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Manifestations of Twinship in Toddler Language
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The preponderant focus of research on twins is biomedical, using twins as controls to study physiological or environmental variables. The literature on twin development is scant by contrast, and there is even less literature on twin language, although conventional wisdom considers private language or idioglossia a commonplace between twins, and researchers have been reporting language deficiencies in twins since the 1930's (Day, 1932; Davis, 1937).

In 1966 Koch reported evidence for slightly lower IQ in twins compared with singletons at ages 5 and 6. The most notable discrepancies were on vocabulary and information subtests of the PMA, and so Koch speculated that these discrepancies might be related in part to difficulties with language at an earlier age. Interestingly, she did find that dizygotic same-sex female twins excelled singletons in speech performance on the CAT. Koch made a strong plea for an examination of the language of toddler twins.

Research since then has assumed that early twin language is deficient, but findings have not always verified that assumption, so our picture of twin language is still unclear. Wilson's (1975) finding that twin verbal IQ as measured by the WPPSI was behind that of singletons at age 4 and comparable at age 6 tends to support Koch's suspicion that twin language is less advanced in early years. But in 1977 Wilson found that 44.5% of school-age twins achieved as high or higher verbal IQ scores than older siblings and concluded that it isn't accurate to routinely assume that twins are handicapped in development of verbal ability. Lytton and Conway (1977) reported an apparent difference in amount of parental verbal interaction with toddler twins compared with singletons and concluded that parents' reduced speech level contributes to the twins' generally lower verbal facility, but they also reported higher vocabulary IQ among twins whose mothers attended college.

Marjorie Arnold at Rutgers is currently studying the language of four sets of twins as compared with four matched singletons. Her preliminary findings show that the twins are language-delayed at 18 months, but are apparently equal to the singletons at 36.
The study reported here was undertaken with the hope that an examination of language between toddler twins in their home environment might reveal characteristics of language development uniquely related to the twin status of the subjects. The study examined 31 hours of crib talk between the researcher's own pair of identical female twins, as well as diary records of their speech. Analysis found manifestations of the subjects' twinship in their syntax and their lexicon which appear to be related to the subjects' self-concepts as members of a twin team. This report will describe three of these manifestations with a detailed examination of one, the subjects' use of a double name, Krista-Kelda, for themselves in an 11-month period (27-37 months).

Data collection and analysis

Language data were collected by tape recording during the subjects' third and fourth years (24-45 months), usually a period of rapid language development, when conversation begins to be possible for children (Keenan, 1974), and when language is usually developed sufficiently for communication independent of nonverbal aids such as gestures (Dore, 1975; Greenfield and Smith, 1976; Halliday, 1975), so that interpretation of tape-recorded data can be made with some confidence.

Initially (months 25-31) recordings were made by cassette recorder in many different situations in which the subjects spoke to adults, siblings or each other. There were difficulties with this method: the short range of the instrument required that the subjects be close to it. If they were left alone with the recorder, they often chewed on its microphone or removed the cassette. If an adult remained present to monitor the safety of the instrument, the subjects often ignored each other and talked to the adult or not at all. Therefore, inspired by Keenan's successful tapings of the cibtalk of her twin sons (Keenan, 1974), a decision was made to record cibtalk between the subjects.

For months 32-45, stereo recordings were made every two weeks when the subjects were alone together in their cribs just before sleep at bedtime or naptime or upon awakening in the morning. At each two-week interval an attempt was made to record one hour of the subjects' talk. It was usually necessary to record two or more times at each interval to make up an hour-long sample, for although the subjects rarely ran out of discourse, they sometimes fell asleep or left the room. This process never exceeded three days, and usually took only 24 hours. Microphones were permanently installed in the subjects' bedroom, with
a reel-to-reel recorder and headset monitor placed in an adjoining room. Taped data were transcribed into print by the researcher as soon as possible after each recording session in order to facilitate the understanding of transitory idiosyncrasies in the subjects' speech, as well as their references.

Beginning in the subjects' 25th month, the researcher and other care-givers made notations of novel utterances or remarks relating to twinship made by the subjects in many different situations.

Since the language of children is in a constant state of development, it is necessary to consider a child's linguistic meaning within the context of the child's own language system. The appearance of new syntax and vocabulary in a child's language does not mean that the child has mastered the adult usage, but rather, that the new elements have become available for use within the child's language system (Cazden, 1972). The appearance of new syntax or vocabulary in the data is assumed to mark its appearance in the subjects' language within the time interval between the sample and the preceding sample. New syntactical or lexical forms are attributed to both subjects upon their first appearance in the data, following the observation of parallel development in the two subjects.

Results

The subjects developed conventional syntax and lexicon which they adapted in ways which seemed to express their twinship appropriately. Three salient examples are reported here: the subjects' use of a double name for themselves as a team; their use of singular verbs in reference to themselves together; and their use of "me" as a twin referent.

Double Name: The subjects (whose names are Kelda--"Kelly"--and Krista) made use of a double name, "Kelda-Krista" or "Krista-Kelda", to refer to themselves as a team for a period of eleven months (27-37). During that same period they also used double names for other pairs of people or creatures of their acquaintance (see Figure 1). Figure 1 compares the subjects' use of a double name for themselves, indicated with a solid line, with their use of a double name for other pairs, indicated with a dotted line, during the 13-month period 27-39 months. The subjects made almost equal use of a double name in reference to themselves and other pairs for the first three months shown. At 30 months the uses diverged and the subjects made greater use of a double name for themselves than they did for other pairs for the next five months. Both uses dropped out of the data in the
38th month, the month following the subjects' entrance into nursery school. The difference between the subjects' use of double names for themselves and other pairs is significant by chi square at less than .001 level, and by T-test (two-tailed) at less than .01 level.

The double name "Krista-Kelda" was always used to refer to the subjects together.

Example 1: Double name always used to refer to subjects together:
27 mos. -- There's Krista-Kelda in tape recorder. (On listening to tape of subjects.)
28 mos. -- Frog, don't drink Krista-Kelda's bottles.
31 mos. -- Mommy be at home with Kelda-Krista.
34 mos. -- Kelda, Kelda-Krista will call Mommy when Kelda-Krista is done.

Neither subject used the double name to refer to herself individually. Each correctly used her own name or an appropriate singular pronoun to refer to herself alone.

Example 2: Individual names or singular pronouns always used in reference to individual subject:
27 mos. -- Krista's doing it.
27 mos. -- That's Kelly's night-night (blanket). I love it.
30 mos. -- Mom: Can you see yourself in the tray? Kelda: I see me.
32 mos. -- I'm saving this for Santa Claus.
36 mos. -- When I grow up I want to be a man with green moustaches.

The double name for the subjects was gradually replaced by appropriate plural nouns and pronouns which began to appear in the 27th month and occurred with increasing frequency until the double name dropped out of usage at 38 months.

Example 3: Subjects also referred to themselves with plural nouns and pronouns:
27 mos. -- Where's babies going?
29 mos. -- Now we have our lunch.
30 mos. -- I want to see mine and Kelda's old jammies (pajamas).
34 mos. -- Krista: We always go on BART train, Kelly?
    Kelda: Unhuh. And we always go on Amtrak.
36 mos. -- I'll carry this bowl to the store for us to buy. (Sub-
jects playing store.)
36 mos. - You and me doesn't got...

The subjects linked their own names with the conjunction "and" for the first time in the 38th month and dropped the use of "Krista-Kelda".

Example 4: Subjects linked their own names with "and" and dropped the use of double name at 38 months:
38 mos. -- Is Krista and Kelda sleeping on the tape in their beds? (Gloss: Are Krista and Kelda asleep in the tape recording?)

Double Name for Other Pairs: The subjects used a double name to refer to pairs of creatures who were familiar to the subjects and to natural pairs in the subjects' experience. Thus they linked Mommy and Daddy and their older sisters, Carolyn and Diana, and the family cats, Marmalade and Pickles.

Example 5: Subjects used a double name to link other pairs, most often family members:
27 mos. -- Carolyn-Diana (big sisters) made toys.
27 mos. -- Mommy-Daddy went dancing.
28 mos. -- Where's Marmalade-Pickles (family cats)?

The subjects used the double name for identical twin friends, Julia and Katy, but never used the double name for fraternal twin friends, Jocelyn and Elizabeth.

Example 6: Double name for identical twin friends and conventional compound for fraternal twins:
33 mos. -- Jocelyn and Elizabeth will come in our house and take away one of my doughnuts and Julia-Katy will come in our house.

Perhaps the subjects made the above distinction because they could identify Jocelyn and Elizabeth individually, but could not tell Julia from Katy. Or perhaps this distinction was related to their longer friendship with Julia and Katy, because almost all of the double names used for other pairs were for family members.

The subjects never used the double name for pairs who had unequal status relative to each other.

Example 7: Double name never used for pairs of unequal status:
32 mos. -- Flora (an older playmate) and me.
36 mos. -- Diana (older sister) and me.
The double name for other pairs was in use during the same months as was "Krista-Kelda" as shown in Figure 1. Its use was never consistent for other pairs and was replaced by or alternated with the proper use of the conjunction "and" to link members of a pair and by appropriate plural pronouns such as "those", "they", "them" and "their". The frequency of the usage of this kind of double name dropped sharply at 30 months when the subjects began attendance at a play group and disappeared at the 38th month along with "Krista-Kelda".

Example 8: Conventional references used for equal-status pairs other than themselves:

27 mos. --Daddy's and Mommy's room.
27 mos. --Carolyn and Diana.
27 mos. --Those are twins.
33 mos. --Claire and Faithy (sisters) do have...they have some swings.
36 mos. --They (parents) isn't going to come back.

Discussion of the Double Name: The subjects began to use the double name form which linked their names without the conjunction "and" at the same time that they began to use "and" to link other pairs of names (see examples 1 and 8). The subjects sometimes linked other familiar pairs in the same manner without the conjunction "and". Concurrently, the subjects had the use of appropriate pronouns which could be used in place of double names. They employed plural pronouns for other pairs with greater frequency than they used them in references to themselves beginning in their 30th month. They continued the use of the double name for themselves at a high frequency for five more months. Finally, the subjects dropped all use of double names in their 38th month, the month after they began attending daily nursery school which increased their opportunities for separate friendships and experiences.

Immature syntax cannot account for the subjects' double name. During the eleven months they used it, they had other syntax available. The double name "Krista-Kelda" was, however, an appropriate expression of the subjects' twin status, which during their toddler years circumscribed most of their activities. Its appropriateness was appreciated by members of the subjects' family, including the researcher, who sometimes employed "Krista-Kelda" to refer to the subjects, and in so doing may well have reinforced its use by the subjects. Unfortunately, data including speech with other family members are insufficient for
meaningful analysis of this idea.

Evolving a sense of self-identity is a developmental task for all children (Guardo and Bohan, 1971). For twins this process is complicated by the necessity of differentiating oneself from one's twin (Terry, 1975). In the case of identical twins, the task is complicated even further when the twins can be mistaken for each other by members of their own family, as was the case for these subjects. The subjects had certainly established senses of their individual identities by the time of the study at 25 months. Although there were few observable differences between the subjects, they referred to themselves as individuals (see example 2) and discussed differences between them (see example 9); they argued independent points of view, sometimes refused to play with each other, and occasionally wished for each other's disappearance (Malmstrom, 1978). Still, they were sharing most of their experiences and their sense of interchangeability was a matter of occasional discussion between them (example 9, 28 and 36 mos.). Thus, while the subjects did indeed have individual senses of identity, their twin status gave them each another identity as a team member. It therefore seems appropriate to conclude that the subjects' double name arose out of their twin status and was an expression of their twinship.

Example 9: Subjects consider their twin status:
28 mos.--Krista-Kelda is Krista-Kelda.
32 mos.--Kr: You say "you" and I say "I". Ke: And I say "you" and you say "I".
36 mos.--Kr: (panicky voice) I'm Kelda! Ke: Ka-RIS-ta!

The subjects' use of double names for other pairs seems a likely over-generalization of their twin status to other pairs which were numerous in their immediate and very symmetrical family of two parents, two sisters and two cats. The fact that the frequency of the double name for other pairs dropped sharply when the subjects began attending a play group which didn't include any readily identifiable pairs substantiates this rationale.

Other Reflections of Twin Status: Two other phenomena in the subjects' language which can be accounted for as manifestations of their twin status will be mentioned briefly. The first was the subjects' more frequent use of singular verbs with their double name "Krista-Kelda" and their more frequent use of plural verbs with other references to themselves together (see Figure 2). These facts support the conclusion that the subjects used "Krista-Kelda" to refer to themselves as a team, which, as a singular,
quite properly took a singular verb (see Example 1, 34 mos.; Example 4, 38 mos.; Example 9, 28 mos.).

Another manifestation of the subjects' twinship was their use of "me" to refer to themselves when they were together. "Me" as a twin referent entered the data at the 41st month (Example 10). This was long after "me" entered the data in its conventional use as a singular pronoun (Example 2, 30 mos.). This use of "me" was a less frequent, but quite understandable reference to the subjects as a team--and there are others.

Example 10: Subjects use "me" as a reference to themselves together:
45 mos. --Well, Mom, if you sit between me, then you can reach me better. (As Mom was about to sit beside one twin, avoiding the empty chair between the subjects.)
62 mos. --Which one of me is this? (Showing a picture of one twin.)
67 mos. --Then you could have carried me both at once. (In a double baby carrier.)

Conclusions

The subjects' twin status was reflected in their syntax and lexicon by their use of double names for themselves and others, by their use of singular verbs with their double name, and by their use of "me" to refer to themselves together. The strong bond between experience, cognition and language (Slobin, 1971) which in the case of twins has sometimes produced idioGLOSSIA makes it likely that manifestations of twinship such as these are common in the language of young twins. And, in fact, informal contact with parents of twins supports this. There is need for an examination of the language of a number of twin toddlers to establish the frequency of such manifestations. Preliminary results of a pilot survey of families of twin toddlers that the author is currently making show 38% of 150 manifest twin effects of some kind. If they are found to be common in the language of young twins, the duration of these manifestations might be a useful index to the relative strengths of a pair's identities as twins and as separate individuals. And their influence upon language development should also be examined, for such influences might help account for reported discrepancies between the early language of twins and singletons.
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Figure 1. Relative frequency of subjects' use of double name in self-reference, compared to use of double name in references to other pairs.
Figure 2. Relative frequency of subjects' use of singular verb with double-name self-reference, compared to use of singular verb in other references to selves as a pair. Missing data interpolated.