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Competing communicative styles and crosstalk: A multi-feature analysis

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ABSTRACT

The explanatory model of cross-cultural miscommunication, or crosstalk, is extended here through a multi-feature, multi-dimensional analysis of Soviet and American speakers' discourse in two three-hour audio/video "spacebridge" meetings. The study demonstrates that variation between speakers' uses of co-occurring sets of lexical and syntactic features can contribute to crosstalk. Crosstalk is shown to be functionally motivated by interlocutors' different constructions of the speech-event context and norms of interpretation.

A factor analysis of lexical and syntactic features in spacebridge participants' discourse identifies two main dimensions of stylistic variation; use of the sets of co-occurring features that constitute these dimensions are interpreted as performing different discourse functions, and thereby indexing different aspects of the speech-event context. Soviet floor turns that exhibit the greatest stylistic divergence from American stylistic behavior and expectations are shown to correlate with communicative breakdowns in the spacebridges, and thereby to contribute to crosstalk. The analysis suggests that, at some level, stylistic contextualization cues are quantitatively "analyzed" in real time by discourse participants, and it demonstrates some of the explanatory potential of quantitative modeling of complex indexical processes such as stylistic accommodation, divergence, and opposition. (Cross-cultural communication, miscommunication, crosstalk, indexicality, contextualization, stylistic variation)*

A substantial body of research has demonstrated the link between cross-cultural miscommunication, or crosstalk, and differences between speakers' uses of extra-segmental features such as stress placement, intonation contours, and information structures (e.g. Gumperz 1982a,b). This emphasis on extra-segmental features results in part from the primary focus in crosstalk research on interactions between native speakers and non-native speakers of relatively high L2 proficiency; in these interactions, participants are assumed to share the same lexical and syntactic code, but to differ in their use of extra-segmental contextualization cues to

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index (analysts assume) a common perception of the context. Native and non-native speakers' uses of differing contextualization codes lead to mutual misinterpretation of each other's speech acts and intentions. Studies of crosstalk between native speakers of a language have similarly focused on extra-segmental variation because a shared lexico-syntactic code is assumed (Tannen 1984).

However, Gumperz (1982a:186) emphasizes that "socio-cultural conventions affect all levels of speech production and interpretation," including "selection among lexical and syntactic options." That is, contextualization is also accomplished through the lexical and syntactic "text" of the discourse, and therefore, speakers' differing choices of lexical and syntactic contextualization cues are likely to contribute to crosstalk. Much lexico-syntactic variation may be accounted for in terms of register variation: Speakers with differing constructions of the context are likely to mark and construct these differing contexts by their lexical and syntactic "styles." But this level of variation is more complex, less easily identified, and less accessible to verification techniques (such as playback) than is extra-segmental variation; hence the role of lexico-syntactic variation in crosstalk has been less frequently investigated. This study demonstrates how stylistic variation in speakers' use of lexical and syntactic features performs a contextualizing function, and how it can help to explain some instances of cross-cultural miscommunication.

LEXICO-SYNTACTIC VARIATION AND CROSSTALK

In a previous study (Connor-Linton 1995), I presented an enhanced model of contextualization and crosstalk. It is summarized briefly here to provide the theoretical context for the present analysis.

Biber's 1988 study of register variation shows how the lexical and syntactic features of a discourse help dialectically to mark and to construct its context, and therefore to serve as contextualization cues. To produce an utterance, a speaker chooses lexical and syntactic forms that not only represent the utterance's intended propositional content but also cumulatively meet the communicative demands of the context in which the utterance is produced. The co-occurrence of forms in an utterance is motivated by their shared or similar local discourse functions. The particular sets of co-occurring lexical and syntactic forms in a speaker's utterance indirectly index aspects of the context by responding to the discourse needs that characterize that context. Using a set of co-occurring forms (or "style") to perform the functions demanded by a particular communicative context also helps to construct or enact that context – especially to the extent that the style becomes conventionally, as well as functionally, associated with that context by members of a speech community (Bernstein 1970, 1972). Because the lexical and syntactic features of an utterance recapitulate, on a micro-textual level, those macro-discourse contextual features that they functionally and conventionally index, discourse participants (and analysts) are able to interpret speakers' construction of the context.

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When speakers index an aspect of the context through their lexical and syntactic choices, they seek to enact that aspect of the context by calling into play the interpretive norms conventionally associated with the indexed aspect of the context. Speakers' linguistic styles signal the norms by which they expect their utterance to be interpreted, and by which they will interpret other speakers' utterances. Of course, discourse participants must negotiate the context and interpretive norms; the currency and medium for that negotiation are, to some extent, the indexical meanings of the styles of their utterances. Necessarily, speakers must begin the negotiation by interpreting other speakers' utterances egocentrically, through the interpretational heuristic of their own construction of the context. Crosstalk is likely to occur in two situations: (a) when discourse participants do not share the same form/function/context stylistic indices (the lexico-syntactic analog to traditional extra-segmental crosstalk); and (b) when participants' constructions of their contexts are so at odds that they invoke different norms of interpretation DESPITE SHARING AN INDEXICAL CONTEXTUALIZATION CODE.

The latter case is especially probable in encounters between speakers of the same language when participants stand in a competitive relation to power; speakers may stylistically insist on their own context and interpretive norms in order to protect their own identity and construction of the world. Inflexible interpretation of another's utterances, in relation to one's own privileged construction of the context and related interpretive norms, can result in misinterpretation and crosstalk. This is a failure of communication on one level of meaning, e.g. the intended speech act; but at the same time, the act of misinterpretation protects the misinterpreter's own social identity, and it indirectly communicates and accomplishes the gap that misinterpreters perceive and/or wish to construct between their own and the other speakers' respective social identities (e.g. Chick 1985).

When we incorporate a view of cross-cultural misinterpretations as the result of different stylistically indexed identities and constructions of contexts, the concept of crosstalk is given greater explanatory power and scope. The process by which crosstalk occurs can explain not only accidental miscommunication, but also a range of communicative strategies most likely to be employed in interactions where speakers' relative power is being communicated. Since the negotiation of power takes place within cultures as well as between cultures, we should expect to find this kind of "productive" crosstalk between speakers of the "same" language who hold and seek to enact competing contexts and competing relations to power.

GOALS OF THE PRESENT STUDY

As Jupp et al. 1982 point out, crosstalk is one mechanism by which social structure, especially members' relations to power, is reproduced. Previous analyses of crosstalk (e.g. Gumperz & Roberts 1991) have shown that the inferences that are

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the unspoken text of a conversational exchange rely on culture-specific presuppositions, and that crosstalk can occur when discourse participants do not share these contextual presuppositions. The most specific goal of this study is to describe a previously undocumented way in which cultural presuppositions are linguistically invoked in cross-cultural interaction, contributing both to crosstalk and to the reproduction of social structure. The study's focus on the role of lexico-syntactic variation contributes to a fuller, more complex understanding of crosstalk; in particular, it lays a necessary foundation for understanding how extra-segmental and lexico-syntactic variation are related in processes of cross-cultural miscommunication. The focus on lexico-syntactic variation also problematizes the boundary between miscommunication and disagreement: Most crucially, when is a misunderstanding accidental? More generally, this study provides further evidence of the indexical function of lexical and syntactic features of language as contextualization cues.

METHOD

Data: The Soviet-American spacebridges

On two occasions in 1985 and 1986, 200 Americans and 200 Soviet citizens gathered in television studios in their respective countries and interacted through a satellite audio/video link for a total of six hours, in a speech event which is generically called an "interactive video exchange" or "spacebridge." All participants were represented as "average citizens" more or less randomly selected from local populations. In each television studio – one in the US and one in the USSR – the participants were seated in the area that usually holds the studio audience. They faced a large television screen, approximately 6 meters high, on which each group could see projected video images of their interlocutors. In each studio, a moderator controlled the single microphone in that studio and selected speakers from among the participants. The American moderator was television talk-show host Phil Donahue; the Soviet moderator was Vladimir Pozner, a Soviet journalist.

In each studio, a director and production crew selected, from among a variety of camera angles, the images that were transmitted via satellite link to the other studio's screen. The utterances of speakers in one studio were simultaneously interpreted into the language of the participants in the other studio. In each direction, a woman interpreted the utterances of female speakers, while a man interpreted the utterances of male speakers. Each group of participants therefore experienced the event in their own native language.

A complete analysis of these two speech events would include analysis of what the American spacebridge participants said and heard in English, what the Soviet participants said and heard in Russian, and comparisons of what each group said with the simultaneous interpretation of what they said. This study analyzes only what the American spacebridge participants said, and what they heard and responded to. The indexical analysis of their own utterances reveals

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their construction of the speech event and implies the norms of interpretation that they brought to bear on Soviet utterances.[1]

For the American participants, the English simultaneous interpretations of the Soviets' utterances WERE the Soviet participants' utterances, whether accurate or not. Any inaccuracy in the English simultaneous interpretations of Soviet speakers' communicative style (and indexical construction of the context) is, for present purposes, moot. While we cannot make any claims about the Soviet participants' construction of the context from the present data, analysis of the English simultaneous interpretations of Soviet participants' utterances (and of American participants' responses) can reveal the manner and extent to which the lexicosyntactic style of those utterances differed from the Americans' style, and how the American participants indexically interpreted those utterances. This will suffice to demonstrate the indexical function of lexical and syntactic variation and its role in crosstalk. Cross-cultural communication through interpreters and translation complicates and limits any discourse analysis; but the frequent dependence of American businessmen, diplomats, and tourists on interpreters makes an analysis of mediated cross-cultural interactions highly relevant.

Crosstalk in the spacebridges: An example

Despite the stated cooperative intentions of the spacebridge speech events, American and Soviet speakers objected many times in the course of the two meetings to the way members of the other group were speaking. Previous analyses of differing Soviet and American pronominal reference preferences and questioning strategies (Connor-Linton 1988a, 1995) have shown that Soviet and American speakers' differing uses of these two linguistic features in the spacebridges marked competing constructions of the spacebridge context, and that they contributed to misinterpretations of each other's utterances.

Consider the following exchange. A Soviet woman in the first meeting made this claim:

I SF 02 22 In our country all the doors are open. Literally all doors are open for peace, friendship, for everything good, for everything that is best in man's life. We have full and total equality.[2]

Later, another Soviet woman (I SF 05 106), stressing her perception that the spacebridge participants were "ordinary Soviet people and ordinary Americans," suggested that political topics should be left to the politicians of both countries, saying: "I still think it would be better to speak to those problems which are close to all of us." A few turns later, an American man, responding to these two utterances, said:

I AM 05 110 I would like to agree with the woman, to go back to ordinary people, and something that affects you as ordinary people is the fact a woman mentioned that you have an, that you have an open door and you have freedom. Can you leave your country if you dissent so much that you want to come to another country?

The two turns (I SF 05 106 and I AM 05 110) epitomize the conflict between the competing Soviet and American constructions (in these spacebridges) of

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individuals and their relation to broader entities like government and more abstract concepts like freedom. SF 05, like many other Soviet participants, constructed an extenuated and particular relation between the individual and the context-dependent results of governmental policies and socio-cultural ideology; she dispreferred talk on political issues, preferring to talk about the more immediate role of the spacebridge participants, within the local context of the spacebridge: "How we and you all should make our contribution – the two hundred people here and the two hundred people there." In contrast, AM 05, like many American participants, constructed a more direct relation between the people of a society and the generalized, relatively context-independent effects of policy and ideology ("something that affects you as ordinary people is . . . freedom"); his question was directed toward the Soviet participants as representatives of their society, not as members of a particular speech event.

Six floor turns later, a Soviet man responded to AM 05's questions:

I SM 14 116 Yes, I can answer both questions. I work in the Kirov theater which is, which has a world reputation. And I spend a great [deal] of time in countries the world over. In fact I spend time with American colleagues. So the first part of the question. For the entire time that I was in the West, I had no desire to stay there because I love my homeland, I love my city, I love my family. Now as regards the fact that perhaps one person left or another person left and another person stayed in the West, this is that person's affair. Now as regards the second question on traveling. Unfortunately, my son is not here. He is six years old and he has traveled all around Europe in fact with my family and in fact there are broad opportunities for travel.

In the next floor turn, Donahue challenged the relevance of SM 14's response:

I A PD 117 Yes, but I don't know whether you fully appreciate the passion with which millions of Americans view the restricted lives of the Soviet people.

This exchange exemplifies the competing Soviet and American styles discussed in previous studies (Connor-Linton 1988a, 1995). The very frequent reference of the American speaker (I AM 05 110) to "you", with wide, societal scope (Soviets in general, as "ordinary people") as the focus of a yes/no question ("Can you leave your country"), projected not only the conditional relevance of answer on the subsequent Soviet response, but also a conditionally relevant scope of reference (Soviets in general) on that response. The Americans sought to construct a kind of relationship between the Soviet and American participants, and a norm of what counted as appropriate knowledge in the spacebridge. SM 14's response was very informational, but the scope of that information was restricted to the speaker's own personal experience. It was responsive to one demand of AM 05's question – it was presented explicitly as an answer – but it presented a different and competing formulation of the scope of reference, and of the type of information relevant to the spacebridge, from that which AM 05 sought to construct. Donahue responded to SM 14's "reformulation" of AM 05's question as inappropriate, nonresponsive, and ultimately insincere.

However, these four floor turns exemplify not only competing Soviet and American scopes of reference (and their communicative consequences), but also

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competition and conflict on a more complex stylistic layer of meaning, in which differing scopes of reference and questioning strategies are two elements in a systematic divergence between Soviet and American uses of a variety of linguistic and discoursal features. The differing Soviet and American uses of language marked the Soviet and American participants' competing conceptions of the speech event, of themselves and each other, and of the nature of knowledge appropriate to the speech event and the ways in which it should be obtained. This more complex collocation of features – differences in the use of those features, the social and epistemological information they marked, and the consequences of these differences – is the subject of this study.

Multi-feature/multi-dimensional analysis

The co-occurrence relations of 67 lexical and syntactic features, and the distribution of their use by Soviet and American spacebridge participants, were initially measured and analyzed to discern stylistic variation between the two groups of speakers. The final analysis focuses on 14 of these features, for reasons explained below. Stylistic variation is interpreted as the indexical communication of different conceptions of the speech event and of appropriate speech behavior. These norms of appropriateness are then shown to contribute to crosstalk that occurred during the spacebridges.

Analysis and comparison of the speech behavior of Soviet and American spacebridge participants in this study followed the "multi-feature/multi-dimensional" approach developed by Biber 1988. Biber measured the frequency and distribution of 67 classes of lexical and syntactic features in 481 spoken and written texts drawn from the London-Lund Corpus of Spoken English (Svartvik & Quirk 1980) and the Lancaster-Oslo-Bergen Corpus of British Written English (Johansson et al. 1978, Johansson 1982). Factor analysis was used to identify groups or factors of linguistic features that co-occur in the texts with a high frequency (see Gorsuch 1983). Because of its broad sampling from 23 spoken and written genres, the co-occurrence patterns identified by Biber represent dimensions of functionally motivated linguistic variation across a wide variety of genres of English discourse.

The analysis in the present study began with the 67 lexical and syntactic features analyzed by Biber 1988 because of their demonstrated sensitivity to functional and situational variation. Other features of English could be included in a multi-dimensional analysis, and finer categorizations of the features measured in this study could also be included. For example, 1st person pronouns were treated as one feature in the present study; but they could be measured in subcategories of number, case, or other analytic features.[3] The choice in this study to analyze the frequency and distribution of the features analyzed by Biber is motivated in part by practicality, i.e. the availability of reliable computer programs for tagging and frequency measurement of these features. Biber motivated his choices by reviewing the literature on differences between speaking and writing, but his

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analysis showed that variation between speech and writing is multi-dimensional; the features analyzed have more direct indexical relations to communicative functions that, in combination, describe a genre or communicative situation. If the co-occurrence of linguistic features is motivated more directly by shared communicative function, then it is likely that at least some of the features originally selected for their potential relevance to variation across speech and writing would also be sensitive to variation across other contextual dimensions.

Biber's study analyzed variation in language use across genres. It is also possible to analyze the co-occurrence patterns of language use WITHIN a specific speech event (if it constitutes a large enough dataset), in order to discern the communicative functions performed by participants' utterances and the construction(s) of the speech event indexed by those functions. Because variation in language use WITHIN a particular speech event is much more constrained than variation across a mega-corpus like Biber's, many of the features initially measured will have no strong distributional patterns and therefore will show no co-occurrence relations with other features. If difference is the essence of information, the lack of differentiation allows these features to be ruled out as salient contextualization cues WITHIN A PARTICULAR SPEECH EVENT.[4] This kind of principled exclusion leaves, in the final analysis, only features that have strong co-occurrence relations, and presumably salient contextualization functions. Thus the selection of features for analysis is motivated by distributional patterns in the dataset itself, not by a-priori assumptions of the features' various functions.

Some relevant features may have been excluded from the present analysis; but if the original set of features is large and varied enough (an empirical question), then the co-occurrence patterns within the subset of salient features should be stable. That is, the distribution of "excluded" features – to the extent that they are "salient," in these terms, within the speech event – should conform to or be predicted by the co-occurrence patterns discerned in the "included" features. By the same reasoning, "extra-linguistic" features, e.g. of prosody and information structure, should also be consistent with the co-occurrence patterns among linguistic features. Therefore, this application of multi-dimensional analysis offers a way to discern the links between different subsystems of contextualization cues.

In the present study, each floor turn that was 50 words or longer in length, produced by a Soviet or American speaker (excluding the moderators, Donahue and Pozner), was taken as an observation. The two spacebridges analyzed in this study consist of 37,702 words; of these, 13,981 (37%) were uttered by American speakers, and 23,721 (63%) by Soviet speakers. Among these, 120 American floor turns (totaling 10,789 words) and 156 Soviet floor turns (totaling 21,454 words) were at least 50 words long. These 276 floor turns (comprising 86% of all words spoken in the spacebridges) were selected as the database for factor analysis.[5]

As used in the present study, factor analysis reduces a large number of initial variables to a small set of derived variables, called "factors" (see Biber 1988:79–97 and Gorsuch 1983 for a more detailed explanation of the method). The initial

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variables in this study were the frequencies, in each 50-words-plus floor turn in the spacebridges, of each of the 67 classes of linguistic features defined by Biber. A factor is a linear representation of the co-occurrence relations of its constituent features, describing a continuum or dimension of language variation within the data. Each factor typically consists of two groups of features; the features in each group co-occur with one another with a high frequency; and the features in each group are in complementary distribution with the features in the other group.

The strength of co-occurrence of each feature in a factor is indicated by its "loading" or "weight." The larger the absolute value (either positive or negative) of the loading, the greater is its strength of co-occurrence with the other features in the co-occurring set. In the contextualization theory discussed above, the higher the absolute value of a feature's loading on a factor, the more likely that feature is to share a similar function with its co-occurring features. Factors are interpretable as textual dimensions along which a text or observation (in this case, a spacebridge participant's floor turn) can be located, in terms of its frequency of use of the features that constitute that dimension. Floor turns or groups of floor turns can be compared by their relative positions along a particular stylistic dimension of language use; this indicates the relative emphasis that a speaker of a floor turn placed on the contextual demands represented by that dimension – i.e., how strongly a speaker marked a particular aspect of the context.

Because the database of this study is comprised of two very similar speech events, it does not have the range or depth of stylistic variation of the database analyzed by Biber. In addition, many of the features identified and measured by Biber's computer programs are very infrequently used in the spacebridges. For these reasons – and because many of the grosser aspects and demands of the context were the same for both Soviets and Americans, and because the Soviet utterances were analyzed in their English translation – it was expected that Soviet and American speakers' use of many of the 67 classified and measured features would show little or no reliably discernible co-occurrence relations. Features that did not show strong co-occurrence relations with other features (those that had a shared variance of less than .05 with other features) were eliminated from the factor analysis. This principled exclusion left 14 features with strong co-occurrence relations in the final analysis.

The next step in the analysis was to determine the best number of factors in a solution. As Biber points out, "A factor analysis will continue extracting factors until all of the shared variance among the variables has been accounted for; but only the first few factors are likely to account for a nontrivial amount of shared variance and therefore be worth further consideration" (1988:82). A best solution maximizes the amount of shared variance (co-occurrence relations among features) that is accounted for by the smallest possible number of factors, since the goal of the factor analysis is to reduce the complexity of the larger number of initial variables to a small set of underlying dimensions.[6] Scrutiny of the eigenvalues of each factor, which indicate the amount of variance accounted for by

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each factor, showed that the first factor accounts for the most shared variance; after the second factor, the additional shared variance accounted for by adding factors is minimal. This and the limited number of features retained in the analysis, i.e. 14, led to the selection of the two-factor solution as the basis for further analysis and interpretation.[7]

RESULTS: STYLISTIC VARIATION IN THE SPACEBRIDGES

The final rotated factor pattern for the present study, representing 14 linguistic features counted in 276 Soviet and American floor turns of 50 or more words in both spacebridges, is presented in Table 1. Table 1 shows that the patterns of co-occurrence among linguistic features in spacebridge floor turns described two main stylistic dimensions of language variation in the spacebridges (Factor 1 and Factor 2). Each dimension consists of two co-occurring sets of features which are in complementary distribution with one another. The two co-occurrence sets of a factor characterize two linguistic styles or strategies by which speakers marked competing and distinct contextual concerns.

The negative-loading features on Factor 1 are in complementary distribution with the positive-loading Factor 1 features. That is, a floor turn with many main verbs, infinitives, private verbs etc., usually had relatively few prepositions, at-

TABLE 1. *Rotated two-factor solution for all speakers (Soviet plus American: Procrustean transformation).*

Factor 1		Factor 2	
Total verbs[a]	.94425	Third person pronouns	.53924
Infinitives	.58833	Total nouns	.45997
(Third person pronouns	.38435)	WH-relative clauses on subject position[c]	
(Private verbs[b]	.26381)		.41473
(First person pronouns	.17802)	(Prepositions	.25427)
Prepositions	−.48556	First person pronouns	−.37244
Attributive adjectives[d]	−.34890	Second person pronouns	−.35105
(Total nouns	−.41911)	(Gerunds	−.31096)
(Gerunds	−.22694)	(Public verbs[e]	−.28076)
(Nominalizations	−.19220)	(Adverbs[f]	−.18986)

[a]All main verbs, excluding private and public verbs.
[b]Private verbs indicate an internal, mental process or state, e.g. *believe*, *fear*, *feel*, *hear*, *know*, *mean* (Quirk et al. 1985:1181–82).
[c]E.g., "the Kirov Theater, which has a world reputation."
[d]Attributive adjectives precede the nouns they modify and are not predicated of those nouns, e.g. "the free movement of Jewish citizens").
[e]E.g. *agree*, *ask*, *propose*, *say*, *tell*, *state* etc. (Quirk et al. 1985:1182–83).
[f]Excludes hedges, amplifiers, downtoners, place adverbials, and time adverbials.

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tributive adjectives, or nominal forms – and the converse. The complementary distribution of these two sets of features represents two facts about language use in the spacebridges. First, since the unit of analysis is the floor turn, speakers in the spacebridges tended to use one set of features or the other in a given floor turn. Second, it follows from the form/function/context constructive model of indexical contextualization that speakers of some floor turns marked and enacted one aspect of the context by their predominant use of positive-loading Factor 1 features, while speakers of other floor turns marked and enacted a different and competing aspect of the context through their predominant use of negative-loading Factor 1 features.

As in the case of Factor 1 features, the complementary distribution of the two sets of features defining Factor 2 indicates that speakers of some floor turns marked and enacted one aspect of the context, while speakers of other floor turns marked and enacted a different and competing aspect of the context. There is some overlap between the two factors: Nouns frequently co-occur with both prepositions and attributive adjectives on Factor 1, and with 3rd person pronouns and WH- relative clauses on subject position on Factor 2; 1st and 3rd person pronouns are often found in the highly verb-al environment of the positive-loading features on Factor 1, as well as in the differing environments of Factor 2. Because of this overlap, there is a correlation between the two factors ($r^2 = 0.169$). However, the co-occurrence pattern discerned by factor analysis describes two dimensions of stylistic variation in the spacebridges – each relatively independent of the other – with which spacebridge speakers performed four distinct functions, marking and constructing different aspects of the context.

The principle of co-occurrence predicts that linguistic features that co-occur – i.e., linguistic features that speakers use together in the same or similar discourse environments – perform similar or related functions, marking and constructing similar aspects of the context. The functional interpretations of the co-occurrence patterns discerned by the factor analysis and the interpretational norms of American spacebridge participants which they imply are presented below.

Factor 1: Speaker's relation to the discourse

In discussing differences and similarities between adult and child speech behavior, Ochs 1979 posits a main underlying dimension of language variation between planned and unplanned discourse. Unplanned discourse is "discourse that lacks forethought and organizational preparation," while planned discourse "is discourse that has been thought out and organized (designed) prior to its expression" (1979:55). The co-occurrence pattern described by Factor 1 suggests that one main dimension of language variation in the spacebridges is related to this distinction. Factor 1 describes a continuum between, on the one hand, features marking relatively spontaneous production of speech and speak-

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er's affective involvement in the discourse, and on the other hand, features marking more apparently planned speech production and speaker detachment.

The stylistic dimension described by Factor 1 marks two alternative affective relations which the speaker may take to the discourse as a whole. A speaker's more frequent use of positive-loading Factor 1 (F1+) features marks the speaker's spontaneity and emotional involvement in the discourse, whereas a speaker's more frequent use of negative-loading Factor 1 (F1−) features marks a more planned style and a more detached, or less emotionally involved, relation to the discourse. More indirectly, these two stylistic dimensions mark different epistemic relations to the discourse, emphasizing and privileging different kinds of information. An utterance using more F1+ features tends to focus on and represent actions, while an utterance using more F1− features tends to focus on and represent states.

Positive-loading features: Unplanned discourse and speaker involvement. Use of F1+ features marks a verb-centered, active, and interactive style. In fact, two of the most distinctive features in this set – private verbs and 1st person pronouns, and to a lesser extent, main (as opposed to auxiliary) verbs in general – are also interpreted by Biber (1988:104–8) as marking and enacting the affective concerns of interpersonal involvement. F1+ features have, as part of their function, the marking of a highly interactive communicative situation, in which participants interactively negotiate and co-construct generalized propositional meaning – as opposed to more monologic contexts, in which one speaker constructs more exact propositional meaning with little or no negotiation by co-present others. In other words, speakers who produce an utterance with a high frequency of F1+ features indicate that they perceive the communicative situation as a highly interactive one, and they place emphasis on affective relations – and they expect their interlocutor(s) to behave in a similarly interactive manner. These are also some of the characteristics that Ochs 1979 associates with unplanned discourse.

The verb-centered nature of this set of co-occurring features is also one way in which speakers mark their involvement in the speech event (especially in contrast to attributive adjectives and the other more nominal F1− features). The Factor 1 stylistic dimension resembles the Verb-Adjective Ratio (VAR), a measure of a speaker's degree of emotional involvement in the discourse, developed by Antosch 1969. A high VAR reflects a greater frequency of verbs relative to adjectives; a low VAR reflects a greater frequency of adjectives relative to verbs. Antosch observed that, in various plays, the degree of emotional attachment of a given character in a scene – highly involved or detached – is reflected in the character's VAR value for that scene: A character's VAR increases in moments of high emotional involvement. Antosch also noted (62) that "monologues tend toward low values and dialogues toward high values," and that "scientific works tend to have low values and folk tales tend to have high values"; this suggests a relation between planned discourse and low involvement, and between less planned discourse and higher speaker involvement.

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Speakers may mark their emotional involvement or affect in the speech event by an utterance that contains a high frequency of verbs, and they may mark detachment by a more adjectival (nominal) style. Relative frequency of use of F1+ vs. F1− features was likely to be interpreted by American participants as marking the degree of Soviet speakers' emotional involvement in the speech event, and/or in their utterances (i.e. the degree of their belief in and passion about their propositions). Speakers using a high frequency of F1+ features try to communicate the credibility of their propositions, in great part, through the force of their belief, affectively indicating their sincerity and therefore the truth of their propositions (cf. Schiffrin 1985).

Utterances exemplifying the F1+ co-occurrence pattern also use many verbs to represent entities in terms of their actions. For example, a Soviet man (I SM 16 127) asked how Americans knew that many Jews wished to leave the Soviet Union (a prior American claim). The F1+ features in the response of an American speaker are underlined.

I AF 06 129 Yes. We know because we receive letters and we have people here who have visited Russia and talked to Jews who have waited for years and years. We call them refuseniks. They're people who desperately want to go to Israel, some to be reunited with their families and those of us here in the United States care very deeply that those people, along with any other people in the world that want to leave where they are and go to their homeland, be allowed to do so, and it brings us great heartache and we want to do something to help these people.

The verb-al, active style of AF 06's floor turn demonstrates a "folk theory" of epistemology which is frequently displayed by American speakers. Knowledge, an internal state, is represented as the result of external actions – either the speaker's own or those of others – and interpretations of actions: "We know because we receive letters." In turn, an internal knowledge state can justify intentions and actions: "It brings us great heartache and we want to do something to help these people." The co-occurrence of private verbs and infinitives further marks this link between actions and the internal states they represent. Often a private verb like "want" or "like" is followed by an infinitive expressing an intention, and internal states like wants and desires are constructed in terms of actions. Private verbs usually are attributed to the speaker, accounting to a great extent for the co-occurrence with 1st person pronouns – although, as AF 06's floor turn demonstrates, the actions and internal states of 3rd persons are also frequently represented.

In sum, two of the main contextualizing functions and concerns of F1+ features appear to be (a) marking spontaneity of speech production, and the speaker's affective involvement in the discourse; and (b) representing actions, and through them, the internal states of actors.

Negative-loading features: Planned discourse and speaker detachment. In contrast and in complementary distribution to the verb-al style of F1+ features, F1− features reflect a more emotionally detached and informational style, in

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which speakers appear concerned primarily with specifically locating and identifying referents as static objects rather than as participants in active processes. All the features in this set – prepositions, attributive adjectives, nouns, gerunds, and nominalizations – reflect a very nominal style; they are identified (Chafe 1982, 1985, Chafe & Danielewicz 1987) as functioning to integrate large amounts of information into "idea units" and to expand the information in an utterance or a written text. Biber (1988:107) found that nouns, prepositions, and attributive adjectives co-occur across a wide variety of communicative situations, and that they mark a concern with "high informational density and exact informational content." These characteristics are associated by Ochs 1979 with more planned discourse.

The floor turn of an American woman (I AF 28 308) demonstrates a highly nominal style; F1− features are underlined.

I AF 28 308 Last spring in Seattle we had a conference addressing the world economy and peace, which brought international figures from all over the world, looking at what happened with France and Germany, who have traditionally been rivals, and hoping to apply the same sort of economic interdependence between those two countries to the East-West bloc. How do you feel toward some sort of resolution of that kind through the interdependence of our world economies that will ultimately lead to peace?

Referents are carefully situated and identified through the use of prepositional phrases ("in Seattle," "some sort of resolution of that kind through the interdependence of our world economies") and attributive adjectives ("the East-West bloc," "international figures from all over the world"). This careful, explicit situating of referents helps to constrain the speaker's scope of reference, and by extension to limit the generality of the speaker's claim. The utterance – one long, complex sentence followed by a relatively long question – appears very planned. In fact, the floor turn is relatively unconnected to preceding discourse. Although it is the fourth in a series of general exhortations to "work together," it answers, opposes, or is conditionally relevant to no prior turn. This fact, along with the preciseness of the information offered, suggests that the speaker was less than spontaneous in raising her topic and posing her question.

Biber 1986 finds that, in formal, informational forms of English written discourse – especially academic prose and official documents – prepositions often co-occur with nominalizations (as they do in the spacebridges). Not only are prepositions and nominalizations found frequently in formal, planned discourse; they also help to mark a discourse as formal and planned. Just as a native speaker of English may associate high verb-ality with emotional involvement and spontaneity, it appears that a nominal and specific style is associated with emotional detachment and plannedness (or a lack of spontaneity).

In sum, the negative-loading features on Factor 1 are interpreted as marking a main concern of planned discourse – carefully locating and situating the (static) identity of referents, and limiting the scope of claims about those referents. The complementary distribution of positive- and negative-loading features on Fac-

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tor 1 suggests that, together, they describe two alternative and competing relations that spacebridge speakers took toward the discourse: one concerned with spontaneity and speaker's involvement, and the other more concerned with conveying exact information, which can convey an impression of speaker's detachment from the discourse, or lack of affective involvement in it.

Factor 2: Speaker's relation to discourse entities

The stylistic dimension described by Factor 2 marks two alternative relations which the speaker may construct toward entities within the discourse. A speaker's more frequent use of positive-loading Factor 2 (F2+) features appears to mark the speaker's emphasis on naming and identifying "third parties," usually individuals or groups of people not immediately present in the spacebridge speech event. A speaker's more frequent use of negative-loading (F2−) features marks an emphasis on the relation between speakers and their addressees, the participants on the other side of the spacebridge.

Positive-loading features: Speaker's relation to third parties. The positive-loading features on Factor 2 (3rd person pronouns, nouns, WH-relative clauses on subject position, and prepositions) all mark a descriptive style. The speaker is taking a descriptive (and therefore apparently disengaged) stance toward the entities referred to, defining and characterizing them with WH-clauses and prepositional phrases. Although there is overlap between some of these features and F1− features (nouns and prepositions are part of both co-occurring sets), the results of the factor analysis (i.e. the relatively low inter-factor correlation) indicate that there are two quite distinct uses of these features, each meeting the functional demands of different kinds or uses of information. In the case of F1− features, the function appears to be to situate a referent contextually, often to qualify the referent and constrain the scope or generality of a claim. Consider, for example, the restrictedness of reference in I AF 28 308's question above. This "carefulness" of reference also contributes to the sense of formality and plannedness that such floor turns have. By contrast, F2+ features in the spacebridges, while also functioning to meet informational concerns, were more oriented toward naming and identifying third parties, especially people or groups of people. Consider the following American man's floor turn, in which F2+ features are underlined (WH-relative clauses are bracketed).

I AM 16a 209 Well, I'd like to raise the issue of how our separate governments and peoples care for our citizens [that are unable to care for themselves]. In Seattle alone every week ten thousand people ask for free food. We've got millions of people [who wander homeless in our country]. What I would like to know, from you, is do you have such a thing as hungry citizens [who do not get help from their government] or [who get inadequate help]? Because what I'm talking about are all private efforts by American citizens where the government fails.

The floor turn of I AF 06 129, whose F1+ features are discussed above, also has a high frequency of F2+ features, which function like those in I AM 16a 209 to

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name and identify groups of people. Of course, naming something or someone is a primary step in recognizing its existence; and it is not surprising that both of these floor turns are concerned, on the propositional level, with establishing the existence of particular groups within the US and the USSR.

The co-occurrence of 3rd person pronouns in this collocation of features suggests that another aspect of the naming function – its creation of apparent distance between the speaker and the entity referred to – is also part of the F2+ style. Usually, in an utterance with a high frequency of 3rd person pronouns, referents are introduced (usually with nouns) and subsequently referred to pronominally, often more than once. In repeatedly referring to an entity in the 3rd person (or nominally), the speaker maintains and marks her distinction from the referent, contributing to a presentation of propositions/information as objective and factual. Urban points out (1988:82) that "third person usage gives a FEELING of distance precisely because it does not call attention to the connection between interpreter and meaning. The meaning of the sign thereby appears to be objectively construed or regarded" (original emphasis). However, this sort of distancing mechanism can also be used by speakers (and often is used by American spacebridge participants) to present their own beliefs as framed in the perspectives of others, or as related and exemplified through others' experience, as I AM 16a 209 does. Biber 1986 also notes the "objectifying" effect of 3rd person pronoun usage, finding that it often marks a reported vs. an immediate style.

The co-occurrence of WH-relative clauses in subject position (e.g. "citizens who do not get help from their government") also functions to identify and name a particular group of people, often in implicit contrast with some other group (e.g. citizens who DO get help from their government). Taken as a group, then, these features appear to mark an emphasis on identifying and establishing the existence of entities, as well as an attempt to create distance between speaker and referent, to objectify the referent.

Negative-loading features: Speaker's relation to addressees. F2− features (especially 1st and 2nd person pronouns, public verbs, and adverbs) seem primarily to mark interpersonal concerns and the speaker's relation to the addressees. Chafe 1982, 1985 functionally categorizes 1st person pronouns (singular and plural) as markers of the speaker's involvement in a discourse, indicating an interpersonal focus. Chafe 1985 notes that, because 2nd person pronouns refer to a specific addressee, they mark a high degree of involvement with that addressee. American spacebridge participants' use of 1st and 2nd person pronouns often functioned to construct a more specific relation between speaker and addressee in the spacebridges – that of conflict and disagreement. At the same time that 1st and 2nd person pronouns mark involvement and interpersonal concerns, they can also be used contrastively, to distinguish "us" from "you." This kind of deictic differentiation is evident in the floor turn below; F2− features are underlined.

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I AF 17 223 It's our belief that most of your information comes through your government, is censored by your government. In our country we have the right to read whatever we want. We can go into a store that specializes in foreign books and get them. The problem is that not all of our citizens want to read them. So you come across a lack of information because people don't have the initiative to go out and get it themselves. It is available. Our perception of your country is that your government has *Pravda*, you are, your government puts on your news. Our government doesn't put on our news. It's privately produced. They can say anything they want. We have values in our country that I'm sure are very much like the values in your country. But we don't get those values from you. How can we as citizens get those values from you? How can we interact more like this?

While AF 17's floor turn is evidently interpersonal, she creates a clear separation and distinction between her referents through her use of "we/us" and "you," similar in many ways to the identificatory and distancing functions, respectively, of "we/us" vs. "they/them" found in political discourse (Maitland & Wilson 1987, Connor-Linton 1988b).

AM 04's floor turn demonstrates that the juxtaposition of "us" and "you" can be achieved through the frequent use of 1st OR 2nd person pronouns, where the "absent" category is strongly implied; F2− features are underlined.

I AM 04 101 I think the basic question comes that when you do disagree, and I know that in all the statements you've made so far you have no disagreement, but a real participatory government does and the people input does have some disagreement at times and I'm sure that there is disagreement. When you disagree, what process do you disagree by? How do you petition your government, your leaders etcetera, in, when you do disagree and what process do you go to have the people participate? That's the real question and you keep responding with, when you don't disagree. When, what do you do when you do disagree?

AM 04's floor turn also exhibits one of two main uses of public verbs in the spacebridges. One of the most enduring topics in both meetings was the extent of Soviet citizens' freedom of speech; it is not surprising that public verbs (as well as their nominalized forms, e.g. "disagreement") are frequently used in this context. Another function of public verbs, in the spacebridges and in a variety of other English spoken and written genres, is to introduce indirect statements (Biber 1988). In the spacebridges, public verbs were used to introduce two different kinds of indirect statements. On one hand, they were often used to repeat or reformulate a prior utterance, either from the spacebridge itself or from the speaker's experience outside the spacebridge. Such indirect "quotation" was often a prelude for the speaker's opposition to the re-constructed statement. This use of indirect speech was especially prevalent when the speaker's opposition did not follow the opposed statement more or less immediately; it appeared to serve to recall the "trouble source" in the preceding discourse, which was then opposed. This function of public verbs is related to the juxtaposing, contrastive function of 1st and 2nd person pronouns mentioned above.

On the other hand, spacebridge participants frequently began their floor turns with introductory frames like "I would like to say/ask . . ."; this often served the interpersonal function of mitigating the face threat of the framed proposition in

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much the same way as described by Pomerantz 1984 for "dispreferred second assessments" – by delaying the disagreement, and by constraining the counterclaim to the speaker's own opinion rather than offering a "bald" contradiction of "objective" fact. (For further discussion of the discourse functions of a wider variety of these framing devices, called "personal involvement predicates," see Connor-Linton et al. 1987.)

The floor turn of I AF 18 258 exemplifies both these functions of public verbs, as well as the contrastive function of 1st and 2nd person pronouns; F2− features are underlined.

I AF 18 258 Somebody [a Soviet speaker] brought up the point earlier that Soviet citizens are certain of their future and they wanted to know why we are so uncertain of our future. I would like to ask first of all what makes you feel that you are so certain of your future? And if you are so certain, why do we have all these problems and are these problems going to persist? And what are, what is there to do?

The co-occurrence of adverbs in the F2− set, though not very strong, also functions to mark the speaker's involvement in the discourse – especially participants' evidential and/or affective stance toward propositions in their utterances, as AF 18's floor turn demonstrates (Biber & Finegan 1988).[8]

In sum, because of the frequent co-occurrence of deictic 1st and 2nd pronouns, with interpersonal concerns addressed by public verbs and adverbs, and because of their complementary distribution to the F2+ features, we may interpret F2− features as marking an interpersonal and frequently oppositional style. The two sets of co-occurring features composing Factor 2 are therefore interpreted as marking a dimension concerned with the speaker's relation to entities in the discourse: One is concerned mainly with naming and objectifying 3rd party referents, and the other with the interpersonal concerns of the relation between the two groups of participants. Because of their use in "juxtaposing" speaker and addressee, F2− features also appear to have served as indirect markers of disagreement and conflict in the negotiation of propositional meaning.

American interpretive norms in the spacebridges

In interpreting the factors so far, I have illustrated the functions performed by features on the two factors – as well as the contextual concerns and aspects that they indirectly marked in the spacebridges – with American floor turns. According to Gumperz's theory of contextualization (1982a), speakers use their own speech behavior to mark their construction of the discourse environment, their norms of appropriate behavior, and the behavioral expectations through which they interpret the speech behavior of their interlocutors. The American participants' patterns of language use also index their norms of interpretation and their expectations of appropriate speech behavior in the spacebridges. Subsequent analysis of what the Americans heard the Soviets say (regardless of the accuracy of interpretation) – and of how and to what extent it diverged from and/or violated American expectations – will allow us to discern POSSIBLE sources of miscom-

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munication, whose contribution to actual miscommunication in the spacebridges can then be tested.

The preceding functional interpretation of Factors 1 and 2 suggests that American participants hearing highly verb-al utterances (with a high frequency of F1+ features) would have been likely to interpret these as marking the speakers' spontaneity and emotional involvement in the discourse, as well as their preference for representing discourse entities by their actions. Based on Americans' own use of F1− features, hearing an utterance or floor turn with a high frequency of prepositions and attributive adjectives would have been likely to lead American participants to perceive the speaker as concerned mainly with specifically situating and constraining the identity of referents, and with conveying exact and constrained propositional information; to American participants' ears, such a floor turn would have sounded detached and planned.

American participants would have tended to interpret a floor turn with a high frequency of 3rd person pronouns, nouns, and WH-relative clauses on subject position (F2+ features) as marking a concern for naming and establishing the existence of referents, as well as distancing the speaker from those referents, i.e. objectifying them. American participants hearing many 1st and 2nd person pronouns, public verbs, and adverbs (F2− features) would have been likely to interpret these as markers of the speaker's concern for the interpersonal relations of the participants, especially the relation of conflict between Americans and Soviets in general, as societies rather than as individuals or spacebridge participants.

The dimensions of language variation and contextual concerns marked by the two factors also suggest two further stylistic expectations or norms for interpretation that are likely to have been employed by American participants. First, since F1+ and F1− features are in complementary distribution, speakers who marked their spontaneity and involvement in the discourse and their preference for representing actors by their actions may have been perceived as less concerned with situating and constraining the scope of their referents, or with conveying exact information. This suggests a further implication of frequent F1+ feature use: It implies generality, moving from specific actions to more general and abstract states. The reverse, of course, is also implied: Speakers marking their concern for specific and limited reference and exact information were likely to be perceived as less involved in the discourse or more detached from it, dispreferring general statements or inferences.

By the same reasoning, Factor 2 yields the following stylistic interpretational norms. Speakers who marked their primary concern as naming and reporting about third parties (with a high frequency of F2+ features) were likely to be perceived as less concerned with the interpersonal relations of the participants (especially in their representative roles). Speakers who frequently marked interpersonal concerns (with a high frequency of F2− features) would tend to be perceived as placing less emphasis and value on naming and objectivity, and

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greater emphasis on the relations and differences between the two groups of spacebridge participants, and the societies they represented.

CONFLICTING SOVIET AND AMERICAN STYLES AND CROSSTALK

The language usage of the Soviet speakers (in their English manifestation) equally contributed to and influenced the dimensions of variation just discussed; this ensures that the communicative styles and norms of all participants in the speech event are represented in the factor analysis. I hypothesize, however, that differences in Soviet use of these co-occurrence sets – HOW OFTEN they used each style or strategy, and especially, WHEN they marked each style's particular concerns – marked (for American participants) a Soviet conception of the speech event that apparently differed from that perceived by the American participants. I believe that these Soviet differences, interpreted through American participants' own speech norms and expectations, contributed to American participants' misinterpretations of Soviet utterances, and thus to crosstalk.

Comparison of Soviet and American styles by factor scores

To ascertain whether Soviet speakers in fact behaved differently from American speakers in the spacebridges, I compared Soviet and American speakers' respective floor turns to determine whether the two groups differed in their use of and preference for the co-occurrence sets, or styles, described by the factor analysis. To do this, the factor scores for each of the two factors of each (50-words-plus) floor turn were computed.[9] Essentially, a floor turn's factor score shows the speaker's relative use of the positive- and negative-loading features on a factor, and by extension, the relative emphasis given by the speaker to the functions and related aspects of context that are marked and enacted by those two sets of features. (Since the positive- and negative-loading features on a factor are in complementary distribution, more frequent use of the positive-loading features entails less frequent use of negative-loading features, and vice versa.) The factor scores of individual floor turns represent a synthesis of some aspects of the speaker's language use or "style" – the particular pattern of use of the 14 features in the analysis which, in turn, marks the contextual demands and concerns that the speaker sought to meet and enact.

Table 2 shows the results of t-tests (SAS General Linear Models procedure) comparing the factor scores of Soviet and American speakers. It shows that, across both spacebridges, there was a significant difference between American and Soviet utterances in their relative preferences for, and use of, the Factor 1 features marking the concerns of "Unplanned discourse and speaker involvement" vs. "Planned discourse and speaker detachment." American speakers in the spacebridge more frequently used the positive-loading, verb-al features on Factor 1 which have been interpreted to mark speaker's spontaneity and affective involvement in the discourse, and speaker's concern with representing entities through their actions. Soviet utterances, in contrast, more frequently used the negative-

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TABLE 2. *American and Soviet style preferences*

	N	Mean Factor 1	Mean Factor 2
		Scores	Scores
Americans	120	0.7634	−0.2998
Soviets	156	−0.6030	0.2619
		$F = 17.42$	$F = 2.70$
		$p < .0001$	$p < .1018$

loading nominal features on Factor 1 which have been interpreted as marking speaker detachment, along with concerns for situating and constraining reference, and with conveying exact, carefully constrained propositional information.

Table 2 shows a lesser difference (not significant) between American and Soviet frequencies of use of the styles described by Factor 2 ("Speaker and third party relations" vs. "Speaker and addressee relations"). However, American speakers tended to use more frequently the negative-loading features on Factor 2 which have been interpreted to mark interpersonal speaker/addressee relations and differences. Soviet utterances tended to use more frequently the positive-loading features on Factor 2 which have been interpreted as marking a concern for identifying and objectifying third parties.

The results in Table 2 suggest that the communicative style of the American speakers indexes their conception of the spacebridges as a forum for spontaneous expression of affective involvement in, and concerns about, the relations between the two societies. The analysis of pronominal reference in Connor-Linton 1995 suggests that the American participants focused on representing, comparing, and evaluating at a general level the actions of the two societies ("us Americans" and "you Soviets") – especially those of Soviet society – and stressing the differences between them. The communicative style of the Soviet utterances resembles response to an interrogation: lots of dense, carefully specific, and constrained information, partially in response to the demands of the Americans and partially because of their own focus on personal experience. In general, then, American spacebridge participants, through their linguistic choices, marked the speech event as a highly interactive unplanned dialog – albeit between representatives of two societies, rather than between individuals – in which one of the main purposes was comparison and judgment of the relative values of those two societies, especially as those values are represented by their actions. The Soviet utterances stylistically marked the speech event as a more formal encounter, oriented toward the exchange of particular information about specific referents. Furthermore (as shown in Connor-Linton 1995), where Soviet utterances marked the spacebridges' interpersonal nature, they were more likely to refer to the Soviets and their addressees in their co-present roles as interlocutors, rather than as representatives for their respective societies.

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The potential for crosstalk in such a situation is high. American speakers indicated (clearly, they thought) their perspective and values, only to have that perspective and those values apparently contradicted and negated. American speakers valued spontaneity and involvement, as indicated by their shorter floor turns, frequent questions, and more verb-al (F1+) style; by American interpretive norms, the long floor turns of many Soviet speakers would appear planned, and the Soviet speakers themselves therefore would seem emotionally detached from the discourse. Furthermore, utterances that were planned could not be sincerely responsive (by American interpretive norms) to American questions. However, such impressions were usually, if not always, below the level of real-time consciousness. In the spacebridges, in real time, such misimpressions and negative judgments of intent, caused by competing contextual models and communicative styles, found their overt expression at a layer of meaning more easily grasped: that of inducing and exacerbating disagreement at the propositional layer of meaning.

The influence of stylistic divergence upon interpretation: Oppositions

When we have determined and characterized the systematic stylistic variation between Soviet and American speakers' use of language, the final step in the analysis is to test the hypothesis of a possible (causal) relation of speakers' stylistic differences to crosstalk. It is hypothesized that Americans were more likely to oppose the Soviet floor turns that (in their English translations) were most stylistically divergent, in terms of their factor scores on Factors 1 and 2, from American stylistic expectations.

Because one hypothesis of this study is that Soviets' stylistic differences may have contributed to Americans' negative interpretations of Soviet (English) utterances, and because it is unlikely that all negative interpretations were verbalized explicitly, we must identify not only those Soviet floor turns that Americans explicitly rejected as inappropriate, but also those whose illocutionary force or "truth value" is the APPARENT source of the American denial. Therefore, all floor turns (including those shorter than 50 words) in the two spacebridges were classified according to a typology of verbal opposition adapted from Tottie 1982, 1983.

Tottie 1983 proposes a typology of verbal negation which first draws a distinction between "rejections" and "denials". According to Tottie, "rejections" are not necessarily a purely linguistic category; a speaker may reject a prior utterance "without recourse to language" (68), e.g. by simply refusing to comply with its illocutionary force. If speaker A says *Please be quiet*, and speaker B continues talking, B rejects A's utterance. Of course, a speaker may also overtly "reject" a prior utterance's speech act, e.g. by saying, *No, I will not be quiet*. "Rejections", then, are essentially negation at the level of speech acts; they do not deal with the putative truth value of an utterance, but with its illocutionary force. "Denials", on the other hand, negate the truth value of a prior utterance. Tottie further distinguishes "explicit" from "implicit" denials, "i.e., denials of something explicitly

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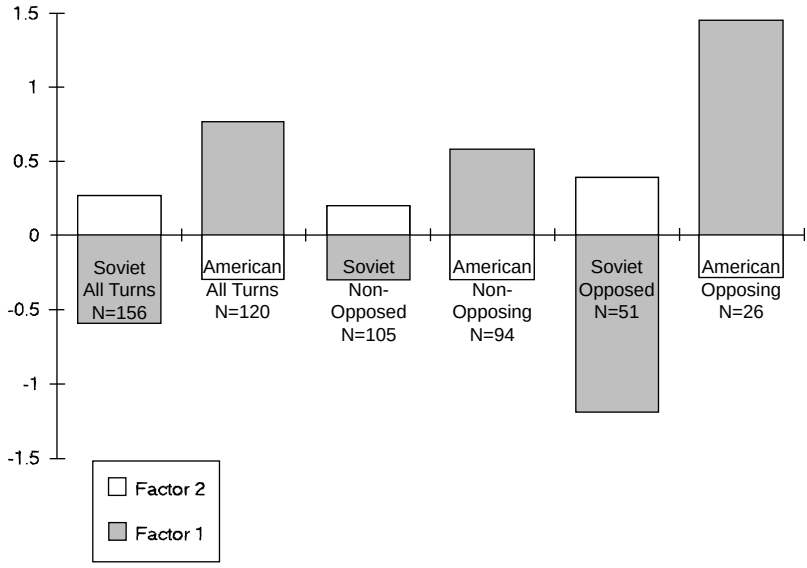


FIGURE 1: Comparison of mean factor scores.

asserted in the preceding linguistic context, or of something implicit in the speaking situation, which the sender of the message thinks the receiver is likely to believe."

Figure 1 compares the factor scores of Soviet floor turns that were opposed (rejections AND denials) and of Soviet floor turns that went unopposed by Americans, as well as the factor scores of the opposing American floor turns and those American floor turns that did not oppose Soviet utterances. (Fig. 1 presents only floor turns with a length of 50 or more words; in fact, there were additional opposed and unopposed Soviet floor turns, just as there were more opposing and non-opposing American floor turns, which are excluded from the quantitative analysis because of their relative brevity.)

Fig. 1 indicates that marking of the informational vs. interpersonal concerns enacted by Factor 2 features apparently had little influence on American oppositions. As shown in Table 2 above, there is no significant difference in frequency of use of Factor 2 features between Americans' and Soviets' English utterances; Fig. 1 indicates no significant difference between the average Factor 2 scores of opposed and unopposed Soviet floor turns ($F = 0.16$; $p < .69$).

However, Fig. 1 does show that, on average, Soviet floor turns that Americans opposed were more stylistically divergent from the average American floor turn, in their use of Factor 1 features, than were Soviet floor turns that Americans did not oppose. Soviet speakers whose utterances American speakers opposed used a

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significantly more marked F1− style than did unopposed Soviets ($F = 4.59$; $p < .0337$). That is, Soviet floor turns that were opposed by Americans were significantly more marked in their apparent preference and concern for conveying exact information (in an apparently planned and detached manner) than were unopposed Soviet floor turns. Unopposed Soviet floor turns more closely approximated American stylistic preferences; these turns were, in fact, closer to the American Factor 1 stylistic "standard" than were Soviet floor turns on average. We can assume that Americans' stylistic preferences, discernible in their own speech behavior, marked not only their conception of the spacebridge speech event, but also their expectations or norms for the speech behavior of their Soviet interlocutors; in that case, one possible interpretation of this result is that Americans were more likely to oppose the Soviet floor turns that most violated Americans' stylistic expectations. Put another way, Americans singled out for opposition just those Soviet floor turns that were most stylistically and indexically divergent from their own expectations, and they did not oppose the Soviet floor turns that were stylistically most like their own.

Fig. 1 provides additional evidence for this conclusion. In their oppositions to Soviet turns, Americans appear to have marked Factor 1 differences as an important source of contention; Americans opposing Soviet utterances were substantially more marked in their use of F1+ features than were Americans who did not oppose Soviet floor turns. In fact, American floor turns that opposed Soviet utterances contained more F1+ features than did all American floor turns on average. That is, as part of their opposition – whether denying a prior Soviet utterance's "truth value" or rejecting the utterance as inappropriate – Americans appeared to emphasize their preference for F1+ features. In doing so, they indexically marked spontaneity and affective involvement in the speech event, as well as the epistemic practice of representing entities by their actions – IN CONTRAST TO the opposed Soviet turns' apparent marked preference for F1− features. Recall that, according to the American spacebridge participants' interpretive norms, F1− features not only functioned to constrain reference, construct static representations of entities, and limit the generality of claims; they also indexed less involvement in the speech event – a more detached and more planned contribution.

The different layers of an utterance's meaning – especially the propositional and contextual layers, which are marked stylistically by the similar functions of co-occurring features – are interdependent; they are therefore unlikely to contradict each other, but rather work together to convey a consistent overall meaning. Fig. 1 suggests that American spacebridge speakers, on both the propositional and stylistically marked contextual levels, opposed the stylistically marked contextual meaning of Soviet utterances as well as their overt propositional meaning. In other words, American speakers seem to have been motivated to oppose a Soviet floor turn by its style (and the contextual meaning that it marked) as well as by its propositional content.

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In the literature on verbal opposition, the point is made that, in opposing an utterance, speakers construct some aspect of the opposed turn as a trouble source (Goodwin 1983, Maynard 1985, Connor-Linton 1987). In the spacebridges, the aspect of an opposed Soviet turn that was most often EXPLICITLY constructed as troublesome or problematic by American speakers was the propositional content: the validity or "truth value" of Soviet claims. However, Fig. 1 suggests that part of the trouble source was also the subtler but equally important contextual "meaning" of the opposed Soviet floor turn, as marked and enacted by its style. In fact, the exaggerated F1+ style of American oppositions suggests that, indexically, they were constructing the heightened F1− style of opposed Soviet utterances as part of the trouble source.

Because stylistic interpretation is usually not a conscious process (on-line, at least), these stylistic meanings are often erroneously attributed to other aspects of a speaker's behavior. In the present case, the relation between the Factor 1 scores of Soviet utterances and American oppositions suggests that American speakers sometimes denied the truth value of Soviet propositions, or rejected Soviet utterances as inappropriate, in part because the WAY that the Soviets presented their propositions conveyed contextual meanings which were in conflict with the Americans' conception of the speech event and of themselves. It is not surprising, then, that the Americans tended to attribute negative values to Soviet behavior: Finding one's interlocutors to be uncooperative and insincere is a result of egocentric interpretation of their utterances. It protects one's own conception of oneself, and of the speech event in which one is engaged, by making that conception, in effect, non-negotiable.

Mapping stylistic divergence and opposition

The factor scores of (50+ word) floor turns on Factors 1 and 2 can be analyzed not only in the aggregate but also individually. Mapping each floor turn's factor scores provides a real-time representation of stylistic accommodation and divergence which allows us to understand more particularly the relation between lexicosyntactic variation and crosstalk.

The first sustained topic in the first "Citizens' Summit" was, perhaps not surprisingly, the question of the Soviets' freedom of speech. Three floor turns from the middle of this topical stretch illustrate how speakers can oppose each other propositionally and stylistically at the same time. To provide a sense of the different factor "styles," features identified by the factor analysis are marked as follows: F1+ features are underlined; F1− features are double-underlined; F2+ features are capitalized; and F2− features are italicized. (Features that participate in both factors are marked only for their primary co-occurrence relation.)

I SM 02 95 *I'*d like to add that in *our* COUNTRY, the PEOPLE and the PARTY are one and the same. And at the party CONGRESS *we ourselves* are PEOPLE. *We* all take part in the party CONGRESS. *We* are all taking PART in preparatory WORK for the 27th Party CONGRESS and the MEASURES adopted at that CONGRESS. Those are MEASURES which *we* Soviet PEOPLE, ordinary WORK-

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ERS, PEASANTS, and INTELLECTUALS, which *we* all will be carrying out together in a friendly MANNER. In *our* COUNTRY that doesn't exist, the IDEA of *doing* something against the government, because everything the government does is for the PEOPLE and for the SAKE of PEACE on this EARTH. *I myself* work as a TRAM conductor. *My* HUSBAND *too*. *My* DAUGHTER is studying in an INSTITUTE. *I* have a great GRANDSON and *we* all are working for PEACE, for friendship among PEOPLES. *We* have a great friendly unity here of fifteen COUNTRIES, fifteen nationalities in *our* COUNTRY and all of *our* STUDENTS are also for friendship and PEACE. *We* simply don't have that PHENOMENON of PEOPLE *demonstrating* against the government because the government is only working for the development of the PEOPLE and for social development of *our* SOCIETY. Do *you* understand that?

I A PD 96 Over here please. Over here, please.

I AF 05 97 If that's so, why are only five or six percent members of the Communist Party?

I S VP 98 Who wants to reply to that? Who hasn't answered a question yet? You, sir.

I SM 10 99 Why do *you* think that the NUMBER of PEOPLE in the PARTY have to, has to coincide with the NUMBER of PEOPLE in the COUNTRY? *We* elect, or rather the best PEOPLE in *our* COUNTRY enter the PARTY and this is enough to carry out basic public AFFAIRS. *We* have no disagreement among the PEOPLE with the PARTY LINE. So it's not *totally* necessary for everyone to be a MEMBER of the PARTY. This would make no SENSE.

I A PD 100 Over here please.

I AM 04 101 *I* think the basic question comes that when *you* do *disagree*, and *I* know that in all the statements *you*'ve made *so far you* have no disagreement, but a real participatory government does and the PEOPLE INPUT does have some disagreement at times and *I*'m sure that there is disagreement. When *you disagree*, what PROCESS do *you disagree* by? How do *you petition your* government, *your* leaders, et cetera, in, when *you* do *disagree* and what PROCESS do *you* go to have the PEOPLE participate? That's the real question and *you* keep *responding* with, when *you* don't *disagree*. When, what do *you* do when *you* do *disagree*?

Cursory perusal of the coded excerpt above will show that the utterances of the two Soviet speakers (SM 02 and SM 10) have a heavily nominal style. The two Soviet floor turns make frequent use of F1− features (double-underlined prepositions, attributive adjectives and nominalizations) and relatively infrequent use of F1+ features (underlined main verbs, infinitives, and private verbs). The two Soviet floor turns contain a more even balance of positive- and negative-loading Factor 2 features (mainly nouns vs. 1st and 2nd person pronouns). Combined, these choices result in seemingly planned (almost "boilerplate") utterances, with many nominalized concepts which are carefully specified via prepositional phrases (*for the development of the people and for social development of our society*) and lists of entities (*we Soviet people, ordinary workers, peasants, and intellectuals*). In fact, the preference for concrete, specific reference can seem gratuitous at times, at least to American sensibilities, ("I myself work as a tram conductor. My husband too. My daughter is studying in an institute. I have a great grandson and we all are working for peace, for friendship among peoples.") This nominal style rhetorically marshals lists of entities to support the claim of unanimity of opinion in the Soviet Union. By using a more planned, referentially specific Factor 1 style – which markedly contradicts the American stylistic preference for a more spon-

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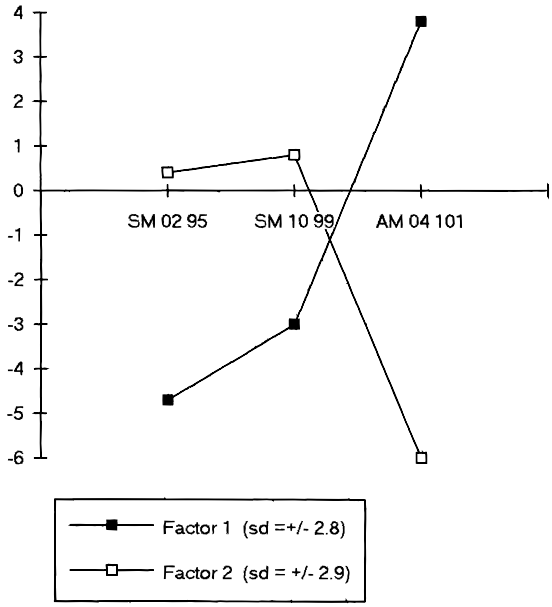


FIGURE 2: Stylistic marking of opposition (factor scores: I SM 02 95, I SM 10 99, I AM 04 101).

taneous, generalizing Factor 1 style – the Soviet speakers appear to be challenging not only the Americans' definition of freedom of speech, but also their construction of the speech event and its "rules of engagement."

In explicit opposition and in stylistic contrast to the two Soviet utterances, the American speaker uses a much more verb-al style. The topic encourages use of some F1− features ("real participatory government", "disagreement"); however, the rhetorical and semantic weight of the utterance is carried by the verbs. The floor turn uses very few prepositions or nouns, but it repeatedly uses the public verb "disagree" and the oppositional contrast of "I" and "you."

The American speaker's stylistic divergence from the Soviet utterances he is opposing is represented graphically in Figure 2, which maps the factor scores of the three floor turns above. SM 02 and SM 10's floor turns were marked in their use of F1− (specific reference) features (more than one standard deviation below the norm); AM 04's opposition diverged from the preceding Soviet floor turns dramatically in his much more frequent use of F1+ and F2− features (both more than one standard deviation above the norm for the speech event).[10] The stylistic divergence between the Soviet floor turns and the American floor turn that opposed them indicates that, in opposing the propositional content of the Soviets' floor turns, the American speaker was opposing the stylistically marked contextual meaning of their utterances as well.

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Although space limitations permit only this one example of this kind of real-time mapping of stylistic divergence and opposition, Fig. 2 – as well as factor maps of the other stretches of oppositional discourse in the spacebridges – suggests that the magnitude (and probable salience to participants) of stylistic differences between two floor turns is indicated generally by the size of their respective deviations from the norm established over the preceding discourse, and most immediately by their divergence from each other. Using the kind of stylistic mapping demonstrated here, the negotiation and construction of entire speech events can be graphically represented through the thrust and parry of participants' lexico-syntactic contextualization cues.

These kinds of real-time stylistic indices also make possible the juxtaposition of the propositional and stylistic "channels" of meaning with the kinds of extra-linguistic contextualization cues that are traditionally considered in analyses of crosstalk, in order to understand more accurately where and why communication breakdowns occur. Such a juxtaposition of "channels" of meaning is particularly important to analyses of cross-cultural miscommunication – to help determine which disagreements are (mainly) propositional and intentional, and which are accidental consequences of differing communicative competences. This is by no means easily determined; the excerpt analyzed above (as well as research like Giles & Smith 1979) suggests that interlocutors use stylistic contextualization cues rhetorically, indexing and negotiating agreement and disagreement on several levels of meaning at the same time.

In fact, careful readers of the excerpts presented above may take issue with the interpretation of the Americans' opposition to Soviet utterances as being entirely, or even mainly, accidental; these readers are likely to question whether the interactional process described in this paper is really MIS-communication, and therefore whether it is really crosstalk. Since we lack reliable evidence of the intentions (more and less conscious) of any interlocutor, the question is ultimately unanswerable in any specific instance; because of the professed purpose of the spacebridges that comprise these data, I have chosen to give the interlocutors "the benefit of the doubt." Certainly, the boundary that separates the phenomenon of crosstalk (whether attributed to linguistic or extra-linguistic contextualization cues) from the rhetorical processes of opposition is problematic; "misunderstandings" are rarely categorically accidental or unmotivated. This study demonstrates the value of the multi-dimensional approach to discourse analysis, as an aid to our understanding of cross-cultural miscommunication and argument, and to the nature of their relationship.

CONCLUSION

The analysis presented in this paper supports the indexical, contextualizing function of lexico-syntactic variation, as well as the contributory role that such vari-

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ation can play in crosstalk. American and Soviet spacebridge floor turns are shown to vary significantly in their use of two complementary sets of co-occurring features which indexed differing constructions of the speech event and related norms of interpretation. Those Soviet floor turns that were most stylistically divergent from the American norm were significantly more likely to be opposed by American speakers. In their opposing turns, American speakers heightened their use of the preferred American style, stylistically emphasizing their own construction of the speech event – and, simultaneously, their rejection of the context indexed by the Soviet floor turns they opposed.

The analysis has demonstrated that, in cross-cultural interactions like the spacebridges in which simultaneous interpretation is employed, Biber's multi-dimensional approach to discourse analysis can identify systematic lexico-syntactic variation. The approach should also be applicable to native/non-native interactions in which one language is used. This is no small matter; to date, analyses of cross-cultural miscommunication have been almost exclusively qualitative. The relatively few quantitative studies have compared different speakers' uses of, at most, a few discourse features. Assuming that a speaker's linguistic and extra-linguistic contextualization efforts will be congruent, the multi-dimensional approach offers the possibility of empirically validating qualitative hypotheses about cross-cultural miscommunication.

The present analysis also demonstrates that multi-dimensional analysis can enhance our understanding of the real-time process of cross-cultural negotiation of contextual (and thereby propositional) meaning. Multi-feature analysis illuminates the dynamic process of stylistic accommodation and divergence in particular speech events by which crosstalk is interactionally achieved. These results also support an extension of our understanding of crosstalk – from a primarily cross-cultural phenomenon, as traditionally conceived, to an important part of the EVERYDAY process of negotiating meaning through language. Whenever interlocutors do not share the same conception of their social context, they will have to negotiate some provisional contextual consensus through a process of stylistic/indexical divergence and accommodation analogous to that described in this article. If interlocutors do not achieve contextual consensus through stylistic accommodation, the kinds of misinterpretations and attributions of negative intent that characterize crosstalk become more likely, even in intra-cultural interactions.

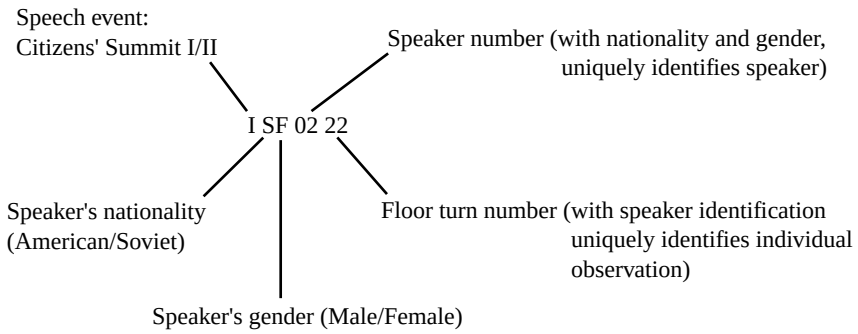
NOTES

* I wish to thank Doug Biber, Elinor Ochs, and Barbara Johnstone for invaluable feedback on this study.

[1] For simplicity's sake, I will refer to the English simultaneous interpretations of the Soviet speakers' (Russian) utterances as "the Soviets' utterances", but the reader should remember that this refers to the English interpretations which the American spacebridge participants heard.

[2] Speaker identification conventions are as follows:

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[3] For example, Connor-Linton 1995 makes distinctions between whether a pronoun includes or excludes the speaker and/or co-present interlocutors.

[4] Comparison of the set of features that show "speech-event internal" variation in one speech event vs. another is a promising complement to more traditional comparisons of speech events.

[5] Factor analysis, which seeks to establish co-occurrence relations, relies on relatively high frequencies (or at least high potential frequencies), within each observation, of the features being measured. The shorter the floor turn, the higher is the relative frequency of each feature used; inclusion of observations that are too short will skew factor analysis results. For this reason, only floor turns of 50 words or more in length were selected for factor analysis. The threshold of 50 words was determined to be long enough to present a minimal risk of skewing, and to include as many floor turns as possible.

Longer observations would, of course, be statistically preferable; however, a higher threshold, e.g. of 100 words or more, would have not only restricted the number of observations analyzed, but would have resulted in an even greater imbalance between American and Soviet floor turns analyzed – since American floor turns were, on average, so much shorter than Soviet floor turns. The statistical requirements of factor analysis are a stumbling block for application of this methodology to turn-by-turn analysis of conversation, because, in many dyadic or multi-party communicative situations, floor turns are quite short. However, some types of "conversations" are frequently quite "monologic" in character, e.g. debates and formal negotiations, and for these factor analysis may be employed. Many of the more "monologic" communicative situations are, of course, just the kinds of contexts in which a great deal of "official" crosscultural communication takes place.

[6] The statistical procedure used in this study, called "common factor analysis" or "principal factor analysis," proceeds in a stepwise fashion. The first factor extracts the largest group of co-occurring features in the data, maximizing their shared variance; the second factor then extracts the maximum shared variance from the remaining variables left in the data, and so on. This minimizes each factor's correlation with the other factors.

[7] The final step in the factor analysis before interpretation is rotating the factors, which results in a factor model in which each feature loads on as few factors as possible, i.e. participates in as few co-occurring sets as possible. Essentially, rotating the factors further simplifies the model of the features' co-occurrence relations, enhancing interpretation of the functional dimensions underlying the factors. Since there is no reason to assume a lack of relation among the functional dimensions underlying co-occurrence patterns represented by the factors (in this study and in language use in general), the Promax rotation method, which allows minor correlations among the factors, was used in this study.

[8] The one feature that I have not discussed is the gerund, which co-occurs with both F2− and F1− features. Although loading on both factors, gerunds were used by American and Soviet speakers so infrequently, compared to other features included in the analysis (less than one gerund per 200 words), that interpretation of their function(s) is very difficult, and their influence on participants' interpretations is unlikely to be very strong.

[9] The score of a given speaker's floor turn on Factor 1 is computed as follows: For all negative-loading features on Factor 1, the sum of the Z scores (the number of standard deviations from the mean of all 50-words-plus floor turns) is subtracted from the sum of the Z scores of all positive-loading features on Factor 1 in that particular speaker's floor turn.

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In computing factor scores in this study, only those features with an absolute loading value greater than .34 were included in computing floor turn's factor scores. As Biber (1988:81) explains, "Features with higher loadings on a factor are better representatives of the dimension underlying that factor, and when interpreting the factor, the features with large loadings are given priority." Some features load on both the factors in Table 1; i.e.; they co-occur with two different groups of features. For features with "double loadings", only the higher loading (if greater than .34) was included in computing factor scores. Features that have relatively low loadings, or that load on both factors, are important in interpreting the functional dimensions underlying the factors; but their inclusion in factor scores would "muddy" the factor scores' representation of a speaker's relative emphasis in a given floor turn, with regard to the style and contextual concerns represented by the factor. Those features that are not included in computing factor scores are parenthesized in Table 1.

[10] When a floor turn has a Factor 1 score that is one standard deviation (SD) higher or lower than the norm (or average) of all floor turns' Factor 1 scores, it has a higher or lower (respectively) Factor 1 score than 85% of all floor turns measured. Its use of the F1+ style may therefore be considered quite marked. Of two floor turns, if one has a Factor 1 score of one SD below the norm, and the other has a Factor 1 score of one SD above the norm, they are stylistically very different indeed; together, they mark two opposing extremes in the spacebridge speakers' use of Factor 1 features.

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