QUESTIONS IN FOREIGNER TALK DISCOURSE

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A study was undertaken to investigate relationships among linguistic input, conversational interaction, and second language acquisition. Tapes and transcripts of eight informal conversations among native speakers of English and 36 conversations between native speakers and students of English as a second language were compared. Differences were found between the two corpora in (1) their discourse structure, and (2) the relative frequencies of certain syntactic and morphological constructions. Relationships existed between the discourse structures and the relative frequencies, and between the relative frequencies and the order in which second language acquirers produce the constructions accurately in obligatory contexts.

As a review article (Hakuta and Cancino 1977) shows, most early research on second language acquisition (SLA) was product oriented, that is, focused primarily on the learner's linguistic output. Starting in the mid-1970s, and inspired by work on "motherese" in first language development, an increasing number of studies have been undertaken of the characteristics of language addressed to the learner, or linguistic input (Wagner-Gough and Hatch 1975). More recently, some attention has shifted to features of the interaction between native and nonnative speakers, sometimes referred to as "foreigner talk discourse" (Hatch 1978, Hatch, Shapira, and Gough 1978, Larsen-Freeman 1980). The research reported in this paper is properly located in the last category, concerning as it does conversations between native and nonnative speakers, but attempts to throw some light on possible relationships among input, interaction, and their product, second language acquisition.

Previous research on foreigner talk discourse (FTD) has found that native speakers (NSs) attempt to lighten the nonnative speakers' (NNSs) interactional burden in a number of ways. For example, topics are dealt with simply and briefly (Arthur, Weiner, Culver, Lee, and Thomas 1980). Through the use of "or-choice" questions (Hatch 1978), efforts are made to let NNSs control what is talked about, and when a misunderstanding

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causes the learner unintentionally to switch topic, NSs often accept the topic switch, repairing the discourse by treating the inappropriate response as a topic nomination (Long, in press). New topics are made transparent through such devices as stress and left-dislocation (Hatch 1978), pauses before topic words, "decomposition," and the use of question forms for topic-nominating moves (Long, in press). When learners show lack of comprehension, messages are repeated, recoded (e.g., through paraphrase, the substitution of difficult vocabulary with more frequent lexical items, and the repair of wh- to yes/no questions), or abandoned altogether (Chaudron 1979, in press, Hatch 1978, Hatch et al. 1978, Long, in press).

While the flexibility they exhibit may sometimes be constrained by the need to communicate certain essential information (Snow, van Eeden, and Muysken, in press), it seems that NSs use a wide variety of strategies and linguistic devices to manage interaction with NNSs. Even those NSs with little prior foreigner talk experience apparently have access to most of these resources. This is particularly clear in their pervasive use of questions of various kinds. Long (in press), for example, found that 66% of all T-units in NS speech addressed to elementary level NNSs were questions, while 33% were statements and 1% imperatives.

It is not clear from much of the above and other research on FTD, however, which (if any) discourse features are peculiar to NS-NNS interaction. In fact our intuitions would suggest that several of them appear in conversations between NSs, too. The differences, in other words, may not be absolute but ones of degree.

The extent to which NS-NS interaction and FTD do or do not differ in this respect is an issue of relevance to investigations of the SLA process. It is possible, for example, that differences in the discourse structure of FTD and NS-NS interaction predicate differences at other linguistic levels, e.g., the syntactic and morphological. Differences in these domains may in turn result in varying relative frequencies of certain linguistic forms in the samples of the target language to which second language learners are exposed, as distinct from their frequencies in NS-NS interaction. Differences in input frequencies, it has been suggested (Hatch 1974, Larsen-Freeman 1976a, 1976b), may be related to such well-documented phenomena as the order in which certain grammatical structures appear, accurately supplied, in the linguistic output of second language learners from a variety of first language backgrounds (Krashen 1977, 1978, Larsen-Freeman 1975). Finally, if, as Corder (1967), Krashen (1978), and Hatch (1979) have argued, the relevant data for SLA are to be found in that subset

of linguistic input which is comprehensible to the learner, then certain predictions can be made concerning relationships between the frequency of linguistic items in comprehensible input and the order in which those items will be acquired by the learner. For example, holding situation constant, the magnitude of the correlation coefficient between the relative frequency order of various forms in FTD and second language production orders should be greater than that between the relative frequency order of the same items in NS-NS interaction and the production orders.

One assumption is made in this reasoning. It is that one can recognize what is comprehensible input from the learner's perspective. In general, spontaneous NS-NS interaction among educated adults talking informally and at normal speed will be incomprehensible to an elementary level student of English as a second language. Conversely, NS speech addressed to the same learner during interaction which is marked by the modifications associated with FTD (see Long 1981, for a summary of these features) *and which is responded to appropriately* by the learner, will be assumed to have been comprehensible input. This does not guarantee, of course, that all the input is understood, simply that enough of it for the purpose of communication is, which means that the researcher will be operating with some margin of error.

The purpose of the present study was to seek preliminary answers to the following three questions:

1. How do NS-NS interaction and FTD differ in structure in informal spontaneous conversation?
2. How do any differences in the structure of NS-NS interaction and FTD affect syntactic and morphological features of the language employed in conducting the two types of interaction, specifically with regard to the relative frequencies of those forms?
3. Is there a relationship between such differences in relative frequencies as are discerned in answer to question 2 and the order in which second language learners produce them accurately in obligatory contexts?

METHOD

Data collection

FTD and NS-NS interaction data were obtained from two previous

studies, Long (in press) and Carterette and Jones (1974), respectively. The former provided transcripts and sound recordings of 36 five-minute conversations between college-educated middle-class Caucasian speakers of some variety of Standard American English and Japanese young adults. NS subjects were 12 English as a second language (ESL) teachers, 12 teachers of subjects other than languages, and 12 NSs who were not teachers of any kind. Within each group of NSs, 6 were male, 6 female. The Japanese were 18 male and 18 female ESL students at UCLA, of elementary proficiency in English as determined by their placement test scores. Dyads were formed by random assignment within each level of the independent variable (NSs' experience with FTD) and moderator variables (sex of NS and sex of NNS) such that there were an equal number of same-sex and cross-sex pairings. Subjects, who had no prior acquaintance with one another, were introduced by first name and asked to have a five-minute conversation in English about anything they liked. The investigator then left the room, leaving a cassette tape-recorder running. Subjects knew that their conversation was being recorded.

The data on NS-NS interaction were part of a larger corpus obtained by the researchers (Carterette and Jones 1974) for quite different purposes than those of the present study. The data consisted of transcripts of eight informal spontaneous conversations among members of NS triads, amounting to 15,694 lexical words. The 24 subjects were young American adults from elementary psychology classes, most of whom did not know each other. The investigators describe the procedures used as follows:

> (Subjects) were told that the experiment was one in small group process and that the situation was to be completely non-directive. Then they were introduced by first names and told they were at a party. The experimenter excused himself (psychologically) to get the snacks. (Carterette and Jones 1974:13)

As in the FTD study, subjects knew they were being recorded.

Analyses

Analyses were conducted on the FTD and NS-NS data to determine:

1. The relative frequencies of present and nonpresent temporal marking of verbs
2. The average number of topic-continuing moves per topic-initiating move

3. The proportions of topic-initiating moves which were questions, statements, and imperatives
4. The proportions of uninverted (intonation), wh-, yes/no, and tag questions in topic-initiating moves
5. The proportions of questions, statements, and imperatives in T-units
6. The proportions of uninverted (intonation), wh-, yes/no, and tag questions in T-units and fragments
7. The proportion of yes/no questions in T-units and fragments which were or-choice questions
8. The relative frequencies of nine grammatical morphemes
9. The rank order correlation coefficients between the morpheme frequency orders in (1) the FTD, and (2) the NS-NS interaction, and an aggregated morpheme production order for learners of ESL

Analyses 1 through 4 were intended to provide measures of some basic characteristics of FTD as distinct from NS-NS interaction. Analysis 1 would give a gross indication of the degree to which each type of discourse is limited to issues within the current time reference of the speakers—the "now" of the "here and now" nature of much mother-child interaction (Cross 1977). It was anticipated that, while NS-NS interaction would not be constrained in this way, adult FTD might be rather more restricted; although the NNSs were adults, and cognitively fully sophisticated, the more immediate nature of present concerns might make them conceptually simpler and so preferred subject-matter. This analysis was conducted on the entire FTD corpus, and on a randomly selected segment of the NS-NS data containing 569 verbs.

Analyses 2, 3, and 4 were each conducted on a random sample of 50 sequential topic-initiating moves, plus the topic-continuing moves elicited by them. Where the transcription procedures employed with the NS-NS corpus made any topic-initiating moves ambiguous, those cases were discounted, and the following sets of initiating and continuing moves coded, until 50 such sets were obtained. The procedures used in identifying these moves in both corpora were those described in Keenan and Schieffelin (1976). However, in order to make results from the differently transcribed data sets comparable, only those topic-continuing moves contained in T-units were counted. Analysis 2 was intended to ascertain the amount of information exchanged about topics, i.e., the relative brevity of their treatment in the two types of discourse. Analysis 3 would show whether NSs attempted to make topic-initiating moves salient more often in the FTD through the use of questions rather than statements or

imperatives, a practice noted in Long (in press). Analysis 4 refined this analysis by examining different types of questions employed in topic-initiating moves.

Analyses 5 through 8 shifted the focus to formal linguistic features of the syntactic and morphological domains. Analyses 5, 6, and 7 were performed on the entire corpora; 8 used all NS speech in the FTD corpus, and a random sample of speech in the NS-NS transcripts containing a total of 2,703 instances of the nine morphemes concerned. As in 2 above, 5 and 6 employed Hunt's definition (1970) of the T-unit: "a main clause plus all subordinate clauses and nonclausal structures attached to or embedded in it" (Hunt 1970, Gaies 1980:54). "Fragments" in 6 were those linguistic items that occurred outside T-units. Long (in press) found the latter to constitute too large a proportion (20%) of FTD addressed to elementary level ESL speakers to exclude them from the analysis. "Or-choice" questions (Hatch 1978), for the purpose of this study, were defined as those questions which include a choice of two or more answers in the questioning move. NSs use or-choice questions of various kinds, but the following are typical:

(a) T#1 NS:	Aha Do you study?	
	Or	NNS: No[3]
	do you work?	
(b) T#5 NS:	Do the people talk the same or do the houses look the same? . . .	
	Or are the the trees the same?	

For analysis 9, Spearman rank order correlation coefficients were calculated between the morpheme frequency orders established in 8 and Krashen's "average order" (1977) for the acquisition of ESL. The nine morphemes concerned are, in descending order of acquisition as established by Krashen's reanalysis of published studies, progressive *-ing*, plural (combined long and short forms), copula, auxiliary,(definite and indefinite) article, irregular past, regular past, third person singular *-s*, and possessive *'s*.

Inter-rater reliability checks were conducted for each measure used in the nine analyses. All obtained coefficients above .90.

[3] Utterances by two speakers printed on the same line indicates an overlap.

RESULTS

1. Temporal marking of verbs

The relative frequencies of present and nonpresent temporal marking of verbs are presented in Table 1. The results show that NS-NS and FTD both contained more verbs marked for present than for nonpresent time. While FTD tended to be located slightly more in the "now" of the "here and now" than was NS-NS talk, this difference was not statistically significant ($\chi^2 = 3.33$, $p > .05$).

Table 1
Present and nonpresent temporal marking of verbs in NS-NS interaction and FTD

	Present		Nonpresent	
	n	%	n	%
NS-NS	317	55.71	252	44.29
FTD	1268	59.84	851	40.16
($\chi^2 = 3.33$, df = 1, $p > .05$, NS)				

2. Topic development

In random samples of 50 discourse segments, each dealing with one topic, the mean number of topic-continuing moves by both speakers per topic initiation was significantly greater in NS-NS interaction than in FTD ($t = 5.768$, $p < .0005$). Table 2 contains the means, standard deviations, and

Table 2
Ratio of topic-continuing to topic-initiating moves in NS-NS interaction and FTD

Move	NS-NS	FTD
T-initiating	50	50
T-continuing	606	211
	$\bar{X} = 12.12$	$\bar{X} = 4.22$
	$s = 10.331$	$s = 3.593$
($t = 5.768$, df = 98, $p < .0005$)		

sample size for the two types of move, as well as the results of the t-test for independent means.

3. Questions, statements, and imperatives in topic-initiating moves

Table 3 shows the number and proportion of topic-initiating moves in each corpus which were encoded as questions, statements, and imperatives. The 50 such moves coded for NS-NS interaction and FTD were those used in analysis 2. The question was the preferred form in both kinds of discourse, but speakers in the latter used it significantly more often ($\chi^2 = 17.54$, $p < .0005$). Indeed, 96% of all topic-initiations in FTD were realized as questions. Imperatives were rarely used for this purpose—2% in NS-NS interaction and not at all in FTD.

Table 3
Proportions of topic-initiating moves in NS-NS interaction and FTD formed by questions, statements, and imperatives

	Questions		Statements		Imperatives	
	n	%	n	%	n	%
NS-NS	31	62	17	34	2	4
FTD	48	96	2	4	0	0

(Questions x statements, $\chi^2 = 17.54$, df = 1, $p < .0005$)

4. Forms of questions in topic-initiating moves

Using the same samples analyzed in 2 and 3 above, topic-initiations encoded as questions were further studied to determine the types of questions used, as well as the relative frequencies of those types. The results of this analysis appear in Table 4. Wh- questions were those most favored in both types of interaction, constituting 50% and 30% of topic-initiations in FTD and NS-NS interaction, respectively. Yes/no questions were the second most frequently used kind for both corpora, but they were employed twice as often (40% of the time) in FTD. While absolute differences between the two kinds of interaction in the use of wh- and yes/no questions in topic initiations were marked, differences in their

Table 4
Proportions of topic-initiating moves in NS-NS interaction and FTD formed by uninverted (intonation), wh = yes/no, and tag questions

	Uninverted		Wh		Yes/no		Tag	
	n	%	n	%	n	%	n	%
NS-NS	5	10	15	30	10	20	1	2
FTD	2	4	25	50	20	40	1	2

(*Wh x yes/no*, $\chi^2 = 0.01$, df = 1, $p > .90$, NS)

proportional use were not statistically significant ($\chi^2 = 0.01$, $p > .90$).

5. Questions, statements, and imperatives in T-units

Table 5 shows raw scores and percentages of T-units in NS-NS interaction and FTD which were encoded as questions, statements, and imperatives. There were large differences between the two corpora in this respect. Questions dominated in FTD, where they accounted for 66% of all T-units, whereas statements were the most frequent form in NS-NS interaction, constituting 83% of the data ($\chi^2 = 842.08$, $p < .0005$). Imperatives were rare, forming only 1% of all T-units in both types of interaction.

6. Forms of questions in T-units and fragments

Questions in and outside T-units were classified as uninverted, wh-,

Table 5
Proportions of T-units in NS-NS interaction and FTD formed by questions, statements, and imperatives

	Questions		Statements		Imperatives	
	n	%	n	%	n	%
NS-NS	288	16	1496	83	11	1
FTD	942	66	480	33	12	1

(*Questions x statements*, $\chi^2 = 842.08$, df = 1, $p < .0005$)

yes/no, and tag forms. Raw frequencies and proportions of each category are reported in Table 6. As in topic-initiating moves, wh-questions were the most frequent form in the entire NS-NS corpus. The ranking of question types in FTD changed, however, once the whole corpus was examined. Uninverted (intonation) questions were the most used (37%), followed by wh- (33%) and yes/no (29%). Tags made up 3% and 1% of the NS-NS and FTD corpora, respectively. Distributions of uninverted, wh- and yes/no questions differed significantly between the two groups ($\chi^2 = 48.32$, $p < .0005$).

Table 6
Proportions of T-units and fragments in NS-NS interaction and FTD formed by uninverted (intonation), wh =, yes/no, and tag questions

	Uninverted		Wh		Yes/no		Tag	
	n	%	n	%	n	%	n	%
NS-NS	58	18	159	49	95	30	10	3
FTD	579	37	521	33	451	29	16	1
(*Uninverted x Wh x yes/no*, $\chi^2 = 48.32$, df = 2, $p < .0005$)								

7. Yes/no and or-choice questions in T-units and fragments

The number of yes/no questions which took the form of or-choice questions is shown in Table 7. The analysis reveals that NSs addressing NNSs used significantly more or-choice questions than did NSs in

Table 7
Proportion of yes/no questions in T-units and fragments in NS-NS interaction and FTD formed by or-choice questions

	Or-choice questions		Other yes/no questions	
	n	%	n	%
NS-NS	10	10.53	85	89.47
FTD	75	21.07	281	78.93
($\chi^2 = 6.16$, df = 1, $p < .025$)				

conversation with other NSs ($\chi^2 = 6.16$, $p < .025$). Twenty-one percent of all yes/no questions in FTD were or-choice questions; 10% took this form in NS-NS interaction.

8. Relative frequency of grammatical morphemes

The relative frequency of the nine grammatical morphemes in Krashen's "average order" in NS-NS and FTD are shown in Table 8. Also included in the table are the frequency orders for the NNS subjects' accurate production of the morphemes, and of obligatory contexts in their speech for their suppliance.

9. Correlations between morpheme frequency orders

Table 9 shows Spearman rank order correlation coefficients and significance levels between the morpheme frequency orders established in analysis 8, and other orders reported for these nine morphemes. As the table shows, the NS-NS and FTD orders are correlated highly with each other (rho = .93, $p < .001$). Both orders correlate significantly with Krashen's order, with the relative magnitude of the coefficients in the predicted direction. The morpheme frequency order in NS-NS interaction correlates with the average order at the .63 level ($p < .038$), the FTD order at .75 ($p < .013$).

Other coefficients reported in Table 9 show that the NS-NS order agrees with that aggregated by Larsen-Freeman (1976a) from the three orders for parents given in Brown (1973) (rho = .80, $p < .01$), as did the FTD order (rho = .86, $p < .01$). Krashen's order correlates with the accuracy order (percentage of correctly supplied morphemes in obligatory contexts) evidenced by the Japanese NNSs in the FTD (rho = .63, $p < .05$), and at the .58 level ($p < .054$) with the relative frequency of obligatory contexts for suppliance in their speech. The Japanese subjects' accuracy order was insignificantly related to the NSs' frequency order in the NS-NS interaction (rho = -.04), the FTD (rho = -.12), and the order for obligatory contexts in their own speech (rho = .20).

DISCUSSION

The results presented in Tables 1 through 4 offer some preliminary answers to the first research question: In informal spontaneous conversa-

Table 8
Relative frequencies of nine grammatical morphemes in NS-NS interaction and FTD

Krashen's "average order" (1977)	NS-NS order	fr	FTD order	fr	FTD-NNS accuracy order	%	FTD-NNS oblig. context fr. order	fr
1. prog. *-ing*	1. article	778	1. article	511	1. prog. *-ing*	96.6	1. copula	180
2. plural	2. copula	699	2. copula	476	2. copula	81.7	2. plural	178
3. copula	3. plural	442	3. plural	319	3. aux.	74.1	3. article	173
4. aux.	4. irreg. past	255	4-5 prog. *-ing*	146	4. irreg. past	73.8	4. irreg. past	61
5. article	5. prog. *-ing*	157	4-5 aux.	146	5. reg. past	71.4	5. reg. past	35
6. irreg. past	6. aux.	140	6. irreg. past	47	6. plural	68.5	6. prog. *-ing*	29
7. reg. past	7. 3rd p. sing.	129	7. reg. past	41	7. 3rd p. sing.	47.4	7. aux.	27
8. 3rd p. sing.	8. reg. past	90	8. 3rd p. sing.	23	8. possessive	40.0	8. 3rd p. sing.	19
9. possessive	9. possessive	13	9. possessive	12	9. article	34.7	9. possessive	10
	total	2703	total	1721			total	712

Table 9
Spearman rank order correlation coefficients (r_S)

	1. NS-NS fr. order	2. FTD-NS fr. order	3. FTD-NNS accuracy order	4. FTD-NNS oblig. context fr. order
Brown (1973) (NS parents)[a]	.80**	.86**		
Krashen (1977) (average order)	.63*	.75*	.63*	.58
NS-NS fr. order		.93***	-.04	
FTD NS fr. order			-.12	
FTD NNS fr. order of oblig. contexts			.20	

[a] As given in Larsen-Freeman (1976, Table 5)
* $p < .05$ ** $p < .01$ *** $p < .001$

tion, how do NS-NS interaction and FTD differ in structure? On the basis of the data from this study, it appears that such differences as exist are quantitative rather than qualitative. Temporal reference marking of verbs is similar in both types of talk, with roughly equivalent use of present and nonpresent time reference. While FTD was rather more concerned with present than past or future issues, the proportion of talk about matters of present time reference was only slightly greater than the proportion of such talk in NS-NS interaction. It seems that the adult NNS interlocutors' cognitive maturity outweighed their lack of linguistic sophistication in the second language, resulting in their treating approximately the same range of topics in an informal conversation as did NSs.

The depth and detail of discussion of topics did differ, however. The differences between NS-NS interaction and FTD with regard to the ratio of topic-continuing to topic-initiating moves show that talk about any one topic in FTD was briefer, with relatively little information changing hands. The following extract from a conversation between a female ESL teacher and a female Japanese student was typical:

(c) T#1 NS: Yeah Exactly I have *not* seen them Yeah Do you live in Tokyo?

Yes

Yeah?

I come from (Ngunga)
near- near Tokyo

Aha

But I live in Tokyo

Aha Do you study?
Or
do you work?

No

The NS closes down one topic and covers two more (where the NNS is from and what she does there) in the space of eight very short turns, containing only two topic-continuing moves in T-units (both produced by the NNS). This finding extends that by Arthur et al. (1980) concerning "information bits" communicated in telephone conversations between NS and NNS callers and airline reservation clerks. In the Arthur et al. study, the NNSs were responsible for a number of what are here called topic-initiations, as they were seeking information prespecified by the investigators. NNSs consistently elicited less information than NSs. Here, as in the example quoted, NSs handled the vast majority of topic-initiations (Long, in press), and comments, in the form of topic-continuations, were again few in number compared with NSs talking about a similar range of subject matter.

The superficial treatment of topics in FTD appears to be related in part to the structure of topic-initiating moves in NS-NNS conversations. Table 3 shows that significantly more questions than statements were used to open talk on new topics in FTD; indeed, 96% of all topic-initiations were formed in this way, compared with 62% in NS-NS interaction. The NSs' preference for questions may be motivated by the fact that in English at least, questions "compel" answers (Goody 1978), and are thus a means of encouraging the NNSs' participation.[4] Most questions, however, can be responded to appropriately with single words or phrases rather easier than can statements. Compare, for example:

(d) T#2 NS: How do you how do you get
around in Los Angeles?

By bus

By bus?

Yeah

[4] Questions may not have this function in all cultures, however. See Hymes (1976), Boggs (1972), and Philips (1972).

Good . Yeah that's a good way to
uh to to s- *see* people, I think
. see all different *kinds* of
people . . Where do you live in
Los Angeles?

Um next to
(Thurstone)

The NS, a male university professor of English literature, succeeds in drawing the NNS, a female, into the conversation when he asks questions. His statements, on the other hand, are unsuccessful. The pauses of approximately one second each, marked in the transcription by a period mark, are what Sacks, Schegloff, and Jefferson (1974) call "transition-relevance points." Offering speaking turns in this way is a recognized and successful interactional resource in NS-NS conversation. In FTD, it was successful only rarely, and usually preceded introduction, through a question, of a new topic by the same (native) speaker.

The use of questions for topic initiations, it is suggested, may be favored for at least three reasons. First, the linguistic markers associated with the interrogative form, subject-auxiliary inversion, wh-morphology, rising intonation, or combinations of these, may help the NS signal and the NNS recognize that a speaking turn is approaching for the NNS. Second, in many cultures, at least, the question-answer sequence constitutes an "adjacency pair" (Schegloff and Sacks 1973), two immediately consecutive utterances spoken by different people. In English conversation it is apparently a distinguishing feature of adjacency pairing that, the first utterance having been spoken, the second must be provided as soon as possible. This, as Goody (1978) points out, means that a question "compels, requires, may even demand, a response" (p. 23). It becomes, therefore, a powerful tool for ensuring the NNS's participation, however limited his or her linguistic ability. Third, questions lighten the interlocutor's conversational burden because they encode part or, in some cases, all of the propositional content that it would normally be the second speaker's job to formulate were his or her utterance preceded by a statement. Thus, yes/no questions, such as "Do you come from Japan?" are complete propositions; the respondent needs only to confirm or deny with a simple "Yes" or "No." Wh-, or "open," questions (Robinson and Rackstraw 1972), such as "Where are you from?" are incomplete propositions, requiring provision of a missing element (e.g., "Japan"), but still demand less than a semantically equivalent reaction to a statement, such as "I can see you're

not American," where a (polite) appropriate response might be: "I come from Japan."

The above considered properties of questions offer one possible explanation for their pervasive use by NSs in FTD. The specific attributes of open and closed questions noted would also lead us to predict a greater number of yes/no questions in FTD, however. As Table 4 shows, this is not in fact the case for topic initiations, where wh-questions predominate in both NS-NS interaction and FTD. The idea that yes/no questions will be favored is, of course, supported by the proportionately significantly greater use they receive in FTD than in NS-NS conversations. Other factors must operate to maintain the overall majority of wh-questions, perhaps an interaction effect between the relative propositional simplicity of yes/no questions and their possibly greater complexity from a processing standpoint, due to the absence of the morphemic question marker.

The second general research question asked how any differences in the structures of NS-NS interaction and FTD affected the formal linguistic properties of the two types of conversation, specifically with regard to the relative frequencies of certain items. Preliminary data relevant to this question are to be found in the results reported in Tables 5 through 8.

Table 5 shows that questions of all kinds were far more widely used in FTD than in NS-NS interaction, while statements were the dominant form in the latter. Reasons why questions may be expected to appear frequently in FTD have already been provided. The relatively greater favor they find in T-units of all kinds in FTD, however, as opposed to their use in topic-initiating moves, seems to be related to previous findings concerning the discourse structure of the two types of interaction. The ratio of topic-continuing to topic-initiating moves is considerably higher in NS-NS interaction, and almost all topic continuations in the NS-NS data take the form of statements. Similarly, more topics are dealt with in FTD (Table 2), albeit superficially, more topic initiations are needed to accomplish this, and fewer topic continuations; the former, as Table 3 shows, prefer question forms (96%), while the latter tend to elicit statements.[5]

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[5] Two potential alternative explanations might be offered for the higher frequency of questions in the FTD corpus. First, 24 of the 36 NSs here were teachers of some kind. Teachers are known to ask a lot of questions during classroom instruction, and may have transferred this practice to conversations with NNSs whom they perceived as students. In fact, a comparison of their performance with that of the 12 nonteachers (Long, in press) showed that *non*teachers asked more questions. Second, the 36 NNSs were all Japanese young adults, and may have been constrained by cultural norms as to the (in)appropriateness

The analysis of questions in the entire corpora was refined via their subdivision into uninverted, wh-, yes/no, and tags. The finding (Table 6) that FTD employed significantly more uninverted and fewer wh-questions than NS-NS interaction at first appears to run counter to previously offered explanations of the high incidence of yes/no questions. Two reasons for the result are apparent, however. First, this analysis included fragments as well as language in T-units. Many additional conversational turns were thereby added to the data, for both NSs and NNSs. While no count was made of the proportion of words outside T-units in the NS-NS corpus, an eyeball inspection of the transcripts suggests that relatively little language was contained in fragments, compared with the roughly 20% in that form in the FTD, where a count was made. It simply remains to explain that among the 20% of fragments in FTD were a large number of functionally important speaking turns for both NSs and NNSs, notably partial repetitions of noncomprehended questions, requests for confirmation and clarification, and information requests. Repetitions and requests for clarification and confirmation are rarely topic initiations, which, for reasons given earlier, will often favor wh- or yes/no questions. Rather, they are often echoic, as in:

(e) T#33 NS: How long are you going to stay here?

Three weeks

Three weeks? . Three weeks more?

Use of the previous speaker's own words is likely to facilitate communication, is an accepted way of referring to the content of a previous turn in normal conversation, and is additionally attractive to NNSs, for whom incorporation of parts of others' utterances has often been found a popular performance tactic, especially in the early stages of SLA (Huang 1970, Wagner-Gough 1975). The only change needed to make various functions of the repetition clear is the addition of rising intonation.[6]

Table 7 shows that significantly more yes/no questions in FTD were or-choice questions. The function of or-choice questions has been discussed elsewhere (Hatch 1978, Long, in press), and will not be repeated here. It is

of question-asking. This explanation, too, is unlikely, however, as a more recent study (Long 1980) involving NNSs from a wide variety of first language backgrounds obtained the same result.

[6] NNSs in the FTD asked few questions, but of the total of 185 in the entire corpus, 148 (80%) were of the uninverted form, marked by rising intonation, and most of these were fragments.

sufficient to point out that their use is consistent with previously established NS interaction strategies (Long, in press), especially the effort to let NNSs determine what is talked about, as in:

(f) T#5 NS: Are the islands the same- do they look the same?.. as Japan as . the country in Japan? Are the houses, for example, are the houses the same on Osima .. as say in the country .. Sapporo or (Akairo)? Do the people talk the same or do the houses look the same? . . . . Or are the the trees the same?

and (a personal favorite):

(g) T#34 NS: OK Now you know the question that's coming What have you what do you think of the United States or the American people or whatever it is that interests you or you noticed?

The fact that NSs were found to use or-choice questions with other NSs, too, suggests that they have other functions. Their significantly greater role in FTD helps explain the higher frequency of yes/no questions in these types of data.

The findings for morphology (Tables 8 and 9) offer only weak support for the hypothesis that relative frequencies of their occurrence in FTD will differ from that in NS-NS interaction. First, the FTD and NS-NS orders are highly correlated with each other (.93, Table 9). Second, both orders are significantly correlated with Krashen's "average order." The greater strength of association between the FTD order and Krashen's order is due mainly to the ranks of irregular past—6th in FTD and 4th in NS-NS interaction—which is 6th in the average order. It has already been noted that FTD and NS-NS interaction were not significantly different with respect to present and nonpresent temporal marking of verbs. The differences may, however, be due to another feature observed at the discourse level, namely, the proportion of questions and statements in the two types of interaction. Further analysis of simple past tense marking shows the following breakdown: In NS-NS interaction, 26% of verbs thus marked appeared in questions, 74% in statements; in FTD, 77% of simple past tense verbs were contained in questions, 23% in statements ($X^2 = 54.13$, $df = 1$, $p < .0005$). The fact that English marks simple past on the auxiliary (did) in questions and on the main verb in statements means that learners of ESL are likely to hear the unmarked infinitive form far more frequently than NSs, as was the case in the present corpora.

The same line of reasoning can be offered to account for the higher

correlation between the NS frequency order in FTD and the average order (rho = .75) than that between the NS-NS and average order (rho = .63). The correlation coefficients reported in Table 9 are consistent with the notion that relative frequency of occurrence of forms in the linguistic input to NNSs is related to the order of their appearance correctly supplied in obligatory contexts by second language acquirers, supporting a previous finding to this effect (Larsen-Freeman 1976b). If relative frequency in FTD as opposed to NS-NS interaction were the only determinant of order of accurate production, which is *not* being suggested, one would expect a greater difference than that in fact observed. On the basis of these data, it must be concluded that, while small differences do seem to exist, they constitute but one of two or more factors determining the production orders.

Further support for a relationship between frequency in the input to the NNS and the order of accurate production of various forms is to be found in certain of the other coefficients reported in Table 9. The nonsignificant correlation between the average order and the relative frequency of obligatory contexts for production of the morphemes in the NSSs' speech would suggest that input frequency is more important for SLA than opportunities for use. Again, however, caution must be expressed with regard to this finding, for the rho of .58 is close to significant at the .05 level. The nonsignificant correlations between the Japanese subjects' accuracy order and (a) the FTD NS order, (b) the NS-NS interaction order, and (c) the obligatory contexts order in the NNS subjects' own speech are difficult to interpret. This is because all the subjects were at a very low level of proficiency at the time of the study. The interesting finding in this regard, however, is that their current accuracy order did correlate significantly with the average order (.63, $p < .05$) at this level. First, the result provides additional support, if such were needed, for Krashen's interpretation of the morpheme studies published up until 1977. Second, it suggests that the relationship between frequency in the input to second language acquirers and order of acquisition may be more complex than originally hypothesized. If NNSs manifest the average order from the early stages, yet their accuracy order is unrelated to input orders during this period, it may be that input frequency only becomes an acquisition factor at later (perhaps the intermediate and advanced) stages of development. If this turned out to be the case, it might be because NNSs need some degree of competence in the second language before they can "tune in" to the input frequency. This is only one of the possible explanations, however. Another would be that

input frequency does have an effect from the earliest stages of SLA, but that a period of time must elapse before this effect becomes apparent in the learner's speech. This hypothesis finds some support in the input frequency-output relationship observed in child language development, where correlations exist, but not in concurrent samples of parental and child language (Moerk 1980).

CONCLUSIONS AND IMPLICATIONS

The results and discussion of the study need to be interpreted cautiously, as the investigation suffers from at least three limitations. First, the corpora examined, though larger than in most previous studies, are still small. Second, they also differ in some respects. For example, the NS-NS data were from conversations among triads, not dyads, which may affect discourse structure in some as yet unknown ways. The FTD data consisted of the first five minutes of conversation, whereas the NS-NS samples were taken from periods beginning some minutes into the conversation. There are obvious ways in which this could affect the amount of common knowledge existing among interlocutors, and thereby change the kind of topics talked about, and the way they were discussed. Third, the FTD was that between educated middle-class Caucasian speakers of varieties of Standard American English, and low proficiency level Japanese adults, with only one situation sampled. Changes in any of these person variables, or combinations thereof, in one or both members of the dyads, or in the situation in which they interacted, could produce considerable differences in the kind of data obtained.

Of the above limitations, that concerning the nature of the FTD samples, viz. the first five minutes of interaction, while needing to be validated in subsequent research, is the variable that may have least relevance. First, several measures were initially calculated on the first and second two-and-a-half-minute segments, and tested for significant differences using t-tests with repeated measures. No statistically significant differences were found, and the data for the two periods were pooled for further analysis. Second, even with no restriction as to the topics discussed, several dyads found it difficult to sustain the conversation for five minutes, due to the NNSs' limited ESL proficiency, the NSs' lack of expertise with foreigner talk, or both. Third, informal observation and students' anecdotal evidence suggest that many, if not most, interactions between NSs and students of

such limited ESL proficiency are a good deal shorter than five minutes. This aspect of external validity, in other words, is not anticipated to prove a problem in terms of the generalizability of the findings.

The study, though exploratory in nature, suggests that differences do exist between the discourse structures of NS-NS interaction and FTD, and that there are relationships between these structural differences and features of the linguistic form of the speech comprised in the two types of conversation. Further, some support has been found for the previously hypothesized relationship between the relative frequencies of certain items in the input learners hear and the order in which those items are produced correctly in their developing second language competence. Further research might usefully test these findings on larger, more carefully controlled corpora of data obtained from a wider variety of speakers and situations, and using these and other discourse and formal linguistic features as criterion measures.

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