detail the components of jargon and cultural differences. The third component, the structure of discourse, is a recently developed adjunct of the mixture of several disciplines, including linguistics. The interference of the interview framework on a society that is more comfortable with the discourse structure of conversation tells us one very important thing about how to make patients more comfortable.

If patient comfort contributes to improved accuracy of information exchange, and everything points to the fact that it does, then there are clear steps that can be taken to move in that direction. This chapter analyzed three representatively different medical interviews to point out some of the dimensions of variability currently in practice. But even from these few instances, it is possible to suggest clear changes in interview practice.

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# Doctor/Mother/Child Communication: Linguistic Analysis of a Pediatric Interaction

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Evidence from recent studies of beliefs, expectations, and communicative interaction associated with health care indicates that there has been a steep rise in consumer dissatisfaction with professional clinical practice and that patients and healers differ in their thinking about and response to illness (Kleinman 1980). This chapter demonstrates the theoretical and practical significance of moving beyond the well-attested conclusion that conflict exists. It explores the consequences of these differences in beliefs and expectations for a medical interview and examination, yielding an explication of how communication works and does not work and how meaning gets encoded in and decoded from talk in medical settings. An analysis of communicative demands arising in the interaction between physician and parents is needed to judge the practicality of laws and regulations aimed at "maximizing" family participation in societal institutions, including health care systems.

Kleinman, a medical anthropologist and practicing physician, argues (1980) that systematic analysis of doctor/patient relationships provides a strategic site for studying social development. In all societies composed of different social groups, different professions, different families and individuals, there is an amalgam of modern and traditional beliefs, values, and expectations "held together in varying patterns of assimilation, complementarity, conflict, and contradiction. . . . It is [therefore] not surprising that health care systems provide some of the sharpest reflections of the tensions and problems of social development" (Kleinman 1980:37).

*We are grateful to the staff of the Child Development Center and to Jody's family for their generous cooperation and support. We especially appreciate the extra time taken by the mother and doctor to participate in the replay sessions. This is a significant revision and expansion of our "A sociolinguistic analysis of multiple demands on the pediatrician in doctor/mother/patient interaction" in* Linguistics and the Professions, *Ed. Robert J. Di Pietro, Norwood, N.J.: Ablex, 1982.*

Kleinman further argues that the currently prevalent biomedical model has no means for taking into account how patients and healers deal with different perspectives on health and illness and therefore has little to say about the core tasks and relationships that constitute clinical care. Other physicians and medical clinicians (Gallagher 1978) have also called for new theoretical perspectives. Studies of what a family doctor does (e.g., Fabb, Hefferman, Phillips, and Stone 1976) indicate that the core clinical functions taught in family medicine programs place demands on physicians' communication and interpersonal skills (e.g., interviewing, conducting physical examinations, using diagnostic procedures, recognizing problems, selecting appropriate treatments, assessing progress, explaining preventive methods, and displaying medical competence). Pediatricians are among those calling, for example, for research that recognizes that "in family practice understanding of different levels of communication and the different mechanisms by which we communicate is especially important" (Bryan 1977:102).

## THE STUDY

The research discussed in this chapter focused on the problem of what processes make possible or interfere with successful exchange of information in a medical setting that includes a mother, child, and pediatrician. What is the result of conflicting demands for information during a pediatric interview and examination? The pediatrician's diagnosis depends on the parent as a source of information about the child's medical history (which the parent may or may not have). This parent is concerned with prognosis: information she believes (rightly or wrongly) the pediatrician may have concerning the child's future condition.

This study was part of a broad research design developing a methodology for identifying and analyzing interrelations between individuals, social settings, and social development. Following recent pioneering studies in sociolinguistic microanalysis (Gumperz 1972, 1977), the first step in the project was to obtain video recordings of naturally occurring medical interviews and examinations.

We began working with the Georgetown University Child Development Center, a division of the Department of Pediatrics at the Georgetown University Medical Center. The Child Development Center is an exemplary interdisciplinary training service and research facility constructed with funds provided under PL 88-164 to help children with developmental disabilities.

We analyzed a series of videotapes made by the Child Development Center documenting examinations and interviews with a nine-year-old physically and (somewhat) mentally handicapped child, whom we shall call Jody, and her parents and two sisters. The tapes include initial interview of both parents with a coordinator; examinations by a psychologist, social worker, occupational therapist, physical therapist, nutritionist, speech pathologist, audiologist, dentist, educational advisor, and pediatrician; home visits by two nurses; a staff meeting at which the staff reported their findings to one another and agreed on recommendations; and a meeting at which the staff presented and interpreted their findings for the parents (called a "parent interpretive").



The primary focus of our analysis was the pediatrician's examination of the child in the mother's presence. Where relevant, we refer to interaction in other settings. Within the pediatric examination transcript, we focus on talk about two recurrent themes that were of significant concern to the parents. One was the presence in the child's brain of a recently diagnosed arteriovenous malformation and associated hemangiomas (bruise-like marks) on her face.[1] The second theme was the child's raspy breathing at night, which the parents feared indicated she was having difficulty breathing.

Our analytic procedure consisted of (*a*) previewing and repeatedly viewing videotapes of interactions across the 14 situations described, (*b*) carefully transcribing interaction segments from the pediatric examination/interview and selected excerpts from other tapes, as they bear on talk being analyzed in the pediatric examination, (*c*) microanalyzing transcribed segments, (*d*) playing back the tapes with the mother and pediatrician in separate interviews. (For detailed presentation and discussion of procedures and implications for linguistic and communication theory see Green and Wallat 1981; Tannen 1983; Wallat and Green 1979.)

Our analysis shows that the pediatrician balances multiple and sometimes conflicting demands, addressing three audiences, each of which is involved in at least three "frames" associated with distinct footings (Goffman 1979) marked by use of identifiable linguistic registers. In addition, the pediatrician suppresses her emotional responses and monitors the amount as well as impact of information she imparts.

### CONCEPTUAL AND THEORETICAL ORIENTATION

Our theoretical and methodological framework is in the tradition of sociolinguistic microanalysis developed by Gumperz (1977, 1982; Gumperz and Tannen 1979) and extended by others (Green and Wallat 1979, 1981; Tannen 1983; Wallat and Green 1979, in press). This research focuses on linguistic and paralinguistic cues and their use in interaction, as ways of conveying meaning and of identifying contexts. Theoretical foundations are provided by frames theory.

The major premise underlying these investigations, as well as the present one, is that miscommunication occurs in all institutional settings. Klein-

[1] *Hemangioma* is a congenital anomaly or tumor—a mass composed almost entirely of capillary type vessels, blood filled channels. Hemangiomas occur anywhere in the body, but are most frequently noticed in the skin. *Arteriovenous:* relating to both an artery and vein. (*Stedman's Medical Dictionary*. Baltimore, Md.: Williams and Wilkins Co., 1972).

man's (1980) observation of the complexity of social and cognitive constructs operating in medical settings highlights the need to examine what participants actually do and say in pediatric contexts.

Past work (Tannen 1983) shows that a binary distinction between understanding and misunderstanding in communication is idealized. In actual interaction, speakers and listeners achieve varying degrees of understanding of each other's intentions and linguistic devices. To communicate, speakers signal *how* they mean what they say and how ideas are related to each other by use of linguistic and paralinguistic devices, such as tone of voice, pitch, loudness, rate of speech, and lexical choice. Any such device can fail to establish rapport, distance, or whatever its user intends when listeners are not accustomed to its use for that purpose. This occurs not only among speakers of different languages but also, as demonstrated, among a half-dozen friends, all native speakers of English, during a Thanksgiving dinner at one friend's home. Each participant used a unique combination of linguistic devices that constituted individual style. When those devices were similar to those used for similar purposes by others present, communication among them was smooth. When the devices used by one or more participants differed from those expected by one or more others, communication was disrupted or even obstructed.

These processes obtain in doctor/patient interaction as well. Studies of interaction depend on the observer's ability to identify and explicate both the message (that is, communicative content) and the metamessage (Bateson 1972), communicated through intonation and nonverbal cues (the metamessage refers to communication about the relationships between participants, and how the message is to be taken, which is understood from the *way* something is said). To understand more about family/professional interaction, we must identify first how such devices as overlap, pace, stress, pitch, silence, gestures, and use of certain topics tend to cluster and, second, the interpretations that individuals construct, modify, or suspend during interaction in medical settings.

Gumperz sets out this method in the following terms:

> The natural unit for such conversational analysis is the interactional exchange or sequence of two or more utterances, not an isolated utterance . . . Two questions are relevant in the analysis (1) What is meant by the exchange? What does it reflect about the speaker's state of mind and his relationship to the [other]? (2) By what verbal devices are the relevant effects obtained? Are there any special features of style, pronunciation or vocabulary, which are significant? (Gumperz 1972:222)

Thus characterization of doctor/mother/child interaction depends on analyzing processes of interpretation of others' linguistic and paralinguistic



cues. The pediatric examination/interview represents the brief interaction of three individuals, each bringing to the encounter unique communicative habits growing out of at least the following "frames" or "structures of expectations" (Tannen 1979):

1 conversational style (individual and social differences in ways of signalling meaning in conversation).
2 shared history (previous interactive experience among and between participants).
3 personal history.
4 expectations of the situation (including effects of the immediate environment).
5 role expectations of self and others.

All of these dimensions are dynamic. At any one time, one or more of these potentially conflicting demands, or differing ways of fulfilling them, can contribute to, complicate, or override the health objective of the examination/interview.

## THE FRAMES APPROACH IN ANALYSIS OF PEDIATRIC INTERACTION

Tannen (1979) reviews and integrates notions of frame, script, and schemata, which have been important in recent theory in a number of fields including linguistics, cognitive psychology, anthropology, sociology, and artificial intelligence. This and subsequent work (Tannen in press) suggest that there are two notions of frames that have been developed: one interactive and one pertaining to knowledge structures. Both will be drawn upon in the present study.

The interactive notion of frame, found in theoretical work in anthropology (Bateson 1972; Frake 1977) and sociology (Goffman 1974), as well as in the anthropological linguistic notion of speech activity as used by Gumperz (1977), refers to the superordinate message (or metamessage) about what activity is being engaged in when words are uttered in interaction. The frame is the definition of what is going on, without which no message could be interpreted.

Participants identify frames by recognition of familiar linguistic and behavioral routines, as well as conventionalized use of linguistic and paralinguistic features—in other words, what you say *and* how you say it. Goffman's (1979) characterization of changes of frame within an interaction, which he calls *footing*, figures in our analysis of the demands on the doctor in the pediatric examination. For example, we find that the pediatrician signals, by the way she talks, which task she is engaged in and hence which "footing" she is maintaining within the examination/interview (for example, examination or friendly conversation or demonstration for trainees).

The knowledge structure notion of frame, found in theoretical work in cognitive psychology, artificial intelligence, and linguistics, has gone by various names, including *scripts* (Schank and Abelson 1977), *schema* (Chafe 1977; Rumelhart 1975), in addition to frame (Minsky 1975). This notion of frame refers to knowledge structures in the minds of participants—sets of expectations that people have for other people, objects, settings, and the structure of interaction. For example, in the conversation discussed in this chapter, the pediatrician asks whether the marks on the child's forehead and lip have changed in size. How she asks the question and the fact that she asks it grow out of her association of the marks with the arteriovenous malformations in the brain; she understands that both are malformations of blood vessels. It is clear, however, from the way the mother talks about them both in this setting and in other settings (with the coordinator in the initial interview and with the social worker) that the mother is not associating the blue marks on the child's face with the dangerous arteriovenous malformation in the child's brain. For her, the hemangiomas are associated with a cosmetic frame: concern with the child's appearance.

Both the interactive and knowledge structure senses of frame account for the demands on the pediatrician in the interview/examination. Without a theory of frames, it is easy to see that the doctor deals with three audiences: the child, the mother, and the video camera and crew. This could lead to a general statement that there are multiple cognitive and social demands on the pediatrician when others beside the patient are present.

But if one views the interaction recorded on the videotape from the viewpoint of frames, we see that the demands are even more complex, for the doctor approaches each audience in several different ways. In other words, each frame operative in the interaction entails its own set of cognitive, linguistic, and social demands *for each interactant*. A brief sample of the frames we have identified highlights the complexity of the demands operative on the pediatrician in this setting (Table 1).

What appears on the surface as similar activities can grow out of different frames and hence represent different cognitive and social demands on the doctor. For example, the pediatrician examines the child. At one point she examines the child's stomach; at another she examines the skin behind her ear. Both seem to be parts of the examination frame. But only one is. The examination of the child's stomach is part of the standard pediatric evaluation, which the pediatrician must remember to perform and report for the training audience. (This may make little sense to the mother, who has not noted any problems in that area.) But when the pediatrician looks behind the child's ear, she is interrupting her examination to check out something the mother has asked about and to allay the mother's (unfounded) fear that there may be a connection between the skin eruption and the child's cerebral palsy, because both show up on the same side of the body (evidence of the mother's frame for the illness).



*TABLE 1*
**Communicative Demands on Pediatrician Seen as Frame-related**

| | *Audience* | | |
|---|---|---|---|
| *Frame* | *Child* | *Mother* | *Video camera/crew* |
| Management of social situation | Entertain child | Establish rapport with mother | Ignore camera & crew |
| Pediatric examination | Examine child, following preset examination structure | Ask mother for information that may be relevant to child's condition | |
| Training videotape | Be an exemplary pediatrician | Be an exemplary pediatrician | Monitor readiness of crew; Report findings for future trainee audience |
| Consultation with mother | Hold child in readiness; Examine child to answer mother's questions | Answer mother's questions; Suppress emotions; Blunt impact of diagnosis on mother | Ignore camera & crew |

Each of the frames shown in Table 1 (and co-occurrent demands) entails ways of behaving that potentially conflict with demands of other frames. For example, entertaining the child, the doctor may lose time needed for the examination. Reporting findings to a camera requires a succinct and direct summary of findings. This may conflict with establishing rapport with the mother and will certainly conflict with the need to blunt the impact of findings for the mother's benefit, in a setting in which the doctor is not at leisure to counsel the mother at length. Finally, during time spent answering the mother's questions, the child may become restless, making the examination more difficult.

We have found identifiable linguistic and paralinguistic correlates to these frames. The sections that follow describe our analysis and findings.

***Shifting Frames in the Pediatric Examination.*** In the 20-minute exam, the pediatrician directs 19 questions and 46 comments to the mother; directs 29 comments to the training audience; and fields 18 questions and 26 comments from the mother. At best, these complex and varied demands burden

the pediatrician's attention and cognition. In some cases, the demands clearly conflict.

The following excerpt illustrates such a conflict. The pediatrician has explained to the mother that the child's breathing sounds noisy because of weak muscle control, a direct result of the cerebral palsy. Then she returns to the examination, resuming a running commentary of what she finds, directed to the video camera apparently for training purposes. (The examination and reporting represent double frames.) After this, the pediatrician begins engaging the child's attention, using a "teasing" register that is part of the "management" footing geared to the child, to move onto the next phase of the examination in which she looks at the child's ears.

The mother, however, is operating in only one frame: consultation with the doctor. Probably reacting to the pediatrician's shift in frame signaled by the use of teasing register with the child, the mother interjects another question related to earlier questions she asked about the child's breathing. For the mother, this represents no shift in frame. For the doctor, however, the mother's question is an interruption of the examination sequence and requires a sudden shift in focus or break in frame, to return to her consultation mode. The pediatrician stops the examination, turns away from the child, purses her lips, and covers the ophthalmoscope (ear light) with the palm of her other hand, the only time she evidences (and it is ever so slight) the strain placed on her by frame shifting.[2]

DOCTOR: Jody? . . . I wanna look in your ears. . . . Jody?
MOTHER: This problem that she hás, . . . is not . . . interfering with her breathing, is it?
CHILD: /Hello. no./ [Spoken to Doctor's earlight]
DOCTOR: No.
MOTHER: It just appears that way?

[2] The following transcription conventions are used.
. . . half second pause. Each extra dot represents another half second of pause.
´ marks primary stress
ˈ marks high pitch on word
. sentence final falling intonation
, clause-final intonation ("more to come")
? yes/no question rising intonation
: lengthened vowel sound. The more :s, the longer the sound is held.
/ / inaudible or uncertain transcription
acc spoken quickly
[ Penned brackets connecting lines show overlapping speech.
Two people talking at once.
Penned bracket with reversed flap ⌋⌊ indicates latching (no pause between speaker turns).



DOCTOR: Yes. It's vety . . . it's . . . really . . . it's like flóppy you know and that's why it sounds . . the way it is.
MOTHER: She worries me at night.
DOCTOR: Yes.
MOTHER: Because uh . . . when she's asléep I keep checkin' on hér so she doesn't
DOCTOR: As you know the important
MOTHER: I keep thinking
DOCTOR: [chuckle------ she's not breathing properly.]
DOCTOR: As you know, the impórtant thing is that she dóes have difficulty with the use of her muscles.
MOTHER: mhm

The pediatrician is balancing three frames: managing the child, examining her, and demonstrating for the video audience. The mother's question introduces the fourth: consultation.

Even when there is no conflict, balancing and shifting among three audiences and at least four frames in a single setting has significant cognitive, social, and emotional consequences. This kind of complexity is not evident from a content analysis of interaction but is made visible by sociolinguistic microanalysis.

***Linguistic Evidence for Registers Associated With Frames.*** The pediatrician addresses each of her three audiences in a different linguistic register; that is, she switches among three distinct codes, each with its own intonation, voice quality, lexical and syntactic structures, and content, as illustrated in the following transcript excerpts.

When talking to the child, the pediatrician uses the classic features of "motherese" (Newport, Gleitman, and Gleitman 1977): high pitch, elongated vowel sounds, sing-song intonation, teasing. For example, while examining the child's ear through an ophthalmoscope, the pediatrician teases, and the child responds with delighted laughter:

DOCTOR: Let me look in your ear. Okay? Do you have a monkey in your ear?
CHILD: [laughing] No::::.
DOCTOR: No::::? . . . Let's see. . . . I . . see . . . . . a ˈbirdie.
CHILD: [laughing] No::.
DOCTOR: [smiling] No.

Immediately after this, with no perceptible break in timing, the pediatrician turns her body toward the camera and says, with only a slight stumbling in the quick repetition of "are":

DOCTOR: Her canals are-are fine, they're open,

This is an example of a pattern of speech recurrent throughout the examination: a running account of the procedures performed and resultant observations. This register constitutes 29 of the pediatrician's comments during the examination and is characterized by easily observable paralinguistic and nonverbal cues: flat intonation, rapid rate of speech, relatively low pitch, and absence of marked facial expressions and gestures. All these cues give this register an unmistakable character that we call "reporting."

Talk uttered in this register is generally directed toward the video camera, though the pediatrician's gaze may be elsewhere. She apparently has the training audience in mind, and her comments during playback confirm this hypothesis. It is clear that the mother perceives the special cues associated with this register, as none of her comments or questions is interjected when the pediatrician is talking in this register.

Thus the mother perceives that the reporting register signals a frame that excludes her as a participant. This finding correlates with an intriguing observation by Cicourel (1975) in his work on medical interviews. Cicourel draws attention to the question of how physicians distill concise statements relevant to diagnosis as written in medical records, from fragmented and nonsequential spoken discourse at the interview. Though his primary interest is in comparing spoken discourse (face-to-face conversation) during the interview with written text (the physician's written report summary), Cicourel's data include a spoken report that was produced when a faculty supervisor entered the room in which a third-year resident was conducting an interview with a 15-year-old patient, his mother, and an uncle who was acting as interpreter for the Spanish-speaking patient and mother.

Although the transcript of this interview does not include paralinguistic features, precluding conclusion about whether or not the resident's oral summary sounded like what we call reporting register, it is interesting that the family members did not interject any comments during the report, even though the rest of the interview was characterized as problematic and noisy. Even a direct request for confirmation by the resident elicits a minimal response from the uncle, who at other times is a voluble participant in the interaction. It seems likely that the resident's spoken summary is indeed an example of a reporting register. This would account for the fact that the patient and his family did not participate; they perceived the way the resident delivered this report as a change in frame and consequent footing.

Cicourel notes the similarity between this spoken summary and the one later written by the resident. This finding supports our hypothesis that the reporting register reflects the doctor's diagnostic frame and that paralinguistic features are a way of observing shifting frames.

In our data, then, the pediatrician uses motherese when talking to the



child; reporting register when performing diagnostic procedures; and, finally, a register that sounds very much like everyday conversation when she talks to the mother.

The following example shows the pediatrician shifting among these three registers. She is examining the child's throat:

| | | |
|---|---|---|
| to child | DOCTOR: | Let's see. Can you open up like this, Jody. Look. [Opens mouth] |
| | CHILD: | Aaaaaaaaaaaaaah |
| | DOCTOR: | [Good. That's goo:d. |
| | CHILD: | [Aaaaaaaaaaaaaah |
| to camera | DOCTOR: | /Seeing/ for the palate, she [has a high arched palate, |
| | CHILD: | [Aaaaaaaaaaaaaaaaaaaaah |
| | | but there's no cléft, [maneuvers to grasp J's jaw] . . . |
| to mother | | What we'd want to look for is to see how she . . . moves her palate. . . . Which may be some of the difficulty with breathing, that we're talking about. |

First the pediatrician looks inside the child's throat—an endeavor requiring some maneuvering, especially since Jody has cerebral palsy and hence poor muscle control. After the doctor succeeds in looking in the child's throat, she reports her findings to the camera, using the reporting register. Then she gradually shifts her gaze and addresses the mother to explain how these findings relate to the child's noisy breathing, a matter the mother expressed concern about during the preceding interview.

Before we leave our discussion of these three registers, we would like to comment further on the reporting mode. Obviously, most pediatric examinations are not carried out in the presence of a video camera. Nonetheless, it is our hypothesis that the reporting register makes observable a cognitive process that is always present in the examining doctor's consciousness, by virtue of the diagnostic process. The doctor must follow a set of procedures prescribed by medical training. Furthermore, any professional acting in a professional role must refer for a behavioral model to his or her perception of the expectations of colleagues. In other words, the professional has a "frame" or set of expectations (Tannen 1979) for behavior in this role and setting. This is similar to Goffman's (1959) notion of "team" as the basic unit of analysis in human interaction and underlies Bucher and Stelling's (1977) analysis of professional socialization among doctors.

The use of a reporting register by medical professionals, a natural consequence of such professional demands as training, diagnosis, and report, may have significant implications for doctor/patient communication. That the mother in our study never initiates interaction with the doctor when she is operating in this mode is a suggestive finding.

Thus, the reporting register may reflect what Cicourel calls "sets of schemata or islands of informational content" growing out of "the influence of the physician's prior training and concern with specific issues or problems that could help explain the patient's condition" (1975:46). This phenomenon is related to our notion of knowledge structure frames as well: the sets of associations that the physician expects that lead her or him to ask questions and answer questions one way rather than another, which Cicourel calls *elicitation frames*. Note, however, that this use of "frame" is very different from both our interactive notion of frame as signals of the metamessage and our knowledge structure notion of frame as cognitive schemata.

EMOTIONAL DEMANDS

Another demand on the pediatrician is to conceal her emotional response during the examination/interview. Whereas an emotional response to a medical problem might be appropriate when expressed by a friend, it is quite another matter coming from a doctor, because the point of reference differs. When a friend responds emotionally to a medical condition, the negative evaluation is interpreted as relative to good health. A doctor's reference, however, is assumed to be a range of examples of bad health. Hence, an emotional reaction from a doctor implies that this is a terrible condition relative to the great number of terrible conditions the doctor has witnessed.

The pediatrician in our data clearly seeks to avoid such implications. She repeatedly stresses during the interview/examination that Jody's condition is "normal" and "common" for a child with cerebral palsy. Here again, the Child Development Center's complete set of videotapes is an invaluable resource. In the examination/interview, the pediatrician seems relatively unconcerned about the danger of the arteriovenous malformation in the child's brain. She explains in simple language and with graphic gestures that the arteriovenous malformation is an abnormal blood vessel connection that puts pressure on the brain, causing the child's seizures. The mother asks,

MOTHER: I often worry about the dánger involved too →
DOCTOR: Yes
MOTHER: cause she's well I mean like right now, . . . uh . . . in her present condition. I've often wondered about how
DOCTOR: mhm
dangerous they they are to her right now.
DOCTOR: We:ll . . . um . . . the ónly danger would be from bléeding. . . . Fróm them. If there was any rúpture, or anything like that which[1] cán happen. . . . um . . . thát would be the dánger. . . . fór that. But they're



MOTHER: mhm
. . . mm . . . nót going to be something that will get worse as time goes on.
MOTHER: Oh I see.
DOCTOR: But they're just thére. Okay? [returns to exam]

The pediatrician minimizes the danger of the arteriovenous malformation by using a syntactic construction with "only": "the only danger." She stresses the positive side, that "they are not going to . . . get worse." She uses fillers ("um," "hm"); repetition and paraphrase ("bleeding," "rupture"; "the only danger," "that would be the danger"; "they're not going to . . . get worse," "they're just there"); conditional tense (*would* in "the only danger *would* be from bleeding," and "that *would* be the danger"); and buffer language ("or anything like that").[2] All this linguistic evidence of (*a*) the pressure of cognitive processing in verbalizing the diagnosis; (*b*) the need to monitor the diagnosis, which is not yet complete; and (*c*) the desire not to upset the mother. The pediatrician does not yet have all the relevant medical evidence; she is in the process of formulating hypotheses about the child's condition. Furthermore, she does not have time to prolong the digression from the examination to deal with the mother's emotional response to information she receives.

The effects of these production demands on the pediatrician's discourse have important implications for the mother's participation and response. (Too often analysis focuses on one or the other.) The halting quality of the pediatrician's discourse (*a*) mitigates the effect of the information conveyed on the mother and (*b*) leaves plenty of space for the mother to insert further questions if she feels the need.

As can be seen from the earlier segment, the mother and the pediatrician often interrupt each other and finish each other's sentences, using overlap in a cooperative way (Tannen 1983). There is nothing in the pediatrician's delivery, bearing, or tone that communicates noticeable distress or concern. She, herself, on viewing the segment during replay, expressed surprise at her use of the word "only" and at the effect of her words on the mother, who, she commented, seemed visibly reassured, despite the ominous message conveyed.

The pediatrician's deep concern about the danger of the arteriovenous malformation is evident in her report to the staff. At the end of the staff meeting, she returns to the issue of the malformation and stresses that she would like to communicate with the child's regular doctors, follow her con-

[2] We have coined the term *buffer language* to characterize what has been called "empty language," because such words and phrases serve a purpose, as demonstrated, and therefore are not empty.

dition, and make sure that the parents get necessary counseling—in an appropriate setting. Following is an excerpt from her comments at the staff meeting:

> DOCTOR: [portion omitted] . . . uh: I'm not sure about how much counseling has been dône, . . . with these parents, . . . around . . the ĭssue . . . of the a-v malformation. Mother asked me questions, . . . about the operability, inoperability of it, . . . u:m which I was not able to ânswer. She was tŏld it wăs inoperable, and I had to say well yes some of them are and some of them aren't. . . . And I think that this is uh . . . uh . . . an important point. Because I don't know whether . . . the possibility of sudden death, intracranial hemorrhage, if any of this has ever been[1] discussed with these parents,

The terms "sudden death" and "intracranial hemorrhage" contrast sharply with the words used in addressing the mother ("bleeding," "rupture"). In addition to lexical choice, there is a difference in syntactic structure: "the possibility of . . ." vs. "the only danger would be . . .". The former asserts the danger, while the latter conditionalizes and thereby mitigates the danger.

The pediatrician's speech in the staff setting is faster and more assertive; it is not characterized by the hesitation and circumlocution that were seen in the segment addressed to the mother. Furthermore, when she says, "sudden death, intracranial hemorrhage," she uses listing intonation, indicating that these are two of a series of dangers, in direct contrast to the use of "only." The doctor's deep concern is apparent throughout. It seems clear that, when talking to the mother during the examination of the child, she was monitoring her comments so as not to cause alarm before she had all the relevant information and in a setting not designed to accommodate the mother's reaction.

## CONCLUSION

Public opinion, now reinforced by law and the goals of the medical professions themselves, contributes to a general call for parent involvement. But what research there has been has focused on measuring outcomes in terms of children's development. Until now, as Merton has observed, there has been no analysis of the demands on professionals created by parent involvement. As Merton points out, in the absence of such studies, the behavior of



medical professionals is "condemned or applauded . . . (or) morally judged, not systematically investigated" (1976:39).

We have suggested that a sociolinguistic analysis of actual interaction in a pediatric setting can furnish such investigation. We have demonstrated that preliminary analysis in this paradigm has shown the complexity of cognitive, social, and emotional demands on the pediatrician posed by parent involvement in the examination of the child. Other findings of our preliminary analysis suggest the direction for continued investigation: (*a*) overlapping, competing, and possibly conflicting frames operating for all participants and (*b*) the possibility of misunderstanding resulting from choice of phrasing, intonation, and other linguistic and paralinguistic cues that result from differing expectations in this setting as well as individual and social differences in conversational habits that arise in all interpersonal interactions.

The process of interaction in a pediatric setting is an instance of face-to-face interaction, subject to all the pitfalls and successes of that process, as well as an instance of a particular kind of event, structured by the requirements of participants and their expectations and associations. In our analysis, we have dealt with exemplary participants—a staff of professionals who are highly trained, compassionate, and sensitive to issues of parent and community involvement. They are not constrained by inordinate financial or time limitations and have at their disposal the superior facilities of the Georgetown Medical School and the Child Development Center. The parents are intelligent, articulate, and very concerned, and they provide for the child a financially and emotionally stable family. Our analysis turns up no deficiencies in the behavior of participants. We are engaged, rather, in uncovering processes inherent in the structure of the interaction in particular and communication in general. These are forces at work that can at times create problems in the best of all possible pediatric worlds.

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