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CODE-SWITCHING IN DOWNS SYNDROME¹

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The category "retardate" is a broad one, while the term "Downs Syndrome" refers to a specific disorder (Mongolism or Mongoloidism). One result of this disorder can be termed "mental retardation", and although it is open to question how much various retardation disorders have in common, Downs Syndrome (D. S.) individuals are treated in much the same manner as other patients with low verbal I.Qs. The specific syndrome is caused by a trisomic diploid at Autosome 21, which forms a trivalent structure during meiosis so that, during prophase, one of the chromosomes migrates to one pole of the cell, and a pair to the other (Stansfield, 1969). The impairment as a result of this structure manifests itself in a number of ways. Besides the obvious mental deficiencies (and no doubt more covert problems as well), physiological manifestations also appear. Most striking is perhaps the shape of the hands, which may have a webbed-like look; the size of the head (Lenneberg, et al, 1964), which frequently is overly small for the body size; and the articulatory and respiratory areas are characteristically misshapen to such an extent that these patients have a great deal of difficulty mastering articulation, and are prone to a number of upper respiratory infections. Up until recently, in fact, D. S. individuals were not expected to live past puberty, because they tended to develop infections which became pneumonic.

For the purposes at hand, communicative competence will be defined as related to linguistic performance, both productive and receptive, in the sense that communicative competence involves the acts of encoding and decoding rather than just the tacit structural knowledge of what is being en- and de-coded. Furthermore, such competence involves a myriad of so-called "extra-linguistic" factors, such as knowing when and how to use (and using) politeness forms, questions or declaratives, imperatives or requests; when to form an utterance around one type of content as opposed to another. In other words, one must know and use communication properly. In the words of Dell Hymes (1971: 278): "the acquisition of such competency is of course fed by social experience, needs, and motives, and issues in action that is itself a renewed source of motives, needs, and experience." One might say that linguistic competence is more of an individual, cognitive function, while communicative competence develops in the human animal as social being, in

accordance with (external) socio-cultural factors.

A linguistic community is known to be diverse and heterogeneous. Each such community possesses a set of " sub-codes ", to borrow Gumperz' term (1968). Because each code has a specific function within the community, removal of any of them causes a noticeable gap in the communication matrix (Hymes, 1971 : 278). The choice of code is determined by factors such as topic, speaker-hearer relationship, and so on. It is this relational element in code-switching that this investigation concerns itself with.

The data used in this analysis consisted of audio-tapes made of nine men with D. S. at Pacific State Hospital in Southern California. Video-tapes have been made, but for the most part were not used as part of this study, although one was viewed (and a sequence from it appears, below). Analysis yielded three elements which seemed to be significantly involved in the codes used by the men: pause-length, phonological features (including suprasegmentals), and a category of miscellaneous discourse features which included contrasting syntactic, semantic, and stylistic devices with respect to setting, situation, and event (Blom & Gumperz, 1972). Any consistencies in the repetition of elements in cooccurrence with a given context, from one sequence to another (perhaps isolated) sequence, was assumed to be evidence that code-switching which was rule-governed and socially meaningful took place.

In peer-peer interactions, as contrasted with caretaker-retardate interactions, pause-length exhibited great variability, ranging from two seconds in length (at longest) to negative value (overlap). Such an interaction would often be followed by a longer, six or seven second pause, after which the participants in the interaction changed. For example (figure 1), following one such seven-second pause, R, a caretaker in the workshop, who was previously not involved in the interaction, was summoned to the scene by SH, one of the patients. This longer pause thus seemed to mark a transition; and although it was not " created " for the purpose of making a transition, it marked a possible one (or perhaps a " pre-closing " -- Sacks and Schegloff, 1973). This possibility was seized upon by SH to shift the topics and participants.

#1	SH:	(ʔ̄ o:yz)	
	F:	(pʔəpʔəpʔəpʔəpʔəfa:ə)	
	C:	(ʔ̄ə)	
	F:	('haə)	overlap

(two seconds)
 F: (ə'hɪ)
 C: (now mɔə) (" no more " ?)
 attention shift (seven seconds)
 summons SH: (ʃi) (Q-intonation)
 R: Very good. Sh, very good.
 SH: (ɔ̄ 'hɔv)
 attention shift (seven seconds)
 summons F: (hɑ) (Q-intonation)
 R: huh ? Good, Frank
 (C: (tut fræŋk))
 F: ('ɔwə)

As R participated, the pauses again shortened to less than two seconds. This brief interchange was followed by a seven second pause, and again the transition possibility was utilized, this time to shift the object of R's attention. F (a D. S.), who has almost entirely vowel-speech, made what is interpreted on the basis of his intonation pattern a request for R's attention. During the exchange which followed, pause length again shortened to less than two seconds (including C's echolalic utterance). Note that more overlap occurred in exchanges involving just the men themselves than in those involving R as well.²

A different situation and event offers contrast in pause length phenomena. Such a contrastive situation occurs in a formal setting where the interaction of the participants is more controlled. In this next example (figure 2), S, a caretaker on the ward, SB, a researcher, and J., a D. S. individual, are the participants. S is administering the Peabody Pictures Vocabulary Test to J in order to elicit naming responses, while SB observes.

#2 S: And what's this ? (banana)
 J: (b'nəns?) (Q-intonation)
 S: It's a what ?
 J: (bənəns)
 S: bananas ?

The longest pause that occurred in this situation was three seconds. All longer pauses (i.e. of one to three seconds) represent, predictably, transition periods of the following two types: 1) from question (Q) to answer (A), when J must consider his response; and 2) from A to the following Q, when S must pause to take up the next picture. Though at first glance this seems almost absurdly insignificant-- that is, testing situations are always characterized by Q and A exchanges separated by pauses-- it must be made clear that these pauses were exceptional, and occurred only when J did not have the A readily avail-

able. Most of the time, his response came immediately (after less than a one-second pause) and in a rather automatic fashion. These short pauses and rapid responses were dictated by the nature of the situation; both of the " authorities " involved were clearly uncomfortable with longer pauses, and J may have sensed this and regulated his communication accordingly.³

Following the testing situation, a semi-casual conversation took place between SB and J (" semi " because SB, having been associated with S, was probably considered by J to be in some position of authority with respect to him.). The pause lengths suggest that such was the case: they were shortened considerably, probably in deference to SB's discomfort with longer pauses; and in marked contrast to the previous, more formal setting, overlap of utterances occurred.

To summarize briefly the findings, in casual peer-peer interactions, pause length covers the widest range of variability, from overlap of utterances to two seconds. All longer pauses (up to seven seconds) represent possible transition periods and are frequently used as such. In a semi-casual conversation between caretaker and D. S. patient, pause length was shortened considerably but overlap still was tolerated, though to a lesser degree. This is significant as the two features of short pause length and overlap can be correlated with formal and informal speech settings, respectively. The interaction concerned was, essentially, somewhere between these two extremes, and so it is fitting that the pause phenomena appear to be a combination of effects. Finally, in the most formal situation, that is, where there is the widest gap in status between the participants, non-transitional pauses are of the shortest duration and no overlap occurs. These findings suggest an awareness of role-rights on the part of the patients, and that speech behavior is modified with respect to the roles involved in an interaction.⁴

Co-existing phonological codes or phonetic systems have been shown to play a role in code-switching behaviors in normals (Blom & Gumperz, 1972; Labov, 1972; and so on). Phonological contrasts in the speech codes of a young D. S. child have been observed by A. Bodine (1971)⁵. Charles Ferguson (1973) mentions Bodine's study which revealed that the " five-year-old Mongoloid boy who was studied...was shown to have at least three distinct styles of speech...almost all of his speech was

structured and meaningful....What is of interest here is that the child used one kind of pronunciation when he was trying to make himself understood to his mother and a considerably different pronunciation when he was ' talking to himself '. " In this study, variations in phonological codes were also observed. In speech with caretakers, and most notably in testing situations where a misunderstanding of pronunciation might lead to a lowering of test scores, D. S. patients exhibited much more awareness of their articulation. The following sequence occurs in the transcript of the S-J Peabody Pictures test (figure 2, above, and figure 3).

#3 S: What color's this ?
 J: gre:(k)
 S: It's what ?
 J: (I said) red.

In this sample, J is being " forced " to pay attention by the nature of the situation, but the revealing factor is that articulation is not the only feature which could be misunderstood. Note that two factors indicate that J is aware of his own pronunciation. First of all, S's repair request⁶ (" It's a what ? ") is ambiguous: it may mean that the answer J gave is merely poorly articulated, or that the content was incorrect. In figure #2, S uses a similar form to that in figure #3, but in the former it refers to pronunciation, while in the latter to content.

How does J know which interpretation to give S's question ? The answer may be that he knows both when he has given an incorrect response, and when he has poorly articulated his response. In peer-peer interaction, content repairs were more prominent than repairs of pronunciation; but in this situation, either type may be required.

The first sequence (figure 2) indicates J's awareness of the situation: he is being asked to make a factual response, and will be judged on the correctness of that response. The rising intonation seems to indicate some insecurity on his part, not unlike normals who are in a similar situation. The second sequence (figure 3), on the other hand, seemed to arise from a lapse in attention on J's part, when he really was not very concerned at all with his initial answer. In addition, in the first sequence, J's response to S's repair initiation was to change the very vowel which had caused the misunderstanding, as well as to add a previously deleted final syllable. This is a particularly

significant factor in determining that J has, indeed, interpreted S's utterance correctly.

Another D. S. patient, F, whose speech consists primarily of vowels and glides, can monitor his speech through the use of intonation contour. Such contours are almost non-existent in his interactions with peers. These indications lead rather logically to the conclusion that speech-code-switching does take place, with D. S. speakers utilizing a different code when speaking to caretakers.

A discourse-type feature of D. S. speech which illustrates some contrast is that of communicative intent. It seems highly possible that peer-peer interaction frequently involves topics of less urgency, while increase in the importance of the intent correlates with increased caretaker involvement or requests for caretaker involvement. Some of the strategies used to gain this attention are similar to those of children and obnoxious adults (Elinor Keenan, personal communication): hand-waving, repetition, loud voices. Such frustration is not frequently observed to occur if a man is not attended to by one of his peers: he will, rather, tend merely to " drop the subject. "

The general structural organization of the discourse also differs significantly from peer-peer to patient-caretaker interactions. The former are difficult to analyze because they seem, to the linguist and experienced discourses, somehow " disconnected ", and the non-retardate cannot understand, for example, why an interaction ends the way it does (note, e.g., the suggestive falling intonation contours at the end of the sequences in figure 1). In patient-caretaker interactions, on the other hand, we are able to answer questions that have been developed for " normal " discourse: are there pre-openings and pre-closings being used ? (Sacks & Schegloff, 1973) Is the second utterance of a pair related to the first ? Does the first determine the boundaries of possible second parts ? The fact that we cannot answer such questions while listening to peer-group interactions suggests that a radically different code is being used. Although it has been demonstrated that individuals with D. S. are capable of coherent discourse-- most strikingly illustrated whenever topic is controlled by the caretaker, and thus there is one less variable that the D. S. must handle-- peer-group interaction is characterized by a loss of intonation, loss of clear-cut phonological distinctions, and loss of greater lexical range. These features contrast with those

of patient-caretaker discourse.

Interestingly, a connected and coherent sequence can frequently be found embedded in the discourse of D. S. patients. These sequences occur elsewhere between the same two interlocutors (both individuals with D. S.). In figure 4,

#4 (request) C: (You, Papa.)
 (grant) SH: (You call me ___?)
 C: (Papa.)
 (?) SH: (Papa ?)

C wants to play the " papa " game, in which SH is " papa ". Is this imitation of the testing situations, or of caretaker-patient speech in general (the situations in which these men so often find themselves) ? If so, then the context is certainly appropriate for the sudden switch to a clear phonological and syntactic code, a case of " metaphorical " code-switching (Blom & Gumperz, 1972). The other instances of such code-switching within peer-group exchanges are frequently requests, which are not always accomplished verbally, but are, regardless of medium, usually clear and connected. It may be that the " importance " of an act like requesting may be greater than that of casual, peer-group talk. It may be that the above code-switch which is in a sense also a request (i.e. a request to play a game) can be explained by the fact that such speech acts must be coded differently from other types of language.

In the speech of " normals ", too, requests have come to be coded differently. It is well-known, for example, that requests are often couched in quite indirect terms, taken literally only in joking situations. Thus the famous " can you pass the salt " is of course not a question about one's physical abilities, but merely a polite variant of the more abrupt " pass the salt ! ". The above sequence illustrates in a sense the same kind of presupposition which must exist for indirect requests to be successful: SH knows that C's comment " papa " is not merely a disconnected morpheme, but is indeed a request to play a game. SH and C have established, through time, a set of shared presuppositions.

Requests may be accomplished with the aid of deictic gestures. Requests within requests such as repairs or " contingent queries " (i.e. queries based on a preceding utterance, usually a request for further specification or clarification of some or all of the preceding utterance- Garvey, 1975) have been viewed in one sequence from a video-tape

A remarkable fact about this interaction is that the final four utterances by J are actually a sequence of three repairs. Observe his strategy of backing up in the precise order in which each lexical item had been mentioned, from the specific referent (S) all the way back to the general category they were discussing (Indians). J pauses after each utterance, presumably to await a possible response, and when none occurs he backs up still further, trying to come upon the referent which caused the problem.

This strategy is neither limited to J nor to instances of interaction with caretakers. Sharon Sabsay (personal communication) reports that similar sequences have taken place in other discussions; that is, the same " backing-up " ploy was used. This may be, therefore, more an instance of communicative competence in general than code-switching in particular, although caretakers were frequently present during these sequences. Furthermore, F (the D. S. with vowel-speech) has shown himself to be adept at initiating and making repairs through the use of intonation alone, as non-retardates frequently do. SH (a D. S. patient) too, in contrast with the first interaction (cf. figure #1), uses the repair system with caretakers, and exhibits contrast in phonological codes (cf. Sabsay, 1975).

One cannot help but notice the " connectedness " of these interchanges between D.S. men and caretakers, in marked contrast to the seemingly " disconnected " quality that characterizes peer-peer interchanges. To be sure, there is no way to determine that the former are more cogent, rational, or formal, because these features have not yet been quantified. We are hindered, too, in our ability to understand much of the peer-group discourse. It may be that genuine discourse is occurring in a communicative medium still unavailable to researchers, just as is much child-language, idiopathic twin-language, and other forms of communication outside our domain of existence. We can observe only that there are systematic contrasts, and conclude that at least one aspect of communicative competence, specifically code-switching, has been acquired in spite of monumental cognitive disorders. The implications of such findings should speak for themselves.

Notes

1. I would like to express my great appreciation of Sharon Sabsay of U.C.L.A. , who generously shared both data and interpretations; to thank Dr. Elinor Keenan whose helpful comments will

always be an inspiration to me; and to acknowledge Dr. Stephen Krashen for his patient assistance. The work within remains my responsibility, however.

2. Note, incidentally, the similarity in phonetic shape of the last utterances of each exchange. It has not been determined whether or not this is significant.

3. This might possibly account for some of the unclear comments that J made in answer to Qs he had earlier demonstrated knowing the answers to. He may have been responding impulsively merely to "break the silence".

4. Elinor Keenan suggests that these pause lengths are related to semantic work accomplished. Thus in the peer-group interactions, the men are left to their own devices to get a listener's attention, establish a topic, and so on. The pauses are thus significantly longer than during those interactions in which the attention of the listener is controlled by the caretaker (listener), and the topic as well.

5. The entire passage (page 39) reads as follows: " To take an extreme example, a five-year-old Mongoloid boy who was studied recently was shown to have at least three distinct styles of speech. A typical victim of Downs Syndrome, the boy was extremely retarded in language development and many of his utterances were unintelligible even to his immediate family. Patient study by a linguistic analyst eventually showed that almost all of his speech was structured and meaningful. She was able to formulate the systematic deletions and distortions by which his own internalized grammar modified the English to which he was exposed....What is of interest here is that the child used one kind of pronunciation when he was trying to make himself understood to his mother and a considerably different pronunciation when he was " talking to himself ". It is probably universal in human languages to include different registers for ordinary conversation and for speech which is being produced carefully to clarify a previous utterance or to make certain a message is transmitted under adverse conditions. Certainly every individual and every speech community has patterned ways of speaking with extra clarity. What is impressive is that such differences of register begin so soon and are part of the repertoire even of seriously retarded children. "

6. The repair initiation by S is also syntactically incorrect for J's plural response. For an excellent and thorough study of the repair system of D. S. patients, see Sabsay (1975).

7. These peer-group repairs might more often be coded non-verbally, too, though perhaps vocally.

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