The Role of Echolalia in Children with Various Disorders: An Overview and Treatment Considerations

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Abstract

It appears to be obvious that imitation plays a critical role in the development of language. However, the exact relationship among the factors of imitation, comprehension, and production of language is less well understood. We do know that normally developing children quickly learn to use information about the language system in order to generate their own creative utterances. On the other hand, echolalia (both immediate, delayed and mitigated) is a behavior which has been consistently observed in autistic children. In addition, echolalia occurs in children with other disorders, including mental retardation, receptive language delay, schizophrenia, aphasia, blindness, hearing loss and hydrocephalus.

This presentation delineates the known purposes of echolalia for children with a variety of disorders, and indicates some productive methods of intervention.

Introduction

Imitation plays a critical role in the development of language. However, the exact relationship among the factors of imitation, comprehension and production of language is not easily described nor understood (Rees, 1975; Schuler, 1979). This relationship may vary from one language learner to the next (Dore, 1974). It may also change according to the stage of development which the learner has currently attained (Ramer, 1976; Bloom, and Leahy, 1978). We do know that normally developing children quickly learn to use creative utterances.

This presentation involves a review of the literature on echolalia. Echolalia is the antithesis of creative language. Many authors define echolalia as the meaningless repetition of a word or word group spoken by another person (Kanner, 1946; Lovaas, 1977; Fay and Schuler, 1980). Echolalia may be immediate, that is to say, the repetition may occur just after the speaker has finished. On the other hand, the echolalia may be delayed and thus be produced a short or a relatively long time after first being heard. A third possibility is mitigated echolalia. This term describes echolalia which is modified slightly, either grammatically or semantically.

Despite the definition of echolalia as a meaningless repetition of the speech of other people, the literature contains many reports which provide examples of the various language functions which echolalia serves for the person who uses it (Clark, 1974; Philips and Dyer, 1977; Tew, 1979; Prizant and Duchan, 1981; Prizant and Rydell, 1984; Kitzinger, 1984).

This review of the literature has two goals:
1) To delineate the known purposes of echolalia for children with a variety of disorders, and
2) To indicate some productive methods of intervention.

The Delineation of the Known Purposes of Echolalia for Children with a Variety of Disorders

The presence of echolalia has been noted in several disorders. Schuler (1979) lists childhood autism, mental retardation, schizophrenia, postepileptic and confusional states, latah reaction (a hypnotic state brought on by conditions of extreme fear), Gilles de la Tourette Syndrome, midbrain lesions, adult aphasia, and dementia.

Other writers have discussed echoing in blind children (Fay 1973; Bloom and Leahy, 1978; Kitzinger 1984), those who are hydrocephalic (Swisher and Pinsker, 1971; Bloom and Leahy 1978; Tew, 1979) and those who are presumed to be learning the language deductively, i.e. in a gestalt style (Prizant, 1983).

Some of these disorders will now be discussed in more detail.

Mental Retardation

According to Stengel (1947), echolalia, in this population, is probably related to incomplete speech development and limited comprehension of spoken language. He observed that stereotyped common phrases could be easily completed when only the first word was supplied. Further, only those phrases which were directed toward the subject were repeated. Repetition by the subject seemed to assist him in following through on simple commands. Echoing was done discriminately and it was functional. The severely subnormal child does not echo, indicating that they have not learned even the low level audiovocal skills needed to reach a stage of mechanical repetition (Fay and Schuler, 1980).

Hydrocephalus

The so-called "cocktail party" speech of hyperverbal hydrocephalic children has a glib, chatty, superficial quality. It is an example of well developed form (including well-developed articulation, intonation, and stress patterns) that is used for social interactions, but with weak conceptual underpinnings. These children do use the forms of language as a means of social interaction, as well

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as to refer to present contexts (Bloom and Leahy, 1978). This group also uses language to control others (give commands) and to seek information (ask questions). Such children are described as extremely sociable, even verbally aggressive. They tend to use automatic verbal patterns in place of creative utterances.

Swisher and Pinsker (1971) studied 11 spina bifida children who had had a shunting procedure for hydrocephalus. These children were evaluated in conversation and on the I.T.P.A. The subjects received their highest scores on the automatic level subtests of the I.T.P.A. (i.e. Auditory-Vocal Automatic — grammatical closure, and Auditory-Vocal Sequencing — repeating digits). Other findings were that the subjects were hyperverbal, repetitive in language usage, and used bizarre and inappropriate language. However, production of the syntactical aspects of language was better than their comprehension and expression of the meaning of the words.

Tew (1979) studied 59 children. They were considered to show the "cocktail party syndrome" if they had four of the following criteria:

1) A perseveration of response, either echoing the examiner, or repetition of an earlier statement made by the child.
2) An excessive use of social phrases in conversation.
3) An over-familiarity in manner, not normally expected in a five year old child.
4) A habit of introducing personal experience into the conversation in irrelevant and inappropriate contexts.
5) Fluent and normally well articulated speech.

Detailed psychological testing at the age of 5 years showed that these subjects could be distinguished from other cases of spina bifida by significantly lower Wechsler Intelligence Test scores and very retarded social skills. Visual perceptual abilities were also significantly poorer. Many of the parents had difficulty accepting that the children's verbal output and overt sociability did not reflect intellectual integrity.

Congenital Blindness

Fay (1973) studied 3 boys between four and seven years who were blind and echolalic. After examining several variables, including the human desire for communication, development of an audiovocal skill and arrested language development, he concluded that sensory restriction in the blind interfered with learning the meaning and structure systems of language. In his view, the blind child has the desire but not the skills to communicate. He continues to do what he can do; that is, repeat what others say.

According to Bloom and Leahy (1978) some young blind children have interactions of the *form* and *use* of language which are superior to the *content*. Because of their handicap some sensory-motor concepts are slow to develop. Blind children may be using form to learn about the content of language.

In her review of the literature on the process of language acquisition in blind children, Kitzinger (1984) notes that they not only are often strikingly imitative but also that they often repeat phrases not entirely appropriate to the context. She uses a case study of a 3 year old blind, echolalic child to examine the proportions of repeated and echoed utterances and their functions. The subject echoed 35.7% of the examiner's utterances and 20.7% of her mother's utterances. For the subject, those echoed utterances served the following functions: to question, to request, to comment and as self direction. In addition, there was a category of utterances labelled "play". These utterances mostly involved play with speech sounds set to the intonation pattern of a nursery rhyme. Kitzinger (1984) related that the features of this subjects's communication are "not unusual" for a blind child.

This particular subject also used an "idée fixé". One of her ways of identifying people was by inspecting their jewellery. She continued to do this for some time after she had learned to recognize their voices. According to the author "she had found a ready and accessible way of engaging adults in contact at the same time as reinforcing her recognition of them" (Kitzinger, 1984).

On some occasions she used chunks of other people's speech for her own utterances. Some language used for fantasy play seemed to serve "the purpose of recapturing past experiences, organizing them and mastering them".

Autism

It was Kanner (1943) who gave this disorder its name of early infantile autism. He also studied the language of 23 autistic children (1946). Among the characteristics which he noted were echolalia (immediate and delayed) and affirmation by repetition. Both Schuler (1979) and Prizant (1983) note that echolalia is a characteristic in a high proportion of verbal autistic persons.

Some recent research has been directed toward describing the functions of echolalia used by autistic children (Prizant and Duchan, 1981; Paccia and Curcio, 1982; Prizant, 1983; and Rydell, 1984).

Paccia and Curcio (1982) studied 5 autistic children whose speech contained more than 20% echolalic utterances. They found that the incidence of echolalia was influenced by the type of question which was addressed to the child. Additionally, echoes were more likely to occur in response to questions derived from sentences which the child did not understand.

Half of all echoes which were scored for prosodic features were found to be produced with a contrastive intonation contour. Semantically and/or syntactically restructured echoes were typically accompanied by contrastive prosody. These seemed to reflect a higher level of semantic processing and to serve the semantic function of affirming the examiner's question.

Prizant and Duchan (1981) analyzed 1009 utterances and derived 7 functional categories of immediate echolalia. The categories included: nonfocused, turn taking,

declarative, yes-answer, request, rehearsal, and self-regulatory.

Prizant and Rydell (1984) analyzed the functions of delayed echolalia for 3 subjects. Delayed echolalia varied along the dimensions of interactiveness, comprehension of the utterance produced, and relevance to linguistic or situational context. Fourteen categories of delayed echolalia were derived. These include: nonfocused, situation association, rehearsal, self-directive, label (non-interactive), turn taking, verbal completion, label (interactive), providing information, calling, affirmation, request, protest and directive.

Rumsey et al., (1985) studied 14 men with a well documented history of infantile autism. Their mean age was 28 years. Nine were unusually high functioning. Their interactional patterns included repetitions of a fixed script when meeting people.

Use of Echolalic-Type Utterances By Other Speakers

Krashen and Scarcella (1978) in a paper entitled "On Routines and Patterns in Language Acquisition and Performance" conclude by (1) asserting that the use of routines and patterns may be encouraged when conversational demands are present and the acquirer is not yet competent in the second language and (2) arguing that routines and patterns, while useful in establishing and maintaining relations, do not serve a primary role in language acquisition and performance.

Clark (1974) describes the language of one subject (her son) at approximately 2:9-3:0 years. He would take the immediate prior utterance, or some portion of it, and use it *intact* in his own utterance. Additionally he would combine two existing structures (syntactic strings) without rewording any of the elements and use that for his own utterance.

Gallager and Craig (1984) examined the pragmatic role of a frequently repeated utterance, "it's gone" in a 4 year old specifically language-impaired child. The authors characterized this as a "memorized stereotypic phrase". His assessment profile indicated essentially normal receptive language skills but a severe expressive language problem. An analysis of this subject's conversational interactions indicated that the phrase was used to serve an interactive function for him.

Snope (1978) reports a 4:11 year old boy who was echolalic in response to questions. He also exhibited socially disturbing behaviour and few relevant verbalizations. Although diagnostic information was not initially available because of lack of cooperation, subsequent language and cognitive testing revealed average to above average ability.

On-going diagnostic concerns in my own caseload include several children who are highly echolalic. On initial contact, they are not adept at interactive routines, but they do not exhibit any other frank abnormalities. The working diagnosis for these children is receptive language disorder. The literature is not productive about the existence or evolution of this type of case.

Intervention

Introduction

The following items are gathered from a variety of sources, both formal and informal. They are meant to be suggestions only. The therapeutic goals for each individual case must be carefully determined. The learning style (strategies) of the particular client is a crucial factor in determining how such goals will be attained.

For purposes of this discussion it is assumed that the echo serves some function; that is to say it has meaning. At the very least, it establishes that the client has awareness of and an ability to repeat spoken speech. As noted earlier, research by several authors (Philips and Dyer, 1977; Prizant and Duchan, 1981; Prizant and Rydell, 1984) has indicated that echolalia is used for a number of communicative functions.

According to Bloom and Leahy (1978) echolalia represents a very unusual pattern. Their analysis of language considers the areas of *form*, of *use* and of *content*. In the normal speaker, form, use and content interact successfully.

However, in echolalia *form* overlaps *use* and interacts with it but *content* is absent or minimal. Therefore, Bloom and Leahy (1978, p. 296) state that, "Because conceptual development is necessary both for learning about form and learning about using form as a means for social interaction", one would not expect to find form and usage in the absence of content. The question at this point becomes: "Is echolalia a language disorder or is it a conceptual disorder?"

Strategies

1) In so far as possible, perform a structural and functional analysis of the echolalic responses. This will be unique for each client. Separate immediate, delayed and mitigated echolalia as they will likely require different intervention techniques.

The clinician must decide, depending upon the specific situation, whether to respond to the structure (form) of the utterance or to the function (use) of the utterance.

2) In their discussion of echolalia, Philips and Dyer (1977) present the view that immediate echolalia is not inherently deviant. "The deviance lies in the length of time the echolalic behavior persists after the late onset of its emergence" (p. 49).

One should use the echolalic response to serve its accepted place in language development. When the normally developing child imitates, we can use that imitation for several purposes including: to establish and maintain contact; to reinforce verbal behavior; to increase vocabulary and to model expanded utterances.

Following this model, early language forms could be presented and the echolalic response reinforced.

Follow the pattern of:
Teach the object,
then the verb plus object,
then the agent plus verb plus object.
i.e. "ball"
"want ball"
"boy want ball"

Bloom, Hood and Lightbrown (1974) studied early language development in six children. The children varied in their imitative tendencies. For the children who used them, imitative responses appeared to facilitate the acquisition of new lexical items and semantic-syntactic relations.

3) Questions present a particularly difficult situation for the echolalic child.

Yes-No questions are less difficult than "wh" questions. They are more likely to be answered appropriately rather than echoed. This reflects the additional conceptual and syntactical transformations which must be processed in order to give an answer to a "wh" question. As a consequence "wh" questions tend to be echoed more often.

Communication between the child and the caregiver/teacher may be enhanced by being aware of the fact that a certain form of the question may decrease the tendency for echolalia to occur. Given this reduction in echolalia, the child may be more able to respond appropriately.

4) Many echolalic children find a "fill-in" answer relatively easy if a phonetic cue is given. While this may create an occasion to praise a child for success (a valuable goal) the communicative value of this strategy to the child is quite limited.

5) Intervention with children who are echolalic to "wh" questions is particularly taxing. Philips and Dyer (1977) recommend the use of a third party to play the role of prompter. It is the role of the prompter to make the transformation for the child. They give an intervention cue (a processed model) as often occurs in normal development. For example:

Auntie:	"What are you doing"
Mother (prompter):	say "I'm painting"
Child:	"I'm painting"
	or
Visitor:	"What's your name?"
Mother (prompter):	say "Susan"
Child:	"Susan"

Echolalic children experience extreme difficulty in understanding how transformations are made. Modelling may help them to learn to organize the procedure for making such transformations.

According to Bloom and Leahy (1978) the relationship between language and conceptual disorders is unclear. It may be that "learning form may aid in the development of concepts" (p. 296).

6) Snope (1978) discussed therapy for a 4:11 year old child who was echolalic in response to questions. The goal of the training program was to elicit responses to 18 question forms. The question forms followed the normal developmental sequence and included six interrogative reversals plus 12 "wh" questions structures.

Appropriate responses to each question form were taught at 3 levels:
1. stimulation and imitation,
2. question only,
3. follow up (carryover).
This was a very effective strategy for this child.

7) In the situation where immediate echolalia appears to indicate a specific comprehension problem one may pair the utterance with signing (formal or informal) and/or gestures. Alternately, if the utterance lends itself to the strategy, a physical follow through may be effective. A model of the expected verbal response may be presented.

8) Delayed echolalia suggests the need for some different strategies. For example, a child may be echoing a language *form* which he has heard in the past. The working hypothesis is that, for the child, the present situation is perceived as being in some way equivalent to the past situation. Therefore the language *form* which was associated with the past situation is now "re-voiced" in the present situation. In this instance, one would want to teach several alternate forms in conjunction with the conceptual discrimination of situations which are in some way similar.

9) Alternately, the clinical judgement may be that it is most appropriate to respond to the intent (function) of the utterance. If a child always greets you (as one did me) by asking "Do you have tights?" (as I had one asked her), one would systematically teach a simple greeting, i.e. "Hi, Pat". In this way, the child would learn a form that was appropriate for use when the intent was to greet.

As Bloom and Leahy (1978) point out, early forms including "hi", "bye-bye", "thank you" and telling one's own name are taught and learned in situations which are "highly constrained in form and context" (p. 235). We encourage echolalic responses, i.e. "Say: Bye-Bye" (often simultaneously waving the child's hand), by attaching importance and meaning to them.

10) Another common use of delayed echolalia is for self-regulation. For example the repetition of directives, e.g., "You must not hit." It may be productive to intrude and assist the client in the comprehension of the utterance. The same strategies as those for immediate echolalia would apply here.

11) Note very carefully all instances of mitigated echolalia. That is to say, echolalia which is changed (transformed) in any way. Describe what transformations the client is making and use that description to help you understand what competencies the client has and how you can best make use of those competencies.

In summary, intervention is 3 pronged. It should: positively reinforce for verbal interactions (functions); give models for appropriate language (forms); and facilitate the development of concepts (content).

The ideal is that linguistic skills will equal communication skills.

Fay and Schuler (1980) quote from Bulfinch (1947) and refresh our memory of an ancient myth:

One day the youth (Narcissus), being separated from his companions, shouted aloud, "Who's here?" Echo replied, "Here", Narcissus looked around, but seeing no one called out, "Come." Echo answered, "Come." As no one came, Narcissus called again, "Why do you shun me?" Echo asked the same question. "Let us join one another," said the youth. The maid answered with all her heart in the same words, and hastened to the spot, ready to throw her arms about his neck. He started back, "Hands off! I would rather die thanyou should have me!" "Have me," she said; but it was all in vain. (Translated from Ovid and Virgil, Bulfinch, 1947, pp. 101-102).

It is our challenge that the echoing of linguistic structures by certain children will not be all in vain.

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