12-2001

Applications of Sequential Analysis in Pragmatic Human Communication: A Discussion of the Challenges of Data Collection

Marian Appiah-Kubi

Marian Appiah-Kubi

Dr. Kenneth O. Simpson

CDS 491

December 10, 2001

Applications of Sequential Analysis in Pragmatic Human Communication: A Discussion of the Challenges of Data Collection

It has often been said that the ability to speak is the characteristic that sets human beings apart from and above the common animal. Whether humans are, indeed, the only animals capable of such meaningful interaction is debatable. However, few would disagree with the assertion that communication, in the myriad forms in which it occurs, is central to human interaction and survival. While there is no singular definition for the word, communication generally refers to the process of exchanging information. It requires a sender and a receiver and the ability of both to encode, transmit, and decode the intended message. Suprasegmantal devices (characteristics of a speaker's intonation, stress, and rate of speech,) nonlinguistic cues (proxemics, facial expression, and body posture,) and metalinguistic cues

(features that enable the listener to assess the status of the communicative effort) are all important for successful and efficacious communication.

Communication is paramount to human survival. We need it to be able to ask for what we want, to respond to the requests of others, and to express our opinions about issues that affect us. The most common way in which we do this is through the use of language. Language is typically defined as a generative, rule-governed system of codes and symbols that is used by a community to facilitate the exchange of ideas. While most people can use language to communicate effectively with others, a significant percentage of people cannot. Thus, many often seek the services of speech-language pathologists, who work to predict, control, and interpret disordered communicative behavior. Events that can impair communicative efficacy include disease, traumatic brain injury, and abnormalities in the structure and function of the components of the speech mechanism. These events can affect communication at the phonological, morphological, syntactic, semantic, and pragmatic levels of organization, expression, and interpretation of language. This discussion focuses on communication at the pragmatic level, and examines the challenges that arise in the effort to categorize and quantify the sequence of communicative

behavior in social interactions.

Pragmatics is a set of rules that dictate the organization and suitability of a communicative act for the context in which it is used. It includes rules about turn-taking, beginning, maintaining, and ending a conversation, maintaining a topic of discussion, and making meaningful contributions to the topic at hand. The parameters of pragmatics are established by the members of each linguistic community and are socially mediated. As such, every communicative dyad or interactive unit is unique. That is, each member of the dyad enters the relationship with a unique ontological repertoire that can alter the nature of the unit. Our ontological histories shape the way we perceive our role in the communicative dyad. Our role in the dyad can be influenced by our cultural and religious upbringing as well as the traditions of social equality in which we are raised. In many underdeveloped nations, for example, the subservient role women are expected to fulfill in the family extends to the communicative unit as well. That is, men generally assume dominance in the dyadic unit and women assume a largely reactionary role. In the American culture, it is not uncommon for a listener to interrupt a speaker to interject a comment or to ask a question. In many Native American cultures, however, such behavior is

unacceptable, especially in child-adult communicative dyads. Also in American culture, maintaining eye contact with a speaker generally conveys interest in and focus on the topic at hand. Conversely, in the Ashanti tradition of Ghana, West Africa, direct eye contact with a speaker is perceived to be confrontational and irreverent. Thus, the unique ontology of each member of a dyadic unit can affect considerable influence on the interpretation of communicative behavior.

A feature of the dyadic unit that is fascinating to observe is the reciprocal nature of the influence that members of each dyadic unit have on each other. Consider the following exchange:

> Person A: "Good morning, Mr. Rogers. How are you doing?"
> Person B: "Oh, what's so good about it? And why are you so damn chipper so early in the morning anyway? Humph!"

As compared to the following:

> Person A: "Good morning, Jim. How are you doing?
> Person C: "Couldn't be better! Let me tell you, that waitress down at Mary Lou's is something special, I'll tell you. Do you know she remembered it was my birthday yesterday? Yup- served me up an extra helping of biscuits and gravy, she did. As a matter of fact..."

In the exchanges above, it is interesting to notice how the different partners receive the same perfunctory remark. In the first exchange, while Person A's question is decidedly positive in tone, Person B's response is not. In fact, the

tone of Person B's response is quite negative, which could shorten the exchange or end it altogether, depending on how much Person A allows it to influence his mood. Conversely, in the second exchange, Person C's ebullient response will likely elicit an equally positive remark from Person A, which could extend the duration of the exchange between them. Admittedly, the above scenarios are overly simplistic, but they serve to illustrate the influence people can affect on each other by the tone of a response or remark they make.

Discussions about the dynamics of social interactions generally tend to be qualitative. However, as it is the aim of speech-language pathologists to predict, control, and interpret communicative behavior, it is necessary to devise a means of quantifying the behavior of the people they endeavor to help. A viable method of quantifying behavior is especially important to have, as the hallmark of any research effort is the presentation of tangible supporting data. One way in which speech-language pathologists, and indeed any social scientist, can quantify the dynamics of social interaction is by the use of sequential analysis. Sequential analysis is a system of data collection that facilitates the notation and categorization of social behavior. It has been used to study many parameters of social interaction, including the influence of timing on the

quality of the interactive unit, the interdependence of specific behavioral states, and the reciprocal influence of communication partners on each other in social interaction.

Using sequential analysis, I endeavored to examine my communicative behavior for the purpose of identifying and controlling my stuttering behavior. I know that the etiology of stuttering has yet to be wholly uncovered, and I dare not purport to understand the underlying principles of speech-language pathology. Nevertheless, I had a theory about the cause of my stuttering behavior that I wanted to test. I believed that I stutter most when I am interrupted in mid-sentence or when I feel the need to verbalize a thought quickly before another interruption occurs. To test this, it was important for me to observe myself in conversation with someone who felt comfortable interrupting me when I speak. Hence, I solicited the participation of my friend Caryl, as she and I frequently interrupt each other in conversation. I began my investigation by videotaping myself in a casual, unscripted conversation with Caryl. Then, I viewed the tapes, focusing on the quality, timing, and the interplay of our dialogue. Capturing the conversation in the richness and intricacy of the sequence in which it progressed, which seemed relatively easy to do, proved to be quite challenging.

Perhaps the greatest challenge I faced in my analysis was identifying the nature and quality of each communicative act expressed. In my analysis, I operationalized a communicative act to be any question, response, comment, or interjection elicited by Caryl or myself. I assigned the letter "Q" to represent a question, "R" to represent a response, "C" for a comment, and "I" for an interjection or interruption. Had Caryl and I been conversing in slow motion or had I had access to a high-tech VCR with speed altering capabilities, recording the progression of the dialogue would have been an easy enough task to accomplish. That, however, was not the case, and I found that I could not record every communicative act in the sequence that it occurred in the dialogue. I suspect that I might have been able to do otherwise had I had hours or days in which to play and replay the tape, but so doing would have been exhausting and tedious to say the least. In the end, I decided to record only the questions, responses, comments, and interjections that were easily recognizable as such for the sake of time and the health of my sanity.

Another challenge I encountered in transcribing the dialogue was the question of how to identify the interjections that were so instrumental to my theory. I found it difficult to identify instances of interruption

because I could not define it in a concrete way that would lend itself to quantification. I considered defining it to mean "any point in the conversation during which Caryl elicited a question, comment, or response before I had finished saying what I had wanted to say." That definition of an interruption was not practical because being generally verbose, I rarely give a short response to any question. Caryl is also admittedly loquacious, so our entire dialogue could be considered a series of interjections, which would be ridiculous to say the least. In attempting to operationally define an interruption, I realized that it is a highly subjective phenomenon. That is, how each person perceives an interruption is influenced by the familial and cultural traditions by which he or she is raised. For example, someone from a large family who has to fight for a turn to speak in conversation with her family might find that interjecting is often the only way she can get a turn. Hence, she may adopt that role, carrying it into every communicative dyad in which she participates. Now, if that person enters into a communicative dyad with a person from a culture where rules of conversational turn-taking are strictly upheld, one of them is likely to be offended by the behavior of the other.

Another challenge I experienced in quantifying the

communicative behaviors I observed in my conversation with Caryl involved what I call the "dyadic ambiance" of our particular conversational relationship. I use the term dyadic ambiance to refer to the unique features of a communicative dyad that distinguishes it from another. Largely pragmatic in nature, these features can include anything from the amount of personal space a partner allows the other to have and the means of conveying interest in and focus on the topic at hand, to the style of speech unique to the interactive relationship. In my conversation with Caryl, so much of what was said and how we said it depended on the communicative style we have created over the years that we have known each other. For example, there were instances during our conversation when I would get the distinct impression that she was not listening to me. There would, at times, be eye contact and even nodding to let me know that she's following what I am saying, but I could tell that she was busy thinking of a response to something I had already said. I noticed that I did the same thing, too. This behavior is common to many communicative units. However, just as I cannot explain exactly how I know that Caryl is not listening to me, neither can the wife who constantly accuses her husband of not listening to her; she *just knows*. Those such unspoken features of a communicative dyad can

make it difficult to accurately document the nature of the communicative relationship.

Analyzing the footage of my conversation with Caryl, I also found it difficult to identify instances of disfluency in my speech. Caryl and I both often use "uh-huh", "um", and "you know" to maintain our turn in conversation while we search for the words we want to use to say what we want to say. In my case, and given my history of disfluency, it was often difficult for me to distinguish moments in which I used fillers to maintain my turn in the conversation from those during which they reflected a block. This was frustrating for me because I suspect that I frequently engage in circumlocution, by which I evade episodes of blocking. Had I been able to identify those instances without doubt, perhaps seeing that behavior quantified on paper would have given me added incentive to adopt a more direct approach to resolving a block. But, as it were, I ended up having to count only the most obvious instances of circumlocution, which compromised the integrity of my analysis.

The challenges I encountered in using sequential analysis to analyze my communicative behavior can be wholly attributed to the intricacy of pragmatic human communication. Because sequential analysis relegates the

communicative dyad to a proscribed set of behavioral categories occurring in distinct units, much of the richness of the interaction is lost. That is not to say, however, that sequential analysis does not facilitate the quantification of communicative behavior. Sequential analysis can be used to document the frequency and pattern of behavior, which makes it applicable to many fields of scientific inquiry. It can also be used for the purpose of providing tangible feedback for people interested in altering their communicative style. For example, a speech-language pathologist working with a client who is frequently accused of dominating conversations can employ sequential analysis to document the frequency of that behavior by counting the number of times the client generates a question or comment in conversation with the offended party. Hence, while it is by no means capable of capturing the full scope of communicative behavior in social interactions, sequential analysis can be a useful tool for quantifying the more salient features of communicative behavior.