Gestalt language and gestalt processing in autism

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ECHOLALIA, both immediate and delayed, and memorized verbal routines have been described as pathological behaviors characteristic of autistic people. Researchers have not provided much insight into why these patterns emerge or what value, if any, they might be to the cognitive and linguistic growth of those diagnosed as autistic. Most often, discussions of such behavior go no further than to state that they are symptoms of the autistic syndrome, somewhat analogous to stating that seizures are symptomatic of epilepsy (see Fay, 1973; Schuler, 1979; Simon, 1975 for exceptions).

There have been too few attempts to consider characteristics of autistic language in relation to similar patterns in the developing communicative behavior of normal people. Recent research on such forms in the linguistic behavior of normal language learners may provide some insight into autistic language. Of course, these behavioral patterns and their underlying processes in normal and autis-

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tic populations cannot be considered equivalent; however, the similarities cannot be overlooked. I propose that the ritualized patterns and excessively rigid routines of verbal autistic people are a natural outcome of the constraints of their cognitive and linguistic processing. These patterns provide many autistic people with functional (albeit, limited) abilities to communicate and may be indicative of a unique strategy for acquiring language.

VERBAL GESTALT FORMS IN NORMAL LANGUAGE LEARNERS

Several researchers have noticed that normal children produce unanalyzed language chunks. For example, Peters (1980) has shown evidence for a type of processing style or preference in normal children, which she refers to as gestalt (as opposed to analytic). With gestalt processing, children produce unanalyzed language forms with little appreciation of their internal structure. Krashen and Scarcella (1978) described normal first- and second-language learners who used *prefabricated routines*, which are "memorized whole utterances or phrases" that a speaker may use "without any knowledge at all of their internal structure" (p. 283), and *prefabricated patterns*, which are "partly creative and partly memorized wholes" (p. 283), such as memorized "sentence frames with an open 'slot' for a word or phrase" (p. 283), (e.g., I want ____; This is a ____).

Researchers who study gestalt patterning in normal children consider gestalt patterns in language and interaction to be important, if not essential, to cognitive and communicative growth (Bruner, 1975; Peters, 1980). They have demonstrated that interactive rituals and verbal routines not only are instrumental to a child's participation in social interaction but also help to provide children with a foundation and framework for developing more complex communicative skills.

Unanalyzed imitative routines are one form of gestalt processing found in normal children's language. In their studies of normal children's use of immediate repetition, several researchers (Boskey & Nelson, 1980; Folger & Chapman, 1978; Keenan, 1977) provided evidence that imitative routines serve specific functions in communicative interactions. Boskey and Nelson (1980) presented "unanswerable questions" to 18 normal children with a mean chronological age (CA) of 27 months and found that all of the children attempted to actively take their turn in conversation by imitating parts of the questions. Keenan (1977) identified 13 functional categories of repetition in the language of her normal subjects (CA = 33–36 months), and Folger and Chapman (1978) indicated that young, normal children (mean CA = 21 months) imitated their mothers' utterances selectively, depending on the speech act force of those utterances directed to them.

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The use of memorized, unanalyzed segments has also been studied for normal subjects. Peters (1977) discussed a gestalt style of language use wherein some early language learners memorize particular

multiword phrases that are heard often in specific contexts. She suggested that such phrases may actually be perceived as single units and may subsequently be used somewhat appropriately in similar situational contexts, giving the appearance that the linguistic system is of greater complexity than it actually is. Peters suggested that children who demonstrate such gestalt language may initially have difficulty using pauses and other prosodic cues to segment utterances. As a result, they produce whole utterances rather than one or two words.

Peters' observations are supported by Clark, who indicated that her sons used copied utterances that "were retained intact for several weeks," such as "wait for it to cool," which was said when a hot meal was brought to the table (1974, p. 4), or "Don't touch that, it's hot," which was said as one child pointed to hot tea (1980, p. 10). These utterances were far more grammatically sophisticated than the children's actual level of linguistic competence; thus Clark referred to the production of such patterns as "performing without competence" (1974, p. 1).

GESTALT PATTERNS IN AUTISTIC CHILDREN

Holistic patterns of speech are more pronounced in autistic children than in normal children and have parallels in inflexible behavioral patterns, which have been regarded as defining characteristics of autism (DeMyer, Hingtgen, & Jackson, 1981; Rutter, 1978). These findings suggest that the patterns may be manifestations of a particular mode of processing that may stem from an inability to segment experiences into smaller, constituent components. Kanner (1973) describes this characteristic of autistic children:

> Their world must seem to them to be made up of elements that, once they have been experienced in a certain setting or sequence, cannot be tolerated in any other setting or sequence; nor can the setting or sequence be tolerated without all the original ingredients in the identical . . . order. (p. 41)

Kanner seems to be referring to one kind of gestalt, that for situational understandings. Gestalt processing preference is also evident in the multiword units used in language production.

The language behavior of autistic individuals is replete with immediate echolalia, delayed echolalia, incessant questioning, and demands for specific responses from others. These characteristics can all be viewed as reflecting autistic speakers' inability to produce and use language flexibly; immediate and delayed echolalia are indicative of a lack of appreciation of internal linguistic structure, and ritualized questioning may be indicative of a lack of appreciation of internal, interactive structure. Each of these characteristics of the language of autistic individuals can be understood as manifestations of gestalt processing.

Immediate echolalia is most often defined as the immediate repetition of whole utterances or parts of utterances heard by an individual. Fay and Schuler (1980) have indicated that echolalia frequently occurs as a result of a lack of comprehension of the previous utterance. Immediate echolalia may be used in the context of a turn-taking routine in which a

child continuously repeats the prior utterance in order to fill a turn in discourse. Although there may be no comprehension of the utterances being repeated, such echoing behavior may represent a form of social facilitation (Shapiro, 1977) or a turn-taking behavior (Prizant & Duchan, 1981). Even if a child demonstrates some comprehension of an utterance that he or she is echoing, appreciation of the internal structure (i.e., semantic-syntactic relations) is limited. In essence, whole chunks are being repeated with little or no linguistic analysis.

Delayed echolalia, which has been defined as echoing of a phrase after some delay or lapse of time (Simon, 1975), is an example of gestalt processing because it often seems to be an effort to conjure up the whole situation in which the utterances were first heard. An added complexity of delayed echolalia, however, is that the nature of the resemblances or associations may be as diverse as the physical setting (e.g., an utterance is always produced in a specific room), a particular cointeractant (e.g., an utterance is produced only with a particular person), or a specific experience (e.g., an utterance is produced only when a particular taste is experienced). For example, one child frequently uttered "Mom's washing the clothes" when he saw a tape turning through a plastic window on an audiocassette recorder. It was discovered that the utterance had first been heard at home while the child watched clothes being washed through the window of a front-loading washing machine (Prizant, 1978). In some children the form of delayed echolalia may include whole conversations in which the child repeats alternating conversational turns.

Delayed, echoic patterns may be manifestations of gestalt processing at both situational and linguistic levels. First, multiword utterances are produced as whole units, and the speaker exhibits little, if any, knowledge of linguistic constituent structure. Second, such unanalyzed units are often produced as a partial fulfillment of a situational gestalt, possibly as an attempt to replicate the situation in which the utterance was originally heard.

Higher functioning, autistic individuals who have emerged from extended periods of primarily echoic language to more creative, spontaneous language usually continue to exhibit patterns of communicative behavior that provide evidence of gestalt processing. Hurtig, Ensrud, and Tomblin (1982) demonstrated that higher functioning, autistic children routinely used questions as conversational openers, rather than using them to obtain information from others. Such patterns suggest that autistic individuals may focus more on the predictability of the external structure or framework of social interaction than on its internal content.

A frequently cited example of such behavior is when autistic children demand specific verbal responses from others. Quite often, the only utterances that are acceptable are those that are repeated by others as originally heard in a particular situation. For example, one 4-year-old child frequently insisted that I repeat "this is a yellow chair" after he jumped in a yellow lounge chair—his attempt to replicate a prior interaction. If attempts were made to remove him from the chair

before the utterance was produced, he became extremely upset. It was as if he needed closure or completion of the event before he could move on to another activity or situation. The gestalt of the structure of the interaction had to be realized.

Communicative skills are especially likely to suffer from a rigid adherence to such gestalt behavioral patterns because the hallmark of successful communication is flexibility, that is, adjusting one's language to different situations, with different speakers, in an attempt to convey a variety of intentions through a variety of styles (Prizant, 1982). An inability to modify communicative behavior according to situational demands will no doubt cripple one's ability to be clear and relevant in communicative attempts.

COMMUNICATION FUNCTIONS OF GESTALT PATTERNS IN AUTISTIC CHILDREN

Most of the literature on autism has revealed a lack of appreciation of how autistic people use gestalt patterns in dealing with communicative interactions. Since gestalt patterns serve important functions in communication for normal children, it may be productive to consider them from this perspective for autistic people.

Influenced by Fay's (1973) work, which viewed immediate echolalia of autistic children from a functional perspective, Prizant and Duchan (1981) studied four young, echolalic, autistic children over an 8-month period and discovered seven functions of immediate echolalia for the children. Videotaped analyses of verbal and nonverbal features revealed that immediate echolalia served specific communicative as well as cognitive functions and often occurred when the children demonstrated comprehension of the model utterance. In these primarily echolalic individuals, repetition appeared to be used as either a turn filler, a processing aid, a means of behavioral self-regulation, a rehearsal strategy, or a vehicle for expressing intentions, such as affirming or requesting. As mentioned earlier, similar functions have been found in the repetitions of young, normal children. It should be noted, however, that not all normal children imitate frequently in early stages of language acquisition (Bloom, Hood, & Lightbown, 1974). In contrast, most—if not all—verbal, autistic children are echolalic or go through stages of echolalic behavior in language development (DeMyer et al., 1981).

Delayed echolalia of autistic individuals is strikingly similar to patterns of gestalt language of normal children, as was discussed by Peters (1980), and "unanalyzed segments," as was discussed by Clark (1974, 1980). Through videotaped analyses Prizant and Rydell (1981) identified 14 functional categories in over 300 delayed, echoic utterances of autistic children and adolescents. Like immediate echolalia, delayed echolalia was used for communicative purposes (e.g., requests, protests, providing information) as well as cognitive functions (e.g., self-directive, rehearsal).

Although all subjects in the delayed echolalia study exhibited patterns of emerging spontaneous, analytic language (one- and two-word utterances), delayed

echolalia was a functional tool for communicative and cognitive purposes. This notion of two language systems (gestalt and analytic) co-existing in an individual child was proposed independently by Peters (1977) for a normal child and by myself (Prizant, 1978) for autistic children.

Preliminary analyses of recent research on high-functioning, autistic adolescents (Prizant & Doughty, in preparation), suggest that imitative routines were used intentionally by formerly echolalic individuals as they attempted to participate in ongoing discourse. Even though their language was primarily creative, they resorted to repetition when they appeared to have difficulty in comprehending the language directed to them or the intentions of the cointeractant. The father of one child in this study indicated that his 15-year-old son often "snowed" cointeractants in dyadic interactions with his sophisticated repetition strategies. This adolescent made it appear as if he understood the content of the conversation by selecting segments of others' utterances and making appropriate modifications in his acknowledgments, such as reversing pronouns or shifting contrastive stress. The "borrowed" segments from prior discourse enabled this autistic adolescent to participate in conversational exchanges while circumventing processing demands. A similar strategy has been discussed by Duchan (in press) for an autistic child she studied.

Although some structural and functional similarities between gestalt language patterns of autistic children and those of some normal children can be observed, the differences in communicative ability between the two groups are striking. What is so pathological about autistic behavior is not the presence of such patterns but the degree to which they are unalterably maintained and the length of time that they remain a major part of an individual's communicative repertoire.

GESTALT PATTERNS AND LANGUAGE ACQUISITION

Researchers are beginning to describe gestalt communicative patterns of normal children as reflective of a specific strategy for acquiring language. Along these lines, it may be fruitful to consider gestalt processing in autism in reference to language acquisition.

In her discussion of language acquisition strategies of normal children, Peters (1977) described a continuum of children "varying from those who are very Analytic right from the beginning, through those who use mixes of Analytic and Gestalt speech in varying proportions to those who may start out with a completely Gestalt approach and have to convert slowly and painfully to a more analytic approach to language" (p. 571).

This description may be helpful in understanding why some verbal, autistic children, primarily those with more restricted cognitive ability, may remain echolalic, with language consisting primarily of unanalyzed, prefabricated routines or unanalyzed, memorized segments combined with creative elements (prefabricated patterns). It may also explain why verbal, autistic children with greater cognitive ability may develop more flexible, creative language. The latter group gains

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insight into the structure of language through an emerging ability to analyze language into constituent components (e.g., words, phrases, clauses).

The acquisition of a generative linguistic system by most autistic children may be conceptualized as a gradual shift from a gestalt processing mode to an analytic one. That is, the acquisition of a more sophisticated and flexible linguistic system depends on an autistic individual's ability to segment and break down linguistic chunks and thus induce rules of the system. This task is a formidable one because word boundaries are typically not marked in running speech, and deficits in the perception of prosodic cues may be characteristic of autism (Baltaxe, in press). Such cues are important in helping children to segment running speech into meaningful units.

Because of inherent neurological and cognitive limitations, autistic persons may have to rely primarily on a gestalt processing mode, which is clearly an inferior strategy when one is faced with the task of inducing the rules of such a complex hierarchical system as language. The use of echoed or memorized utterances with a lack of or a limited appreciation of their internal structure appears to be an understandable consequence of a gestalt processing mode.

Even so, autistic people do use gestalt patterns to acquire knowledge of the functional use of language (Prizant & Duchan, 1981; Prizant & Rydell, 1981), and higher functioning, autistic persons may use language "chunks" as the raw material for inducing the semantic-syntactic and morphological rules of language (Baltaxe & Simmons, 1977; Prizant, 1978, 1982). Extensive longitudinal research is needed to provide specific information regarding the functions and structures used by autistic people in learning and processing language.

In conclusion, researchers, teachers, and speech–language pathologists must begin to appreciate autistic language as a unique system that may be understood from the perspective of processing limitations. This approach may help them to move away from fragmented descriptions of communicative patterns in autism. Memorized and echoed language, resulting from a gestalt mode of processing, often provides autistic persons with a limited communicative system. Thus, such language should not be dismissed as inconsequential. In addition, the abnormal patterns may also represent an alternative language acquisition strategy. The development and use of gestalt language is highly idiosyncratic; thus an individual's language patterns and any changes that occur in these patterns over time should be carefully analyzed. Those who interact with autistic language learners are faced with the difficult task of helping them to induce rules of language and to acquire a more flexible, creative language system, a task for which most autistic persons do not appear to be inherently prepared.

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