
INTERCHANGE IN SPEECH COMMUNICATION

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1.0 INTRODUCTION

1.1. The title of this paper expands to read: interchange in a two-person speech-communication system. The term system retains its usual meaning of organized, task-oriented activity within a structural framework. Communication systems indicate the general area of interest, and a speech-communication system designates the particular area of interest. Two-person specifies the basic unit. Interchange names the particular pattern of activity within a two-person speech-communication system of concern in this paper.

1.2. A model of a two-person system is shown in Figure 1. Notice there are two-persons joined in a particular speech space to constitute a communication system. The receptors correspond to concerns in auditory phonetics, the brain to neural phonetics, the articulators to articulatory phonetics, and speech space to acoustic phonetics.

1.3. In such a two-person system, the capacity of any one sub-system affects the capacity of the entire system. Thus if Person B has a mild hearing loss, the capacity of the entire system is affected. If Person A has a mild hearing loss, and a limited amount of time, and Person B is speaking in a second language, and the subject is political on which B and A strongly disagree, the probability of a productive outcome approaches zero.

2.0 STRUCTURE

In a two-person system, three basic structural patterns are evident. These patterns generate from two social control arrangements and three message sequences. These basic structures are called: interview, tutorial and interchange.

2.1. In the *interview*, the interviewer controls. He asks directive questions. The interviewee answers these questions. Tasks which can be accomplished are limited

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in number, and outcomes are largely predetermined. A question constrained message is generated.

2.2. In the *tutorial*, the tutor controls. He makes informative statements. The student asks questions. Tasks are diverse, and the range of outcomes are predictable. A branched message is generated.

2.3. In the *interchange*, the two-persons share control. Both persons ask questions and make statements. Tasks are highly diverse, and outcomes are not readily predicted. An adaptive message is generated.

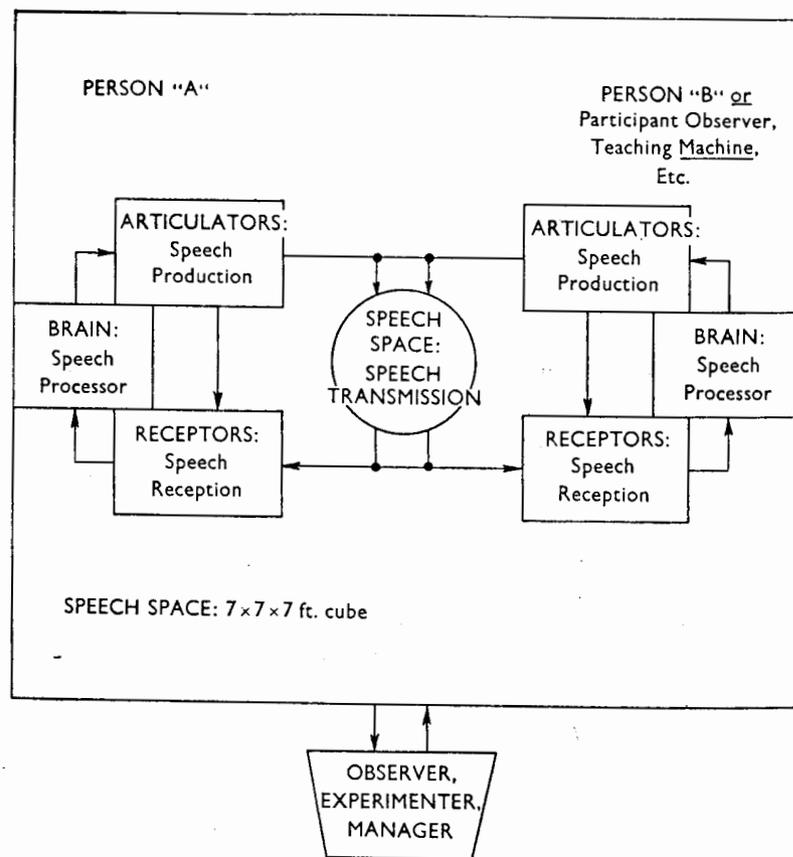


Fig. 1.

3.0 SOME PROBLEMS IN INTERCHANGE

In this section, I wish to focus only on the speech communication structure I have called interchange. Further, I wish to continue to limit the discussion to a two-person system. Of particular interest are two-persons of substantially different linguistic-cultural backgrounds engaged in task-oriented speech communication.

3.1. In the following illustration, two persons said word lists to each other. Person A said a word; Person B repeated it. Then, Person B said a word and Person A repeated it. And so on. The monosyllabic word lists contained a sample of syllable types and phonemes of mid-west American English. The persons were paired under the following conditions:

Language Background	Person A	Person B
1 Same	Native speaker	Native speaker
2 Same	Non-native speaker	Non-native speaker
3 Different	Native speaker	Non-native speaker
4 Different	Non-native speaker	Non-native speaker

At a distance of three feet in a sound treated room, the accuracy of repetition under the four conditions varied in the following manner. Under the condition of the same language background, two persons achieved a low and stable error rate. Interestingly, the native language, whether English, French, or Japanese, did not appear to affect the error rate on the English word lists. This finding holds only for two persons with the same language background.

Under the conditions of different language background, two persons of dissimilar native language background achieve a high error rate. As long as the native language was different a high error rate was obtained. Thus, on the English word lists, a native French speaker and a native Japanese speaker scored similarly, for instance, to a native English speaker and a native French speaker.

Errors were scored on degree of phoneme correspondence between a monosyllabic word said by one person and repeated by the other. The persons with different native language backgrounds achieved approximately three times as many errors as persons with similar language backgrounds. This finding demonstrates that a native speaker of Y finds another native speaker of Y more intelligible in language X than he does a native speaker of language X.

At this point, one may question the manner of error classification. A prescriptive or standard language target suggests one solution; a communication system approach suggests another. Within two-person interchange, the decision the native speaker makes in this regard directs him either to *adapt* to the non-native speaker, or to delay task completion until he can train the non-native speaker to adequately approximate his own speech, or to abandon the attempt to communicate with the non-native speaker.

3.2. A second type of illustration, which depends on the findings of the first, concerns the structure brought about by three types of sentence by sentence social control. These are: the interview, in which the interviewer controls by continuing to pose questions; the tutorial in which the tutor controls by making task-oriented statements; and, the interchange in which both persons share control, that is, both freely ask questions, and make statements.

Two persons are assembled in a quiet room. They are instructed to complete a task,

or arrive at an agreement on an assigned topic. Tasks and topics are selected to require sustained interchange, that is a free exchange of questions and statements.

Under these conditions, as two persons differ in linguistic-cultural background, an interesting transformation occurs. One or the other, usually the native speaker, assumes control. He either conducts an interview, or offers a tutorial. That is, he controls by asking questions in the manner of an interviewer, or he controls by making statements in the manner of a tutor.

The previous finding cited on the accuracy of word reception and other findings, indicate that as persons differ in background, frequent checking procedures are required if speech-communication is to be sustained for that amount of time required to complete a task or achieve a working agreement.

The interchange, or shared-control structure, appears best suited to effective and satisfactory outcomes. However, as difference in background between two persons increases, the probability that one speaker—usually the native speaker—will control through questions or statements also increases. As this control transformation occurs the probability of a mutually satisfactory outcome decreases.

3.3. Within a two-person system, the degree of correspondence between the phonemic and syntactic patterns of the two-persons tends to produce control structures which limit both the range of tasks and topics of speech-communication, and the probability of satisfactory outcomes. What is interesting is that the native speaker who assumes control is likely to perceive himself as helpful while the second language speaker is likely to perceive him as aggressive.

4.0 SUMMARY

My paper today has focused on sustained communication between two persons of dissimilar linguistic-cultural backgrounds. From a system view, I have attempted to show that degree of correspondence between speech patterns of the two persons affects what can be said which in turn limits the range of outcomes.

DISCUSSION

Black:

Are the interesting results to be generalized over a face-to face situation *and* a remote "Telephone" system?

Marquardt:

Professor Harms' excellent presentation suggests that a new emphasis in second-language-teaching should be given to a possibly new discipline which might be called cross-culture-communication. This new discipline would focus attention upon kinds of adjustment communicators must make in cross-culture interaction and reduce emphasis upon such exercises in the language class as pattern-practice and pronunciation drill. I would like to ask whether Prof. H. has thought out ways in which the principles he has discoursed might be extended to class-room activity or to the development of teaching materials.