A STUDY OF ECHOLAL1A IN AUTISTIC CHILDREN

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TO
AMMA, ACHAN
&
ALKA, ARUN

THANK YOU FOR YOUR NEVER ENDING FAITH IN ME.
I LOVE YOU MORE THAN ANY WORDS CAN EXPRESS.

CERTIFICATE

This is to certify that this Dissertation entitled : *"A STUDY OF ECHOLALIA IN AUTISTIC CHILDREN"*, is the bonafide work in part fulfillment for the Final Year M.Sc. [Speech and Hearing.] of the student with Registration No.M 9303.

Mysore
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CERTIFICATE

This is to certify that the dissertation entitled: *"A STUDY OF ECHOLALLA IN AUTISTIC CHILDREN"*, has been prepared under my supervision and guidance.

Mysore
May 1995

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DECLARATION

I hereby declare that this Dissertation entitled: ***"A STUDY OF ECHOLALIA IN AUTISTIC CHILDREN",*** is the result of my own study under the guidance of Dr. Shyamala Chengappa, Lecturer in the Department of Speech Pathology, All India Institute of Speech and Hearing, Mysore and has not been submitted earlier at any University for any other Diploma or Degree.

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May 1995

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INTRODUCTION

"He is a tyranny you'll never quite learn to live with; an obesession you'll never learn to live without"- Father of an autistic child. Greenfield, 1978 .

Autism remains an enigmatic disorder and is one of the great tragedies that can confront a family.

Autism is a severe form of psycho-pathology in childhood it has specific behaviour manifestations that appear early in life specifically within two-and-a-half to three years.

These children might show a compulsive desire for sameness, repetitive stereotypic patterns of speech as well as play activities, good rote memory and some special skills that were isolated, unusual in nature. They all show normal physical appearance but abnormalities in infant behaviour such as lack of desire for parental warmth. These were the earliest valid description of autism that are popular even today.

These children most commonly and invariably disorder exhibit disorders speech and language development. One can find very conspicuous delay in the onset of speech which is initially seen as mutism, later few of them gradually tend to develop speech which may/may not be functional. Speech that

develops may show abnormalities of voice & articulation, pronominal reversal, a typical vocabulary development, morphosyntactic and pragmatic errors. Apart from this the most important and generally seen feature is echolalia which refers to repitition of heard speech. It could be mainly of two types:

IMMEDIATE ECHOLALIA is repetition of just heard speech.

DELAYED ECHOLALIA recall of heard speech from the past which could be yesterday/month/year/several years back.

Another pattern of echoialia may be present i.e., MITIGATED ECHOLALIA: (Fay, 1980) she found that most of the children repeated the heard speech with some alteration/modification. This is seen in the higher functioning autisitic child and is much more advanced than immediate/delayed echoialia. This condition is seen when the child is getting his speech more and more under voluntary control.

The presence of echoialia in general is felt to be a good prognostic indicator with the view that echoialia can be later therapeutically modified into meaningful conversations. The echoialia in autistic is said to be mainly due to comprehension deficit. Because they fail to comprehend what is asked hence they repeat what is asked; Otherwise they would try to answer appropriately. It could also be serving as self stimulatory kind of behaviour as they derive pleasure

out of it and they keep repeating it. Language impairement is considered to be central to autism and varieties of echolalia are said to be typical of the syndrome.

Present study was an attempt at studying echalalic behaviour in autistic children.

NEED FOR THE STUDY:

Echolalia has been reported to be a significant variable in the language of the autistic children. It has been widely studied in the English speaking autistic population. No study on echolalia has been conducted so far in the Indian context. Indian studies on echolalia of the disordered population as autistic are nil. Hence a study in one of the Indian languages namely Malayalam (belonging to dravidian group of languages and largely spoken in the state of Kerala) was taken up. Considering that such a study would augment the present understanding of verbal behaviour of autistic children and hence the very nature of the disorder itself, a descriptive study of Echolalia was undertaken.

REVIEW

Autism is still defined primarily by its behavioural manifestations:

1. Impairment of interpersonal relationships;
2. Insistence of sameness;
3. Disturbances of motility;
4. Disturbances of sensory input.

(RUTTER,1978a)

KANNER (1941) described 11 children who showed a normal compulsive desire for sameness, repetitive stereotypic patterns of speech as well as play activities, good rote memory and some special skills that were isolated, unusual in nature. They all showed normal physical appearance but adnormalities in infant behaviour such as lack of desire for parental warmth. These were the earliest valid description of autism that are popular even today. He used the term "INFANTILE AUTISM" to refer to the condition. Autism is essentially diagnosed by behaviour manifestations and the various symptoms could be classified into:

- IMPAIRMENT OF SOCIAL BEHAVIOUR
- ABNORMALITY IN SPEECH AND LANGUAGE DEVELOPMENT
- DEMAND FOR SAMENESS IN THE ENVIRONMENT

- DISTURBANCES OF SENSORY INPUT
- DISTURBANCES OF MOTILITY

IMPAIRMENT OF SOCIAL BEHAVIOUR:-

Autism is generally accepted to mean withdrawl or aloneness.

They fail to develop relationships with people.

Winitz (1978)- 90% of approximately 10 children review appeared to be in a shell/and very hard to reach.

a) over 60% of them also ignored people as if they did not exist.
b) avoidance of eye contact/vacant store.

IMPAIRMENT OF LANGUAGE:-

Language impairment is considered central to autism. Those autistic children who develop speech tend to be echolalic and produce inappropriate utterances. Autistic individuals also have tendency to reverse pronouns. Other abnormalities include a typical vocabulary development, morphosyntactic and pragmatic error.

DEMAND FOR SAMENESS IN THE ENVIRONMENT:-

Any change or upset in routine leads to violent tempertantrums which are silenced by return to the routine, eg,. They have limited selection of food or drinking from same glass; otherwise they may refuse to drink or eat.

DISTURBANCE OF SENSORY INPUT:-

They show auditory symptoms, visual symptoms, tactile symptoms, vestibular symptoms etc,. There may be generalised hypoactivity or hyperactivity and alternation of these two states over periods ranging from hours to months. These lead to suspicion of deafness or suspicion of being blind respectively.

WHAT IS AUTISTIC IN THE LANGUAGE OF AUTISTIC CHILDREN?

There is general agreement that language is an independant component of the mind that each can be separately affected by organic impairment. There is a growing consensus that autism is ultimately caused by some biological fault, presumably well before birth, Coleman and Gillberg, 1985 . Depending on the nature and extent of the damage, we might suppose that autism can occur as a very 'pure' disorder, but can also occur together with other impairments.

Few specific problems related to language use are formulated Rutter and Schopler,1987 in defining features of autism as follows:-

- Delay or total lack of the development of spoken language, not compensated for by gesture or mime.
- Failure to respond to the communication of others (eg,, young not responding when called by name).

- Relative failure to imitate or sustain conversational interchange.
- STEREOTYPED AND REPETITIVE use of language.
- Use of 'you' where 'I' is meant.
- Ideosyncratic use of words.
- Abnormalities of prosody (pitch, stress, rate, rhythm and intonation).
- Semantic/conceptual difficulties.
- Abnormalities of nonverbal communication.

WING (1988) identified a triad of impairments in the autistics:

- Social impairment
- Communicative impairment

Impairment of imaginative activity with substitution of repetitive activity. Lack or impairment of imaginative activity has been described in many ways. Theory of mind is one of them (PREMACK AND WOODRUFF 1978). .

THEORY OF MIND FIRST AND SECOND ORDER REPRESENTATIONS:

The infant comes into the world with a remarkable set of cognitive abilities which all have as their aim the veridical representation of the world. The child analyses automatically what things are like and what people are like and in this way builds up considerable knowledge about his

over relationships to the outside world. The child forms representations of such categories as bananas and telephones, containing information about their physical appearance, properties and function. We can imagine that there may be cases of impaired efficiency in such first order representation, for instance in children with general mental handicap caused by pervasive brain damage.

Leslie (1987) illustrated the distinction between first order and second order representations by considering the example of mother playing with the child and playfully picking up a banana and speaking into it as if it were a telephone. Why is the child not utterly confused by this spectacle? In fact, in order to be confused the child needs to be able to form a second order representation. This means representing representations (rather than representing bananas as things to eat and telephones as things to speak into).

Second order representations are the critical ingredient in the ability to pretend but also in many other accomplishments. One of these is "MENTALISING" that is thinking and reasoning about the content of our own and of other people's minds. The systematic application of mentalising is due to our "theory of mind". In the course of becoming an adult every normal child develops such a

theory with profound effects on social life and on communication in general. A theory of mind allows us to interpret coherently overt, behaviour by reference to invisible mental states. In this way we can distinguish 'really meaning it' from 'just pretending', or indeed tell a joke from a lie.

A FAULT IN SECOND ORDER REPRESENTATIONS:

A single fault that is a dysfunction in forming and using second order representations can explain the triad of impairments;

- The capacity to form and maintain sophisticated social relationships, embodied as they are in a normal adult's theory of mind, depends on second order representation.

  Intentional communication depends on the ability to take account of thought content and hence requires second order representations.

  Imaginative activity is first manifested in pretend play and this is known to be absent or at least grossly delayed in autism (Wulff, 1985; Baron-Cohen,1987; Lewis and Boucher, 1988). Pretence as Leslie (1987) has congently shown, only emerges as a result of the capacity to handle second-order representations. Baron-Cohen (1985) calls this as "level 1 perspective taking" and "level 2 perspective taking".

Level 1 perspective taking is the ability to think about another person's thoughts about an objective event. Level 2 perspective taking is the ability to think about another person's thoughts about a third person's thoughts about an objective event.

LINGUISTIC ABILITIES THAT ARE INTACT

A lot of research has gone into the study of linguistic form function and use in autistic population in the recent times.

On the basis of a comprehensive research review, Tager-Flusberg (1981) was able to conclude that neither phonology nor syntax development is specifically impaired in autistic children. The pioneering work by Bartolucci and Pierce (1977) and Pierce and Bartolucci (1977) on phonological and morphological problems has led to a number of related studies. These authors found that there were certain abnormalities in the performance of autistic children, but that these could be accounted for by semantic and pragmatic problems Bartolucci,Pierce and Streiner, 1980 .

The understanding of active and passive sentences Paul, Dykens, Leckman, Watson, Breg and Cohen, 1987 , the comprehension and production of many different grammatical forms including word order past tense and negation (Tager-

Flusberg , 1989), are all and in the capacity of autistic children. Tager-Flusberg's longitudinal study of nine high functioning autistic and 6 Down's syndrome children promises to be of particular improtance. On the basis of this study which is still in progress, she has already been able to conclude that, the order and progress of syntactic development, in high functioning autistic children shows large individual differences, but is not deviant. However, abnormalities are also apparent; the autistic children exhibited a narrower range of grammatical structures aid showed restricted use of those structures which were at their command. Autistic children tended to substitute a missing word of the correct syntactic class rather than of the wrong class and showed excellent ability to pronounce either voiced or voiceless finals. Speech in such examples as "one little bippis and seven bippis". The -s is voiced /Z/ in the case of the plural but not the singular.

MUTENESS AND DELAY OF SPOKEN LANGUAGE

A recent Canadian study showed that the incidence of non-speaking children Mute is strongly related to the presence of severe general mental handicap (Bryson, Clark and Smith, 1988). A contraindicating study by Hermel.in and 0'Conner (1989) described a totally mute mathematically gifted boy who was able to calculate prime numbers at high

speed. Such contradictions however, are very significantly present in the study of various aspects of Autism.

IS MUTE AUTISTIC A REAL MUTE?

- We need to distinguish mute non communicative children who are mute but who can communicate in some other way for instance by means of sign language.
- It could be argued, that non speaking non/singing autistic children are likely to be those who show an extremely diminished desire to communicate.

SUPPORT: This notion is supported by the study Sparrow, Bulla and Cicchetti (1984) of an able mute boy in the Canadian population who scored well below in Vineland adaptive behaviour scale than that would have been expected on the basis of his nonverbal mental age, by this it can be expected that their social relationships would also be extremely impaired.

FAILURE TO RESPOND TO, FAILURE TO INITIATE AND SUSTAIN COMMUNICATION:

Failure to respond is one of the earliest signs of communication failure in the lack of response to speech or even more to name being called. Orientation towards the source of the utterance is normally automatic.

- Two way communication with autistic children is pathological because an autistic child fails to have the continued awareness of the nature of the relationship which the partner and there is interruption of the speaker at inappropriate moments and faulty use of eye gaze during conversation. Lack of reference to information that is shared by speaker and hearer is other important example of problems that have been observed in the language use of autisttc child.

Autistic child does'nt take into account the listener's state of mind.

Many of the abnormalities that occur in conversations can be explained by the autistic individual and not taking into account the speakers state of mind.

- From this assumption it becomes easy to see why autistic people repeat information which the listener knows already.

-PRONOUN DIFFICULTIES:-

Bartak and Rutter (1974) showed that reversals can often be explained as a consequence of echolalia:

- As reviewed by Jordan difficulty in this issue autistic children's difficulty with pronouns is'nt the same as a tendency to reverse first and second person pronouns.

In particular, autistic children don't show a confusion of the identity of the persons to whom the pronoun refer and

its concluded that confusion to pronoun difficulties improves with the improvement on social interactions of the autistic child,

-ABNORMALITIES OF PROSODY:

The prosodic aspects of language are a major carrier of meaning and of the intentions, that motivate communication in the first place.

-Important words are stressed;

-Questions are marked by rising tone;

-Emotional aspects are reflected in the timbre.

-The present studies all indicate some profound abnormaliti.es (Fay & Schuler, 1980; Baltaxe and Simmon, 1935).

-Clinical observations of autistic children indicate staccato speech, monotonous speech, inappropriate questioning intonation and sing-song.

Semantic clue is not useful in remembering sentence for autistic. Experiments by Hermelin and 0'Conner (1973) showed that autistic children were less affected by differences between meaningful and random strings when they had to recall them. They remembered meaningful sentences better than meaningless ones, but not as dramatically better as non-autistic children. This clearly indicates that the autistic children do not much depend on meaning aspect in order to remember a sentence.

-NON VERBAL COMMUNICATION:

-Asperges (1944) recognised the abnormalities of non-verbal communications as a hallmark of autistic individuals.

-Ludwi.g Klages (1913, 1936) pointed out that even in very able autistic individuals there was a distint oddness and poverty of expressive features.

Ricks and Wing (1976) pointed out that the gestures of autistic children are impoverished.

STEREOTYPED AND REPETITIVE USE OF LANGUAGE:-

Shyamala (1989) conducted a study on verbal stereotypes in autism. She found stereotyped abnormalities of voice and articulation lack of pronominal usage, echolalia and lack of spontaneous speoch.

For a long time the lack of spontaneous speech has been a familiar complaint about autistic children's language. (Shapiro, Fish and Ginsberg, 1972;Rircks and Wing, 1976). Instead of spontaneous speech we find the use of stock speech about a few narrow topics only. What we mean by spontaneous speech is the knack to say the right thing at the right moment - even if its stereotypical phrase (example "I love you") what we want to hear from an autistic child and so rarely receive is something that requires the ability to guess and anticipate what the listener might wish to hear at that precise moment. For this reason lack of spontaneous

speech is not cured by turning taciturn individuals into chatterboxes. Instead non-verbal responses such as an occasional smile would be better than speech that sounds as if rehearsed. Of course, nobody has yet come up with a programme that could teach either verbal or non-verbal 'spontaneous' communication of the kind that is so sadly missing in autistic people.

Echolalia has been much researched topic in autism and justifiablly so. Schuler and Prizant (1985) concluded that echolalia is the net result of limited communicative competence and normal speech skills. In this sense the echoing is to be seen as accidental behaviour which should not be imbued falsely with communicative relevance.

McEvoy, Loveland and Landry (1988) have shown that the communicative value of echolalia is extremely limited. They draw attention to the fact that echolalia has not yet been investigated longitudinally, but suggest that one may continue to assume that the more generative language a child possesses, the less he or she will use, echoed speech. So called formulaic speech often involves speech fragments which are outside the child's generative language system and which are used 'lock, stock and barrel' even when only marginally appropriates to the context.

Unfortunately, the explanation of repetitive behaviour in autism is still a large uncharted area. In any case we

cannot explain this phenomenon in terms of fault in second-order representation. An attempt has been made to explain repetitive behaviour in relation to the cognitive processes that are also involved in metarepresentation (FRITH, 1989).

Language delay and deviant language characteristics are criteria features of the autistic syndrome (Rutter, 1978). One frequently cited from of so-called deviant language is echolalia, which in general, refers to the repetition of utterances produced by others. What makes echolalic behaviour in autism truly distinct from repetition in the language of normal children is the fact that it often remains a significant part of the verbal behaviour of autistic children for extended period of time (Fay, 1969). In additon echoic utterances often are rigidly reproduced with no clear evidence of cummunicative intent.

Two general categories of echolalia have been identified in the language of autistic individuals.

IMMEDIATE ECHOLALIA:- Refers to repetitions that are produced either following immediately or a brief time after the production of a model utterance.

DELAYED ECHOLALIA:- Refers to utterances repeated at a significantly later time.

Echolalic behaviours both immediate and delayed, are best described as a continuation of behaviours in regard to

exactness of repetition, degree of comprehension, and underlying communicative indent. (Prizant, 1983 & Schuler, 1979). The decision as to whether an utterance may or may not be called echolalia depends on once the theoritical orientation and involves a judgement which has to be based on criteria that are somewhat arbitrary in nature.

Immediate echololia has received the greatest amount of attention from researchers, probably because its easily identified. Research on immediate echolalia has focused on structural linguistic considerations as well as functional issues. Some researches have considered it, to be a meaningless parroting that secures no apparent purpose Lovas, 1977; Schreibman and Carr, 1978 , where as others have discussed immediate echolalia as a primitive attempt to maintain social contact when an individual is confronted with language beyond his/her linguistic competence Fay,1973; Shapiro, 1977 . Prizant and Duchan (1981) conducted the first systematic study which attempted to discover specific functions of immediate echolalia by analyzing the utterances of four highly echolalic autistic children; seven functional categories of immediate echolalia were derived based on vidiotape analysis of 1,009 utterances produced by the children in interactions with familiar adult in schools and at home during an eight month period. Segmental, supra-segmental, nonverbal and situational features. The children

in the study produced echoic utterances which were interactive as well as non interactive and which were produced with and without evidence of comprehension. The specific functional categories derived included nonfocused, turn taking, declarative, yes-answer, request, rehearsal and self-regulatory. Delayed echolalia, which has been defined as echoing of a phrase after some delay or lapse of time Simmon,1975 or as unrestructured old forms used in new situations (Shapiro, 1977) .has received considerably less attention from researchers. Lovaas, Varni, Kolgel, and Lorsch (1977) collected utterances from three artistic children who had frequently produced "self-stimuiltory" delayed echolalia. The researchers, arguing which in an operant framework, claimed that their subjects delayed echolalia was under control of intrinsic rather than extrinic reinforcement.

Delayed echolalia is the repetition stored, usually echoic utterances in new and usually inappropraite contexts. Griffith & Ritvo (1957) reported a dialogue with a 9 year old in which most of her apparnetly spontaneous comments were in fact almost verbatim reproductions of remarks she had made days, weeks or months previously. Such behaviour is typical of children with childhood autism, childhood schizophrenia. Shapiro, Roberts and fish (1970) gave eg. of a child who

responded to his mother's farewell by saying goodbye 5 min. after her departure. But by the time a new observer did'nt recognize the relevance of the child's remark and the mother had left her "unresponsive" child.

Classic eg. was given by Kanner (1946) - as cited by Fay in his subject who said, "Don't throw the dog off the balcony" to check himself from doing something wrong. This was traced back to the time when his mother said the phrase with some irritation because he persisted in throwing his toy dog from the balcony of their hotel room.

There is increasing evidence that delayed echolalia is quite a different phenomenaon from its immediate counterpart. The following points may assist in differentiating the two echolalias:

1. An echo raction in terms of CNS function is an immediate reaction. Any temporal extension in terms of minutes and more is no longer immediate and therefore probably neurophysiologically nonsimilar.

2. Immedaite echolalia occurs in the presence of another speaker from whom the utterance is obtained. Delayed echolalia may also have its origins as an immediate echo of an interlocutor and thus share a common genesis. it may nevertheless, be registered in the absence of an overt echo reaction, etc.

3. Newsom,Carr & Lovaas (1977) examined the function of extrinsic reinforcers (provided by other people) and intrinsic reinforcers (provided by the organism itself) in the maintenance of private (delayed) echolalia and socially directed speech. According to the authors, delayed echolalia is maintained by intrinsic reinforcemetn whereas immediate echolalia is largely a function of incomprehensibility of verbal stimuli.

Balaxe and Simmons (1977,1981) attempted to understand the significance of delayed echolalia for the perspective of language acquisition. They collected audio recordings of the bedtime soliloquies of an 8-year old autistic girl. All utterances were produced by the child in the absence of other people in the environment; therefore they could not be considered communicative. The apparent linguistic sophistication of many of the utterances indicated to the researchers that they were forms of delayed echolalia. Battaxe and Simmons believed that the patterns of utterance production were a type of linguistic practice in which the child substituted, deleted and /or conjoined segments of utterances which resulted in delayed mitigated echolalia, that is delayed echolalia with structural changes imposed by the child. The authors indicated that such pattern practice may have been a strategy by which their subject segmented

memorised forms which, they speculated, may be a first step towards the acquisition of a rule governed, generation of a linguistic system for echoloalic children. Kanner (1973) hypothosized that delayed echolalia represented an intermediate stage in movement from immediate echolalia to more flexible and creative language. Some researchers have acknowledged that delayed echolalia may serve some purpose in communication. Dyer and Hadden (1981) discussed in 'functional categories' of delayed echolalia that they noted in informal observations of autistic children. They indicated that some forms of delayed echolalia were produced with no apparent comunicative intent. Rather than citing specific types of functions, Dyer and Hadden labelled their categories with terms that suggest structural rather than functional criteria (eg: stereotypic, negativistic, egocentric, time lag, transferred, and mitigated). Wolff and Chess (1965) proposed two categories of delayed echolalia, noncommunicative repetition which serves no apparent purpose, and communicative repetition, which is used for communication even through it consists of the exact phrases a child has heard others use. Ricks and Wing (1975) discussed the appropriate use of phrases which were copied from others, such as "do you want a biscuit?" used as a request, and Battaxe and Simmons (1975) made a brief reference to communicative delayed echolalia as serving a labeling

function. Schuler (1976) also viewed echolalia on a continuance of communicative to non-communicative repetition. Schuler (1979) expressed the need to "study the function of the (echoing) behaviours observed with in the context of their occurance" and stated that "no conclusions about the definition of and differentiation with in echolalia or echoic-like behaviours can be drawn without systematic and delailed descriptions of these behaviours".

Various structural and functional analyses revealed that the general category of delayed echolalia encompasses utterances which may serve a varietyof functions and which may be produced interactively and non interactively, with or without evidence of comprehension and with varying degrees of relevance to the situational or linguistic context. These findings can occur with recent research investigating the functions of immediate echolalia (Prizant and Duchan 1981).

Fay makes a review of the various aspects of echolalia of different types described as in the following sections.

FUNCTIONAL CATAGORIES OF NON-INTERACTIVE DELAYED ECHOLALIA:

1. NON FOCUSSED:- Such utterances appeared to be self stimulatory Lovaas et.al;1977 and sometimes involved verbal perseveration.

2. SITUATION ASSOCIATION:- The major distinction between these utterances and nonfoccused utterances was that the production of situation association echoes seemed to be instigated by or associated with a particular identifiable stimulus in the environment, such a stimulus could include a feature of an object, person or activity. Thus some relevance to the linguistic or situational context could be identified. The production of such utterances may have been the product of learned association between utterances and objects/events.

3. REHEARSAL:- Rehearsal utterances appeared to serve a cognitive function of rehearsal prior to an interactive production of the same utterance. Most frequently, such utterances were produced with low volume or even in a whisper, with subsequent production of the utterance in a louder voice with nonverbal evidence of interactiveness and communicative intent.

4. SELF DIRECTIVE:- Self directive utterances served a cognitive function of motoric self regulation in that they apparently helped the child to direct his overactions in motor tasks. Prizant and Duchan (1981) discovered, a similar self-regulatory function served by immediate echolalia. Luria (1966) described a developmental sequence in which over production of utterances is used to direct behaviour

initially, with eventual covert or subvocal control of motor behaviour. Rick and Wing (1975) noted that many autistic children appear to be delayed in moving to covert self regulation of behaviour. They also noted a lack of inner language in autistic children, which may result in the need for overt production of utterances to facilitate behavioural self-regulation.

5. NONINTERACTIVE LABELING:- This category was characterized by nonverbal attention to objects (eg: holding, demonstrative gesture etc). However, there was no apparent effort on the part of the child to direct the utterance to another person. The child appeared to be audibly labeling an object or person, possibly as a form of referential practice. The fact that only one utterance in this category was identified may be attributed to the interpersonal demands of the situations in which data were collected.

1. INTERACTIVE DELAYED ECHOLALIA: TURN TAKING:-

Served as turn filters in dyadic exchange probably as an effort to fulfill a basic requirement of discourse. They were produced as part of an alternating verbal exchange between a child and the adult and often involved multiple repititions of the same utterances. In some cases, the utterances may have been heard previously in the same context (eg: in the same room with the same person) but in contrast

+o the situation association echoes, they were produced interactively and in the context of filling a conversational turn. Prizant and Duchan (1981) prescribed a similar turn taking function for immediate echololia. Immediate turn taking echoes as described by Prizait and Duchan is that the child clearly waits for a turn in the verbal exchange before offering his or her echolalic contribution. The result of such an exchange is a superficial resemblance of the structure of dialogue even though the child isnot adding relevant or new information in the interaction.

2. VERBAL COMPLETION:- These utterances seemed to serve as turn fillers; however, their production appeared to be determined by an adult's initiation of a specific verbal routine. For turn-taking echoes, in contrast the delayed echoic utterances did not involve the completion of a verbal routine.

3. LABEL (INTERACTIVE):- These delayed echoic utterances were accompanied by demonstrative gestures such as pointing/showing which served to indicate that they were in reference to the specific objects or actions, such demonstrative gestures were central to both non-interactive and interactive labeling; however, the latter category was produced with evidence of comnunicative intent as determined

by gaze checks and/or nonverbal evidence of the expectation of some acknowledgment by the adult.

(4) PROVIDING INFORMATION: Those utterances served to impart new. information to the listener. Such information was not available in the immediate situational context and included expressions of iternal state. In some instances the child appeared to be conveying information by producing an utterance overheard in a previous countext in which some need was met.

(5) CALLING In the few instances in which these utterances were used the child typically followed up with a request, suggesting that these utterances served as attention getting devices. One subject was reported to use the routine "hey youl" to get one's attention in his daily interactions and this utterance occured twice during data collection.

(6) AFFIRMATION: These utterances indicated a willingness and/ or a desire to engage in an activity or to accept an item (eg. toy, food) which had been offered. All 3 children also indicated affirmation through immediate echolalia, which has been described as "affirmation by repetition" (Kanner, 1943) and "yes-answer" echolalia (Prizant and Duchan, 1981).

(7) REQUESTS: Delayed echoes serving a request function were goal directed. Typically the goal was acquisition of an

object or some food, the child's focus seemed to be on the object desired, and such instances were often produced when objects were being withheld or when they were out of reach. PRONOMINAL REVERSALS were common feature of request-delayed echoes because adults had referred to the child as "you" in the original situation.

(8) PROTEST: The pragmatic force of these utterances conveyed an apparent desire to prohibit an act or a statement of dissatisfaction about an action taking place or about to take place. Protest echoes were often accompanied by physical attempts to stop the action and were often produces with an extreme emotive tone. The extent to which such utterances are produced may reflect the frequency of reprimands directed to a child.

(9) DIRECTIVE: Served to get an adult to initiate some action on an object or to move to a particular location. The primary distinction between directives and requests is that, the goal of requests echoes was the acquisition of a desired object. For directives the goal was getting an adult to act and was therefore action rather than object focused.

A comparison of the production of interactive delayed echolalaia, non-interactive delayed echolalia, serving cognitive functions rehearsal, self-directive, non-interactive labelling and other non-interactive delayed echolalia non-focussed, situation association reveals the

following patterns. the subject tested produced a substantially greater proportion of interactive delayed echoes versus non-interative delayed echoes serving cognitive functions versus other non-interactive delayed echolalia.

Delayed echoes which may be produced for communicative purposes may have highly idiosyncratic meaning, rendering them unconventional and non-communicative to most listeners. Kanner (1946) used the term metaphorical language to dentoe such utterances with private meanings. Finally, on the more conventional end of the continuum, delayed echoes that closely approximate culturally agreed upon form/content/function relationships may be recognised immediately as conventional signals ("Do you wanna eat lunch?" used as a request for food).

Dalayed echoes vary as to the extent of their conventionality, which may vary with different listeners and different contexts. Those familiar with a child may comprehend the meaning and intended function of delayed echoes based upon shared experience, whereas such information may not be available to strangers. Some delayed echoes may never have been intended to serve as conventional signals, whereas the function of others may be quite transparent to relative strangers because delayed echoes are, by definition,

memorized utterances of a recognizable language system one may raise the issue of rich interpretation that is attributing greater intent and meaning to utterances than is actually the case.

Fay and Schuler (1980) & Prizant (1983) have argued that the notion of continuum must also be applied to delayed echolalia when considering the presence or absence of underlying communicative intent. Bates (1979) defined intentional communication as "signalling behaviour which the sender is aware, a priori of the effect that a signalling have on his listener, and he persists in that behaviour untill the effect is obtained or failure is clearly indicated". For the categories of requests, protest, lableling, calling, affirmative, directive, and providing information, there was clear evidence of communicative intent. Utterances produced without communicative intent fell into three groups: a) Serving cognitive functions self directive, rehearsal, non-interative labelling. b) Those with no clear function (non-focused, situation association). c) Those serving a conversational or turn filling function (turn-taking, verbal completion).

Its likely that much of a child's early delayed echolalia is perlocutionary, that is not produced with communicative intent although intent may be assigned by others (Bates, Camaioni and Volterra, 1973). Such utterances

may be produced as situation associations or as conversational turn fillers, in that the child may not have an intended effect in mind. When a child begins to observe and realize that his or her utterances do have specific effects on the behaviour of listeners and thus uses utterances more frequently and specifically for a particular effect, it can then be stated with some confidence that the child knows the relationships between his/her signal, (eg. request for food) the effect of the signal on the listener (eg, listener provides food) and the desired goal (eg. acquisition of food). Its at this point that the child's behaviour can be said to show evidence of communicative intent. Wtih autistic children, however, the production of non-conventional signals (utterances with private meanings") may preclude a listeners ability to infer communicative intent; thus, reliable judgements of communicative intent may be difficult to make. Only behavioural evidence of communicative intent can be observed; intent itself is unobservable.

Delayed echolalia probably represents a diversity of behavioural acts ranging from non symbolic non purposeful; acts to quasi-symbolic behaviour to behaviour approximating true symbolic activity. Such acts may be used for communication or for cognitive functions.

Intentional communication or the ability to use expressive signals in a preplanned manner in order to affect the behaviour or attitudes of others is emerging as a construct of significance in understanding the autistic syndrome. This is due largely to the fact that communicative intent lies at the crossroads of social relatedness, social-cognitive understandings and communicative knowledge. There is preliminary evidence that for childrn with autism, the development of preverbal intentional communication is necessary for the emergence of language. (Sugarman, 1984; Wetherby and Prutting, 1984), Similar to the development of normal children (Bates, Bengni, Bretherton, Camaioni and Volterra, 1979, Sugarman, 1984).

Intentionality may be defined simply as the deliberate pursuit of a goal (Flavell, 1963). A child's behaviour is intentional if the child has as awareness or mental representaiton of a desired goal as well as of the means to obtain that goal (Piaget, 1952). An example of international behaviour would be if a child wanted a toy that was on a shelf out of the child's reach and the child pulled a chair over the shelf, climbed up on the chair and obtained the toy. Not all communicative acts are intentional. A child's behaviour may have an effect on another person and serve a communicate function without the child having a preconceived awareness of that effect or of the means for obtaining that

effect. In other words any behaviour may serve a communicative function regardless of whether or not the effect was intended.

Many children with autism who produce speech or signs may not be considered truly verbal when these criteria are applied. Most typically autistic children begin to speak by repeating utterances spoken to them in an immediate delayed manner (Ricks & wing, 1975) and often with limited evidence of comprehension or even communicative intent (Prizant, 1983). Moreover, memorized utterances repeated at a later time (delayed echolalia) may be spoken only in contexts similar to the ones in which they were heard with limited evidence of the flexibility and decontextualized use characteristic of true symbolic communication.

Echolalia is the most fequently mentioned language related characteristc of children with autism who speak, In fact, Kanner (1943) identified echolalic, behaviour in all right of his original clients who had acquired some speech or language (3 were described as mute). Bartak, Rutter and Cox (1975) found a history of echolalic behaviour in all 19 (100 %) of their autistic subjects who had acqd. speech Baltam & Simmons (1981) estimated that a minimum of 75 % of autistic individuals who speak are echolalic or had been echolalic for extended periods in development.

Kanner (1973) indicated that the most positive the social outcomes were for individuals who had acquired some speech prior to 5 years of age. He went on to describe a "steady succession of stages" which was characteristic of this group: "No initiative or response - immediate parroting delayed echolalia with pronominal reversal - utterances, related to obsessive preoccupations - communicative dialogue with proper use of personal pronouns and greater flexibility in the use of prepositions". Howlin (1981) studied the effect of operant language training versus no language training on the language developement of children with autism. One striking finding was that the echolalic children in both the experimental group (language training) and the control group(no language training) had acquired "good phrase speech" at follow up. This finding suggests that the presence of echolalic speech (as opposed to a lack of speech) is a positive prognostic indicator for further language development. Prizant (1978) & Schuler (1979) noted that early repetition and imitation in the speech of only developing children has been found to serve a variety of communicative and cognitive function (Kunan, 1977; Ramer, 1976) and they cited a need to analyze echolalic behaviour in autism from a functional perspective. This need was especially apparent because treatment programs had emerged which advocated punishment of echolaiia (Lovaas, 1977) without any evidence

that such behaviour interfered with language development or that its extinction enhanced language development. Advocates for extinguishing echolalic behaviour assumed that its a socially non-functional behaviour its produced without communicative intent and it always signals an individual's inability to comprehend what was said (Schreibmann and Carr, 1978).

Two major questions have been posed in functional approaches to the study of echolalia in autism. First, what functions, if any do echolalic utterances (immediate/delayed) serve in communicative intent? From the perpespective of communicative intent, the question may be stated in a slightly different manner: Do individuals produce echolalic utterances with evidence that they are attempting to acheive preplanned goods or influence the behaviour of others in desired ways? SEcond, what is the role or function of echolalia in the acquisition of an oral lang. system for individuals with autism? From the perspective of communicative intent, this question as follows: For individuals who acquire speech, does echolaia play any role in the acquisition of more creative and intentional language.

In reference to the first question, there is now an emerging body of evidence that many individuals wioth autism use immediate and delayed echolalia as a means to communicate

for specific purposes. Kanner (1943) described the use of repetition for affirmation in his echolalia clients. Shapiro (1977) and Fay (1969) believed that immediate echolalia used by autistic children resulted from a lack of comprehension of language they were exposed to. They indicated that immediate echolalic resposes represented attempts to participate in social interactions through repetition in lien of the lingusitic capacity to comprehend language and generate novel utterances. Schuler (1979) extended these arguments and stated that echolalic behaviour probably encompasses a continuum of intentionality and communicativeness, rather that simply living an expression of only very primitive social intent (intent to keep interactions going). Hence children use both immediate and delayed echolalia as part of communicative acts to exprress specific intent in interating with other persons. second questions - what role does echolalia play in the acquisition of the ability to express communicative intent through speech and language? Baltaxe and Simmons (1975, 1981) have argued, that echolalic behaviour in autism is precipitated by specific perceptual deficits resulting in an inability to use prosodic features to segment language heard. Thus, autistic children must take an alternative approach to rule induction in learning language structures that is, they first begin speaking by repeating multi-words units (eg. phrases, sentences) and more on to

more creative and flexible language by segmenting and breaking down those units in development.

Prizant (1978, 1983) focussed more specifically on the acqusition of communicative intent rather than language structure alone in considering the role of echolalia in progression from echolalia produced with no underlying communicative intent, to echolalia utterances produces with communicative intent with little knowledge of linguistic structure or specific word meaning encompassed in the utterances, to utterances produced with communicative intent and greater appreciation of the internal linguistic structure and specific word meaning produced in such utterances. This progression reflects movement from perlocutionary or preintentional communicative acts to illocutionary or intentional prelinguistic communicative acts, to locutionary, or intentional communicative acts produces with some underlying linguistic knowledge and true symbolic communicative behaviour may only be manifest in the locutionary reflecting knowledge of language structure and referential meaning. This account of the expression of communicate intent through echolalia serving as a foundation for expression of communicative intent through foundation for expression of communicative intent through true communicative

language most be sonsidered tentative until evidence becomes available through longitudinal research.

STAGES IN EMERGENCE OF COMMUNICATIVE INTENT IN ECHOLALIC BEHAVIOUR:

PRELOCUTIONARY-

Utterances repeated without communicative intent, unintented effect on listener is due to listener's assigning of intent.

ILLOCUTIONARY-

Utterances repeated with communicative intent, but with minimal appreciation of internal linguistic structure and semantic function relationships.

LOCUTIONARY-

Utterances repeated with communicative intenct with greater appreciation of internal linguistic structure and semantic functions or relationships. Rule governed changes are often imposed (mitigated echolalia).

Schuler(1980) and Wollner(1983) have stated that the longuage of children with artism is used to serve primarily instrumental function and is used to satisfy immediate needs. Schuler, Fletcher and Davis - Welsh(1977) studied the language of nine year old autistic boy from the perspective of communicative intent. They found that the child's more

spontaneous utterances were used primarily to request objects(Eg. want....) and to reject objects or events (Eg.no....). In the child's productive speech, no utterances serving a discriptive or commenting function were found. Interestingly, utterances serving more social functions referred to by the authors as informatives and interactives were used by the child but only through delayed echolalia.

It should be noted that attention directing functions which serve a social end are'nt characteristically absent in the autistic syndrome, but many be acquired by autistic children at higher use of immediate and delayed echolalia (Prizant and Duchan, 1981; Prizant and Rydell, 1984).

Buium and Stuecher (1974) analysed the echolalia of 5 1/2 year old boy having a diagnosis of childhood psychosis with autistic features. Sixteen sentences of varying complexities were presented to the boy, and he return each in immediate echolalia. According to the analysis, the meaning of eight of the sentences was retained four of these were exact echoes ("today I play outside" / "today I play outside"). Three were truncated are reduced echoes ("I might have been playing" / "I playing"). The remaining examples was an contraction ("It is very nice" / "It's very nice").

Echolalia rarely occures in conjuction with message comprehended (Fay, 1967, 1969; Fay and Butter, 1968). Although understanding of individual components of the triggering stimulus may be demonstrated, the message has failed to register if the echo is forthcoming. Therefore, an echoer's capabilities to process longuages may be more likely revealed by the stimuli he does not echo.

MITIGATED ECHOLALIA:

The term was introduced by Pick (1924) to describe the slight modifications he noted in the echolalia of some of his aphasic patients. Stengel (1947) noted two characteristic modifications - 1) Introducing the first person singular into the repeated utterances, and 2) Appending an intelligent response to an echoed question or order.

Example Trigger	Mitigated echo
- I guess you are	I guess I'm are
- Show it to me	show it to you.

Unfortunately, mitigation and its associated prognostic improvement are not characteristic of autism (Stengel, 1947).

Normal children ascend developmentally to more symbolic forms of behaviour (Pavlov's second signal system) the autistic child becomes plateaued at a level of persistent repetition. On the echoic continuum he would seem to have gained audiovocal competence but very little else. The

consequence is a truncated transition - a developmental stagnation due to nonemergence of normal lingusitic competence. The persistent echoing may be regarded as a maladaptive use of a normal mechanism because the options permit nothing else, save silence. Thus the echolalia signals pathology but is not itself a direct result of the conditon. It may however be regarded as an indirect consequence if it extends in duration beyond the time of normal abatement. Extended echolalia points to a failure at least for a time in the development of linguistic competence.

Philips & Dyer (1977) who strongly support the notion that autistic echolalia is a late onset form of normal imitation functioning in young children have argued, therefore that the key to its progressive clinical elimination is in the condition itself.

Autistic children havng missed out at the infant echolalic stage are further handicapped by late-onset speech at an equivalent point by not genrally receiving the spontaneous help that the noraml child would. What they receive from adults who use language appropriate to their physical development perseverates them in echolalia which blanks off from their potentialities of contextual meaning other than at a level of naming vocabulary.

The literature has quoted many studies showing various echolalic patterns in autistic children. Hence this study was taken up to study echolalic pattern in Malayalm speaking autistic children, the methodology that has been carried out to collect data and analysis of the data is as follows.

METHODOLOGY:

A study was conducted on 7 autistic children, aged 4-12 years to investigate their echolalic behaviour. Out of them 2 were females& 5 were males. Their mother tongue was Malayalam. All the subjects were attending therapy for behaviour modification. these subjects were diagnosed as having Delayed Speech and Language with autism based on Rutter/Revised DSM III criteria. Their oral mechanism evaluation revealed normal speech mechanism. All these subjects were verbal i.e., they has some amount of speech output.

MATERIALS USED - Tape recorder model casettes, picture books, 30 preselected sentences (as given in the Appendix) for repetition task.

METHOD OF DATA COLLECTION : These subjects were made to come out with about 100 utterances elicited by variours methods as follows: 1) Describing the picture shown to them 2) answering the questions asked to them. 3) Asking them to narrate a story THIRSTY CROW

4) Making them to repeat a list of 30 simple sentences of varying length in Malayalam.

All these responses were recorded, data was transcribed in I.P.A. This data was analysed for its qualitative & quantitative characteristics.

Method of data Description & Analysis:

The speech samples were analysed for various linguistic as well as paralinguistic features. For general description all the 100 utterances were considered, while for echo description (and echo distribution) only the 30 preselected sample with varying length of stimuli and their echoic responses were considered. The speech characteristics included the following aspects.

Speech characteristics:

Subjective evaluation of

* Vocal characteristics of pitch, loudness and quality.
* Articulation.
* Intonation involving stress, rythm and timing.

Linguistic characteristics:

Comprehension and expression abilities of the children were informally evaluated. MLU in words was caluculated as

Total no. of words / Total no. of utterances

Other paralinguistic features:

Response: Whether there was response (echo) or no response (absense of repetition of the target).

Response time: To note whether there was a delay in repetition task or no delay.

Audibility of echoes: To check as to whether the echolalic utterances were loud or whispered.

Prompting: Whether the children came out with echolalic utterances spontaneously (auto echolalia) or needed verbal prompting which was further investigated as to whether a full prompt or partial prompt was needed in each case.

Nature of echolalic utterances:

Whether they were

* complete or incomplete repetitions.
* reduced/expanded echoes.
* mitigated modified echoes.
* the type of stimulus words omitted; whether content or function words.

Pronouns in echoes:

Whether pronouns were present or absent. Whether pronoun confusion as reversals were present or not.

Deixis in echoes:

Deietic terms present or absent like temporal terms today/tomorrow/now/then.

Personal terms - he/she/I/you

Positional terms - here/there.

Functional category of echoes:

Turn-Taking - Utterances used a turn fillers in an alternating dyadic verbal exchange (Prizantt & Duchan, 1981).

Affirmatory - Utterances used to indicate affirmation of previous utterance (Prizant & Rydell, 1981).

Self regulatory - Utterances which serve to regulate ones own actions. Produce in synchrony with motor activity. (Prizant & Rydell, 1981).

Based on the observations as above, the results were obtained and discussed.

RESULTS & DISCUSSION

TABLE – 1, Subject Description

SUBJECT	AGE (YRS)	SEX	MOTHER TONGUE	MENTAL ABILITY(AAMD)	PROVISIONAL DIAGNOSIS
S1	6 yrs	Male	Malayalam	I.Q.=55-70 Mild .M.R.	Delayed speech & language with autism
S2	8 yrs	Male	Malayalam	----do-----	-----do------
S3	9 yrs	Male	Malayalam	----do-----	-----do------
S4	9 yrs	Female	Malayalam	----do-----	-----do------
S5	10 yrs	Male	Malayalam	----do-----	-----do------
S6	10 yrs	Female	Malayalam	----do-----	-----do------
S7	11 yrs	Male	Malayalam	----do-----	-----do------

TABLE - 2, Speech and language characteristics.

	S1	S2	S3	S4
Comprehension vs Expression.	Comprehension is better than expression. Comprehends 3-4 words sentences and complex commands but fails to express spontaneously. Expresses through gesture by pointing towards the things he needs.	Comprehension better than expression. Comprehends 3 words sentences and complex commands. Needs prompting to express spontaneously. Expresses through gestures by pointing and turning to things needed.	Good comprehension. Comprehends almost all directions. Uses gestures to express himself.	Better comprehension. Could comprehend verbal commands well and various activities to be carried out. Prompting needed to come out spontaneously. On imitation output was better.
Mean length utterance	MLU is .70 words.	MLU is .68 words	MLU is .81 words	MLU is .78 words
Vocal characteristics -Articulation -Intonation -Stress -Rhythm	On subjective evaluation-normal articulatory movements. Uses high pitch voice Cries, grunts, groans observed Timing, stress is appropriate in echolalic and non-echolalic utterances.	On subjective evaluation Normal oral mechanism and articulation movement. Slow rate of speech. Appropriate stress and intonation in both echolalic and non-echolalic utterances.	Appropriate stress, rhythm and intonation in all the utterances. On subjective evaluation - normal articulation.	Has soft voice. Better stress & rhythm and timing seen on imitation but showed a faster and irregular rate on spontaneous utterance.
Pronouns and Deixis	Could use pronouns & deietic term in echolalic utterances like /avar/, /aval/, /nale/etc but not appropriate in spontaneous speech.	Pronouns and deietic terms like /avar/, /aval/, /nale/etc was used appropriately in echolalic utterances. In spontaneous speech when used showed confusion.	Could use pronouns and deietic terms appropriately in echolalic utterances, but were not found in spontaneous speech.	Pronouns and deietic terms were used appropriately on imitation which was not appropriate in spontaneous speech.

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	S5	S6	S7
Comprehension vs Expression	Expression is better than other subjects. Comprehension is also equally good. Latency for expression is greater than comprehension.	Most of the time expresses by imitation, comprehension is better than expression. Could understand complex commands.	Comprehension is better than expression. Comprehends 3-4 words long utterances and complex commands. Needs lots of
Mean Length Utterance	MLU is .85 words	MLU is .82 words	MLU is .75 words
Vocal characteristics -Articulation -Intonation -Stress -Rhythm	No abnormalities noticed for their articulatory ability. Appropriate stress, rhythm & intonation in both echolalic & nonecholalic utterances.	On subjective evaluation normal oral mechanism was noticed. Speaks slowly. High pitch voice. Uses appropriate stress in both echolalic and nonecholalic pattern.	Normal articulatory movements observed on subjective evaluation. Over emphasis and sudden loud outburst of words/sounds which in turn affected this stress pattern otherwise timing & rhythm was appropriate.
Pronouns and Deixis	Pronouns were used but reversals were noticed for "I" this name was incorporated, for "today" he said "tomorrow".	Used pronouns & deictic terms appropriately in echolalic utterances but not in spontaneous speech.	Could use pronouns and deictic terms appropriately in the imitation task.

TABLE - 3 Echo discription (Discription of echolalic utterances)

SUBJECT	RESPONSE	RESPONSE TIME: DELAY/NO DELAY	LOUDNESS LOUD/SOFT/ WHISPERED	PROMPTING FULL/ PARTIAL	AUTO	REDUCED	EXPANDED	MITIGATED ECHOLALIA	CATEGORY OF WORDS OMITTED	FUNCTIONS -REGULATORY -TURNTAKING -AFFIRMATION
S1	Present	At times 2/30 delayed respo-nses were not-iced of 5-10 sec.	Loud echoes were observed	The subj-ect did not need any prom-pting.	30/30 100 %	NIL	9/30 30 %	NIL	NIL	Appropriate turntaking was seen. Regulatory functions were evident. Affirmation was present.
S2	Present	Sometimes 4/30 delayed, delay of 10 sec not-iced.	Most of the time loud echoes were noticed. rarely whi-spered echo was seen.	Needed prompting 6/30 where full pro-mpting was needed.	24/30 80 %	NIL	16/30 53.3 %	NIL	NIL	Accurate turn taking was evident with little bit of prompting affirmation was evident.
S3	Present	Rarely 2/30 delay of 0-5 sec was obser-ved.	Loud echoes were observed.	Prompting for 3/30 which was full prompt.	27/30 90 %	NIL	9/30 30 %	NIL	NIL	----do----

SUBJECT	RESPONSE	RESPONSE TIME/ DELAY/NO DELAY	LOUDNESS LOUD/SOFT/ WHISPERED	PROMPTING FULL/ PARTIAL	AUTO	REDUCED	EXPANDED	MITIGATED ECHOLALIA	CATEGORY OF WORDS OMITTED	FUNCTIONS -REGULATOR -TURNTAKING -AFFIRMATION
S4	No Response for two stimuli	Most of a time immediate response, delay of 5-10 secs for 3/30 imitation.	Most of a time loud echoes. sometimes came out with whispered- was corrected by prompting to speak loudly.	Prompting for 1/30 which was a full promot.	28/30 93.3 %	2/30. Not specific pattern of reduction.	NIL	NIL	NIL	Accurate turn taking was evident with little bit of prompting. Affirmation was evident.
S5	Present	Delay was present for 20/30 for about 10-20 sec.	Loud echoes were observed at times softer echoes.	No prompting	30/30 100 %	NIL	5/30 16.6 %	NIL	NIL	Appropriate turntaking & affirmation other functions were not evident.
S6	Present	The response was immediate and good.	Echoes were loud.	No Prompting	30/30 100 %	NIL	7/30 23.3 %	NIL	NIL	-----do---
S7	Present	The response was immediate.	Loud echoes were observed.	No Prompting	30/30 100 %	NIL	6/30 20 %	NIL	NIL	-----do---

TABLE - 4 Echo distribution (Quantitative analysis of 30 echolalic utterances)

SUBJECT	TOTAL NO. TARGET ECHOLALIC UTTERANCES	TOTAL NO. OF ECHOLALIA ?/30 X 100	TOTAL NO. OF COMPLETE ECHOLALIA ?/30 X 100	TOTAL NO. OF PARTIAL ECHOES ?/30 X 100	WORDS PER ECHO SCORE TOTAL WORDS/TOTAL ECHOLALIA
S1	30	30/30 X 100 = 100 %	100 %	NIL	100 %
S2	30	100 %	100 %	NIL	100 %
S3	30	100 %	100 %	NIL	100 %
S4	30	28/30 X 100 = 93.3 %	26/30 X 100 = 86.6 %	2/30 X 100 = 6.6 %	93.3 %
S5	30	100 %	100 %	NIL	100 %
S6	30	100 %	100 %	NIL	100 %
S7	30	100 %	100 %	NIL	100 %

Individual description of all the seven subjects were made initially as described in the tables. Table I gives the subjects description where seven subjects were studied age ranged 6-11 years. There were 5 males and 2 females. Their mother tongue was Malayalam. According to psychological assessment in All India Institute of Speech and Hearing case files, all the subjects fell under mild categories of mental retardation. All of them were provisionally diagonsed as delayed speech and language with autism. Language known to them were Malayalam and English.

Table II described the speech and language characteristics where the comprehension and expression abilities, vocal characteristics, (vocal characteristics included their articulation ability, suprasegmental features) mean length utterance, usage of pronouns and deitic terms were included. Each feature has been discussed individually in the following section.

Table III gave echo description where the echolalic utterances of these subjects were described. This table shows that the subjects came out with response like loud echoes with some prompting and as age increases the need for prompting reduced. There was reduced echolalia seen in some of them, Mitigated echolalia was not present in any of the subjects. Other features like response time, functional categories etc. were also studied.

Table IV gave echo distribution i.e., quantitative analysis of 30 echolalic utterances which studied total number of echolalia revealing high percentage of echolalic utterances in these subjects. It noticed that they have complete echo rather than partial echoes.

A comparison of description of speech and language characteristics and echo distribution across the seven subjects revealed the following observations.

All the subjects showed an indication of better comprehension than expression. They could comprehend complex commands but falied to come out with complex utterances spontaneously. At times used gestures to express themselves which needed prompting which agrees with the stduies that there is delay seen in language development as well as non-verbal mode of communication. Gestures indicating comprehension like pointing to the objects, gaze fixation, etc. was noted.

All the subjects showed normal articulation. Youngest subject who was 6 yrs old had also shown normal articulatory movements. These findings support absence of articulatory abnormalities in autistic population as seen by (Schuler 1980). However, this does not agree with Shyamala (1989) who found abnormality in ten year old autistic also.

Vocal characteristics revealed normal findings in S2, S3 & S5 and few S1 exhibited high pitched voice, cries, grunts, etc. S4 exhibited soft voice, S6 exhibited slow rate of speech & high pitched voice and S7 exhibited sudden loud outbursts of sounds and words & were over emphasized. The presence of vocal abnormalities find support from the studies by Fay & Schuler, 1980; Baltaxe & Simmons, 1985; Shyamala 1984 .

Immediate response to given stimulus was noticed in S5 & S6.

Others at times came out with some delay in the response where they needed little prompting. the average dealy time that was noticed was of 5-10 sec.

Subjects showed loud echoes which needed occasional prompt like in S4. With increase in age the need for prompting reduced except for S1 where he did'nt need prompting at all though he was the youngest. These findings indicate that echoing could be very automatic and needs no extra effort in terms of echopraxis.

Only one subject showed reduced echolalia, for (Maratinde) the response was (Mara). The finding of Buium & Steucher, 1974 in his observation of truncated echolalia in autistic group.

One of the subjects S4 gave no response to one target stimuli where the whole of stimuli was ignored inspite of

prompting. This could be attributed to mood shifts and swings.

None of the subjects exhibited mitigated echolalia which clearly supports the finding (of Shapiro, Roberts and Fish, 1970) that it is seen in high functioning individuals with higher and advanced language functioning. The present subjects showed poorer verbal functioning.

These subjects showed appropriate pronoun usage in their target speech utterance except for S5 who showed pronominal reversal, who substituted his name for 'I'. Other subjects showed inappropriate usage of pronouns in their spontaneous utterance which agrees with the studies quoted in the literature citing that these subjects show pronominal reversal & inappropraite deietic function (Bartak & Rutter, 1947; Shyamala, 1989).

MLU of females was comparatively better than MLU of males. There was no one to one correlation between echolalia and age/sex/language ability. The scores were randomly scattered i.e., both younger and older subjects had high echolalic scores. Both the subjects with poor as well as better language ability had high echolalic scores.

All the subjects showed whole repetition or complete echo rather than partial repetition except for S4 who showed few partial repetitions, that is to say, they repeated whole

of the stimulus as it was given in their response, be it a sentence or a word. Such complex echoes than partial/truncated/reduced echoes probably indicate greater efficiency even if it is the automaticity/role ability that is involved in echolalia. These two findings indicate echolalic ability can be present independent of the general language ability. This aspect needs to be further explored in view of the fairly prominent view that presence of echolalia indicate better language abilities (Woolfolk and Lynch 1986).

In the very few functional categories studied its noted that turn taking was seen in all of the subjects which agrees with the study done by Prizant and Duchan, 1981 on echolalic subjects. Self regulation was noticed in them which again agree with the study by Rick and Wing, 1975 who say that its delayed in autistic children. Affirmation behaviour was also noticed which again coincides with the study of Prizant and Duchan, 1981 as cited in the review.

Thus in accordance with various studies carried out in literature, this study also shows that autistic children show high percentage of echolalic utterances with abnormalities in prosody, pronouns, delay in language and non-verbal behaviours along with which various functional categories like turn taking and affirmation etc. were glimpsed.
These however need to be explored for greater details.

SUMMARY AND CONCLUSION:

This study was carried on with the aim of studying echolalic patterns seen in Malayalam speaking autistic children. Seven autistic children were chosen, aged 4 to 12 years to explore their echolalic behaviour. Out of them 2 were females and 5 were males. They were all also expose to another non cognate language that is English. Data was collected where their utterences were tape recorder and a diary was maintained, these recorded responses were transcribed in I.P.A. This data was further qualitatively and quantitatively analysed, where various features likes speech characteristics, linguistic characteristics and other paralinguistic characteristics, echolalic utterences and their characteristics etc., were analysed.

Based on the analysis various results were drawn, they were as follows:

- Subjects had better comprehension than expression,
- Some of them showed vocal and prosodic abnormality,
- The nature of echolalia varied across the Seven children
- They had loud echoes where prompting was needed
- Reduce echolalia was noticed in a few subjects
- Usage of pronouns and deietics was affected in spontaneous utterances, but not in echolalic utterances.
- They had high percentage of echolalic utterances.
- Turn taking and affirmation were present in these subjects.

Hence, based on the results of the study we can conclude that autistic children show immediate echolalic utterances along with other speech abnormalities.

These results have practical implication in the management of autistic children. Each of the above findings need to be handled individually in each autistic case.

LIMITATIONS OF THE STUDY:

The results of the present study are restricted owing to the following limitations:

1. Lesser number of subjects - The number of subjects included were only Seven.

2. The target stimuli that were used was lesser in number.

3. In the present study only immediate echolalia was studied. Inclusion of delayed echolalia would have yielded more information.

4. The responses of subjects were recorded in audio tapes and diary, instead video taping would have been yielded more information. Specially with respect to the communication acts and functions.

Thus considering the above limitations further studies can be carried out in this field to study various language behaviours in autistic children in depth.

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APPENDIX

LIST OF PRESELECTED SENTENCES :

വരൂ	varu
കൈ	kaɪ
പൂവ്	puvu
ഇല	ɪla
അഞ്ച്	ənj
മൂക്ക്	muk
തൊപ്പി	t̪ɔpɪ
നായ	naja
വീട്	vi:d
പരം	paɾʌm
തീവണ്ടി	t̪ɪ: vʌndɪ
കൈക്കുള്ളിൽ	kaɪ kullɪl
മേശയുടെ മുകളിൽ	meʃajude mukalɪl
ബസ്സിൽനിന്ന്	bʌsɪlɳɪA
മരത്തിലേയ്ക്ക്	mərʌt̪ɪlek
മൂന്ന ചേച്ചി	mu:t̪ʌ cecɪ
കമല വരും	kʌmʌlʌ vʌrum
അവർ ഓടി	avʌr ɔdɪ
രമ്യ പോകും	rama pɔkum

പശുക്കൾ ഉറങ്ങി pasuggʌl uraŋI

നിങ്ങൾ വരുമോ ɳIŋgʌl vərumɔ

പൂച്ച നോക്കുന്നു pu:ca ɳɔkuɳu

രാവിലെ എന്ത തിന്നു? ravile end̪ t̪Iɳu?

ഞാൻ വരാം ɳan vəram

അവർ നാളെ വരും avar nale varum

പെൻസിൽ എവിടെ pepʌr evIde

കുട്ടിയെ ഉറക്കാൻ കിടന്നു kuttIye urʌkan kIdʌt̪u

ഷില ഇന്ന് വന്നു ʃIla Iɳ vʌɳu

പെൻസിൽ എവിടെ pensIl evide

പെൻസിലും പേപ്പറും തരു pensIlum pepʌrum t̪aru