15 participants, and a Japanese data set of 18 participants are omitted here, because these are too isolated for the correlation analysis. Participant numbers treated here are 3 - 9.

The correlation of participant number and utterance density is shown in Fig. 14. For the Bakwele and the Japanese, there are considerable positive correlations (Bakwele: $r^2 = 0.5215$; Japanese: $r^2 = 0.3587$), i.e., when the number of participants increase, utterance density also increases. In contrast, there is no correlation for the Baka ($r^2 = 0.0909$).

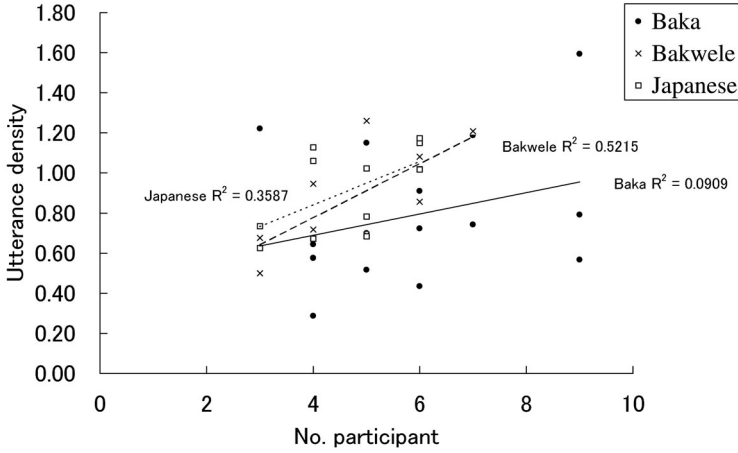


Fig. 14. Correlation of participant number and utterance density.

In Fig. 15, the correlation of participant number and I-delta index is shown. Like utterance density, a positive correlation is detected for the Bakwele and the Japanese (Bakwele: $r^2 = 0.4643$; Japanese $r^2 = 0.3861$), which means that when the participant number increases, the pattern of turn-taking deviates from the ideal turn-taking model. But for the Baka, no correlation is detected ($r^2 = 0.0002$).

DISCUSSION

The analyses found that the Bakwele and the Japanese adhere to the principle of turn-taking, but the Baka tend to deviate from it. In other words, utterance overlap and long silence are actually more frequent in Baka conversations.

The conversation analysis emphasizes that the principle of turn-taking, namely that “one person talks at a time” is commonly observed in human conversations. Adherence to it is “natural,” or using a semiotic term, it is an “unmarked” feature. If so, a conversational style which violates that principle can be called a “marked” one. Accordingly, such a style can be regarded as having a specific aim. This is true for Japanese or Western (and probably for the Bakwele) conversations in which frequent overlaps and long silences only occur when people employ a marked style, such as excitement or tension.

However, for the Baka, I could rarely detect such “markedness” indicating any specific aims in the utterance overlaps and long silences. These features merely seemed to be a part of their “natural” phasing of social interaction (Table 4). A question, “what is the marked feature in the Baka conversation?” remains unsolved.

Conversation analysis has classified utterance overlap roughly into two categories. One is the simple failure in turn-taking, and another is the systematic use

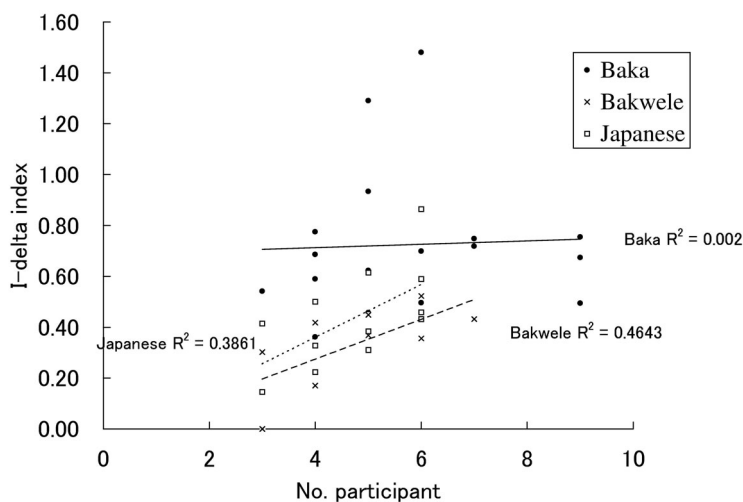


Fig. 15. Correlation of Participant number and I-delta index.

Table 4. Marked/unmarked characteristics in conversation.

	Marked (having specific meaning)	Unmarked
Bakwele, Japanese	overlap, silence	normal turn-taking
Baka	?	overlap, silence

of utterance duplication. The latter is specially called “interruption.” For example, Zimmerman & West (1975) showed that in cross-sex conversation in America, men interrupted women’s talk in most case of interruption. They concluded that this reflected the men’s domination over women.

In contrast, most utterance overlaps in the Baka conversation could never be interpreted as the failure, nor as strategic interruption, because I never observed a speaker (or speakers) who stopped talking. At the time of overlap, the speakers rather seemed decided to speak simultaneously. Thus, Baka utterance overlap can be described as a sort of “synchronization,” which is naturally embedded in their social interaction.

From other hunter-gatherer societies, similar examples have been reported. For example, Sawada (1987) described the Efe’s evening talk as frequently synchronized when they entered the “excitement phase.” He also stated that in Efe singing and dancing, there were “solo and response phase” and “dense polyphony phase.” Singing and dancing began with the former phase, and reached the climax by shifting to the latter phase (Sawada, 1990). According to Koichi Kitanishi’s personal

communication, long silences were also observed in the Aka hunter-gatherer's camp in the forest. He stated that the silences were quite comfortable even for himself.

Sugawara (1990) analyzed the simultaneous utterances in the Bushmen. He classified such utterances into three categories. (1) Cooperative: participants utter almost similar contents. (2) Confrontational: participants utter opposed contents. (3) Parallelistic: participants utter contents which are different, but sharing a common topic. In the Baka case, I did not fully record the contents of the conversations, but probably most overlapping utterances fell into the "cooperative" category in Sugawara's classification. Also for the Bushmen, Imamura described the synchronization of singing and dancing (Imamura, 1991), and women gathering activities (Imamura, 1992).

Needless to say, synchronization of behavior can be observed in many contexts of other societies. However, from the above examples, synchronization is one of the most conspicuous modes of interaction in hunter-gatherer societies.

To assess the meaning of silence is more difficult than in the case of overlaps, because it is a negative phenomenon, that is, the "lack" of the utterance.

In conversation analysis, Sacks et al. (1974) classified the silence in turn-taking into three categories: pause, gap, and lapse⁽⁵⁾. All of these silences are regarded as ones to be avoided in normal situations. And so, the silence that is not avoided must have some sort of "marked" meaning. Jaworski (1993) gave some examples, including to mark the change of topic, to express a negative attitude towards the conversation, and to display politeness.

The Baka's long silence in conversation did not seem to be regarded as having such significant meanings. They seemed to indulge quite comfortably in silence. In addition, pause, gap and lapse are usually short, that can be measured by the second or less. Some Baka silences are far longer, sometimes continuing several minutes. Thus, like the utterance overlap, their long silences can be called a "mode of interaction."

It is difficult to fully explain the meaning of such long silence, but I can present some possibilities.

High-context society: According to Hall's classification (Hall, 1976), Baka society can be described as a "high-context" society. That is, they commonly own most information required in the social life. Even slight body movement is enough to convey thoughts to others, so the continuous exchange of utterance is not necessary for the social co-presence.

Attention to the surroundings: At the period of long silence, I noticed that they were frequently moving their eyes, keeping the body still. I suppose at least in some cases, they were paying attention to the external world, such as distant speech or the sound from the forest. When they traditionally engaged in hunting and gathering in the forest, such attention might have been more important than what happened before their eyes.

Awareness of others' body: When observing the gathering of Baka children, it was conspicuous that individual distance was quite short, sometimes approaching zero (i.e. in contact). Adults were usually physically more distant, but it may be that they regarded each other's body cohesively, that they need not continuously exchange words, when co-present.

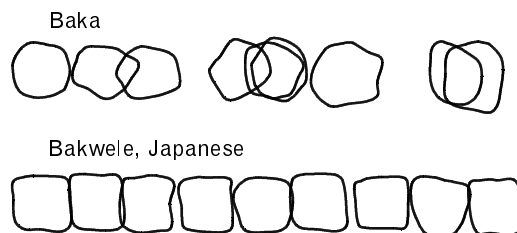


Fig. 16. Schematic representation of conversation patterns.

When I asked a Baka informant about the conversation style of the Bakwele, he answered in Lingala language “Bazali makelélé,” meaning “They are noisy.” I think this phrase was not only expressing the phonetic loudness of the Bakwele utterance, but also having an interactional implication. Figuratively speaking, the Bakwele conversation is filled with utterance akin to a path paved with flagstones (Fig. 16). Probably the Baka informant used the term “makelélé (noisy),” to represent this solidity of Bakwele’s utterance, in contrast to the softness or flexibility of their own.

To achieve the “feeling of co-presence” (Kimura, 1996) in social interaction, turn-taking is one systematic method. But it is not the exclusive alternative. The Baka conversation style shows that by duplicating utterances, or even by keeping silence, co-presence can be accomplished.

The following characteristics are commonly used to describe the social structure of hunter-gatherers: frequent meeting and parting, flexibility, and loose organization. It is highly possible that their conversational traits and the preceding characteristics are closely related to one another, because in the process of social interaction, it is always central how the social act of others are treated.

So far the study of hunter-gatherers has been devoted to clarify such subjects as their ecology, socio-economic life, and political situation. In addition, I promote the study of social interaction to understand their life. Particularly with respect to the problem of verbal interaction, I want to collect comparable data from other hunter-gatherer societies.

In this study, I analyzed only the duplication pattern of utterances, and so the aspect of contents of the conversation is neglected. To understand the Baka social interaction, it is indispensable to investigate not only “how” they talk, but also “what” they talk about. It will be quite interesting, for example, to study the topic-change in the Baka’s massively duplicating speeches.

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NOTES

- (1) The name of this village "Baka" is said to have derived from the stream Baka, running near the village. Thus the village name was not directly related to the name of the ethnic group.
- (2) Between Ndongo and Moloundou, there was a logging road, now abandoned due to the closure of the logging company in Ndongo in 1984.
- (3) Changing the mundane turn-takings system is generally quite difficult if one is accustomed to it, as shown in the next example. After the 1994 field survey, I gave a talk for the laboratory seminar. After my presentation, the participants gathered and chatted in another room. For fun, they tried to have long silence as the Baka. Despite their efforts, they could hardly endure the silence, and somebody gave an utterance before long.
- (4) In the subsequent field research among the Baka in 1999 and 2000, I observed plenty of conversational scenes. I had an impression that in some situations other than *mbanjo* talk, their long silences were not so frequent. Thus it is possible that the entire frequency of long silences in the Baka society is overestimated in this paper.
- (5) (1) Pause is the silence within the current speaker's turn. So it is attributed to that speaker. (2) Gap is the silence which occurs when the current speaker ends his/her turn without selecting the next speaker, and self-selecting listener has not yet started. This silence is not attributed to any specific participant. (3) Lapse occurs when the current speaker ends the turn without selecting a next speaker, but no listener has self-selected, and the current speaker does not continue. Lapse usually lasts longer than gap.

REFERENCES

- Bahuchet, S. 1993. History of the inhabitants of the central African rain forest: Perspectives from comparative linguistics. In (C. M. Hladik, A. Hladik, O. F. Linares, H. Pagezy, A. Semple & M. Hadle, eds.) *Tropical Forests, People and Food*, pp.37-54. UNESCO, Paris and the Parthenon Publishing Group, Lanks & New York.
- Greenberg, J. H. 1966. *The Languages of Africa*. Bloomington / The Hague: Indiana University / Mouton and Co.
- Guthrie, M. 1971. *Comparative Bantu: An Introduction to the Comparative Linguistics and Prehistory of the Bantu Languages*. Gregg International Publishers Ltd., England.
- Goffman, E. 1963. *Behavior in Public Places: Notes on the Social Organization of Gatherings*. Macmillan Publishing Co., Inc., New York.
- Hall, E. T. 1976. *Beyond Culture*. Anchor Press / Doubleday, New York.
- Hymes, D. 1974. *Foundation in Sociolinguistics: An Ethnographic Approach*. Tavistock Publications Limited, London.

- Imamura, K. 1991. Everyday life and singing among the San (in Japanese). In (J. Tanaka & M. Takeya, eds.) *Natural History of Mankind*, pp.91-105. Heibonsha, Tokyo.
- 1992. Gathering activities among the central Kalahari San (in Japanese). *Africa-Kenkyu (Japanese Journal of African Studies)*, 41: 47-73.
- Jaworski, A. 1993. *The Power of Silence: Social and Pragmatic Perspectives*. Sage Publications, Newbury Park, London, New Delhi.
- Kimura, D. 1990. Verbal interaction of the Bongando in central Zaire: With special reference to their addressee-unspecified loud speech. *African Study Monographs*, 11-1: 1-26.
- 1991. Casting talk: Addressee-unspecified loud speech of the Bongando (in Japanese). In (J. Tanaka & M. Takeya, eds.) *Natural History of Mankind*, pp.165-189. Heibonsha, Tokyo.
- 1995. Speech overlap and long silence among the Baka Pygmy (in Japanese). *Japanese Journal of African Studies*, 46: 1-19.
- 1996. Feeling of co-presence among the Bongando (in Japanese). In (M. Nomura & K. Sugawara, eds.) *Body as Communication*, pp.316-344. Taishukan, Tokyo.
- Martin, P. & P. Bateson 1986. *Measuring Behaviour: An Introductory Guide*. Cambridge University Press, Cambridge.
- Moerman, M. 1988. *Talking Culture: Ethnography and Conversation Analysis*. University of Pennsylvania Press, Philadelphia.
- Morishita, M. 1959. Measuring of the dispersion of individuals and analysis of the distributional patterns. *Mem. Fac. Sci., Kyushu Univ., Ser. E(Biol.)* 2.
- Ndii, S. D. 1968. *Problèmes pygmées dans l'Arrondissement de Djoun (Cameroun). Essai de Développement intégré*. Mémoire EPHE, Paris.
- Sacks, H., E. A. Schegloff & G. Jefferson 1974. A simplest systematics for the organization of turn-taking for conversation. *Language*, 50: 696-735.
- Sawada, M. 1987. The evening conversation of the Efe Pygmy men and its social implication: A men's display to women. *African Study Monographs, Supplementary Issue*, 6: 85-96.
- 1990. Two patterns of chorus among the Efe, forest hunter-gatherers in north-eastern Zaire – Why do they love to sing? *African Study Monographs*, 10-4: 159-195.
- Sugawara, K. 1991. Conversational structure of the San: With special reference to their long talk (in Japanese). In (J. Tanaka & M. Takeya, eds.) *Natural History of Mankind*, pp.107-135. Heibonsha, Tokyo.
- Stromayer, K. A. K. & A. Ekobo 1991. *Biological Surveys of Southeastern Cameroon*. Wildlife Conservation.
- Turnbull, C. M. 1961. *The Forest People*. Simon and Schuster, New York.
- Zimmerman, D. & C. West 1975. Sex roles, interruptions and silences in conversation. In (B. Torne & N. Henley eds.) *Language and Sex: Difference and Dominance*. Newbury House, Massachusetts.

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Author's Name and Address: Daiji KIMURA, Center for African Area Studies, Kyoto University, Yoshida-shimoadachi-cho 46, Sakyo-ku, Kyoto 606-8501, Japan. E-Mail: kimura@jambo.africa.kyoto-u.ac.jp