

ECHOLALIC AND SPONTANEOUS PHRASE SPEECH IN AUTISTIC CHILDREN

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INTRODUCTION

Echolalia in normal language development

ECHOLALIA, or the apparently non-communicative repetition of a word or utterance spoken by another person, is a common phenomenon in normal language development. Some children may produce words echolalically from 9 or 10 months onwards, often before they show clear understanding of their meaning. Later, between the ages of 2 and 3 years, when phrase speech is developing, many children go through a stage when they frequently echo the last few words of whatever is said to them. Up to forty per cent of children's utterances at this age may be exact or partial echoes of heard phrases (Fay, 1967). However, the nature and frequency of echoing varies considerably from child to child and some imitate very rarely (Bloom *et al.*, 1975; Nelson, 1973; Ramer, 1976). Echolalia is also affected by the presence of certain contextual variables. It is more common, for example, following stimuli such as locative 'Wh' questions or utterances which are beyond the child's level of comprehension (Fay, 1980).

Despite the growth of interest in imitative speech in normal children, the function of these early echolalic utterances is not fully understood. Initially, many authors, such as Ervin-Tripp (1964), Fay (1967), Fay and Butler (1968) and Myklebust (1957), tended to view echolalia predominantly as a function of the child's poor understanding of language and as having little or no constructive role in language acquisition. Slobin (1973), for example, concluded that it had only 'marginal significance' for language learning. Recently, however, it has been suggested that echolalia may play a much more important role in the development of vocabulary and in the consolidation of language skills. Menyuk (1977) proposes that, for some children at least, imitation may be a necessary stage between comprehension and production of language. Bloom *et al.* (1974) claim that it is important in the growth of semantic relations, and Keenan (1974) and McTear (1976) have emphasised the various functions of imitation in the acquisition of conversational skills. It now seems probable that for normal children echolalia may perform a variety of different and important functions in the growth of linguistic competence, and for a far more

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detailed discussion of imitation in normal children, the reader is referred to the excellent reviews of Prutting and Connolly (1976), Clark (1977) and Menyuk (1977).

Echolalia in autism

Whatever its functions, echolalia in normal children is relatively short-lived, and by the age of two and a half to three years has usually disappeared (Van Riper, 1954; Slobin, 1968; Nakanishi and Owada, 1973).

More prolonged echolalia is almost always associated with some form of language retardation. It is often marked, for example, in the speech of mentally handicapped, autistic and dysphasic children, all of whom show varying degrees of language delay (Baltaxe and Simmons, 1975; Fay, 1980; Schuler, 1979).

Non-communicative echolalia is particularly striking in the speech of autistic children. Kanner (1946) considered echolalia, or meaningless repetition of speech, to be one of the major identifying features of autism, and Rutter (1966) found that echolalia was the most common abnormality in the speech of verbal autistic children. Wing (1966) also remarked on the frequency of echolalic speech: "The last phrase or words of what is said are imitated, often with an identical inflection. . . . Phrases tend to be repeated over and over again, with close mimicry, and the child does not answer questions but merely echoes them. . . ."

Not only is the frequency of echolalia in the speech of autistic children greater than in normal, mentally retarded or dysphasic children (Bartak *et al.*, 1975; Cantwell *et al.*, 1977; Cunningham, 1968; Cunningham and Dixon, 1961; Shapiro *et al.*, 1970), it has also been suggested that there is a qualitative difference between so called 'autistic' and 'normal' echolalia. Fay (1980), for example, writes that "in no other childhood condition is echolalia observed of such late onset, such prolonged duration, such parasitic fidelity and such minimal benefit". However, despite many attempts to separate psychotic from non-psychotic echolalia (De Hirsch, 1967; Fay, 1969; Goldfarb *et al.*, 1972; Premack and Premack, 1974; Shapiro *et al.*, 1970; Shapiro and Lucy, 1978; Simon, 1975), no clear cut criteria have yet been developed to differentiate between different forms of echolalia (Schuler, 1979).

It is also unclear whether autistic echolalia is a pathological form of speech as Simon (1975) suggests, or whether it is an early stage in the development of more normal language skills (Carr *et al.*, 1975; Phillips and Dyer, 1977).

* Although much remains to be known about the nature and the functions of echolalia in autistic children, the sheer frequency of their repetitive utterances has led a number of authors to suggest that echolalic speech may be syntactically more advanced than their spontaneous, generative speech. Thus, some children are reported as being entirely echolalic and as having no spontaneous speech at all (Wing, 1976), and others are described as repeating everything which is said to them, even whole conversations (Fay, 1973; Ricks and Wing, 1975). Ricks and Wing (1975) make the point that the distinction between echolalic and spontaneous speech should be born in mind when evaluating the level of language development of an autistic child, lest echolalic utterances alone give a distorted impression of the child's ability. However, firm evidence that the echolalic utterances of autistic children surpass their spontaneous utterances in complexity is actually very limited.

Studies of spontaneous vs imitative speech in normal and handicapped children

Studies of the relationship between echolalic and spontaneous utterances in normal children, both in experimental and naturalistic settings, have produced conflicting results. Some claim that imitation is in advance of spontaneous production (Fraser *et al.*, 1963; Nurss and Day, 1971; Turner and Rommetveit, 1967). Others suggest that imitation is restricted to structures which have already begun to appear in spontaneous speech (Ervin-Tripp, 1964; Rodd and Braine, 1970; Bloom *et al.*, 1975), whilst other work indicates that children tend to imitate more frequently in responses to utterances which are 'just a little beyond them' (Bloom *et al.*, 1974; Shipley *et al.*, 1969). The somewhat contradictory results of these studies have been fully discussed elsewhere (see Clark, 1977; Fay, 1980), but generally it seems probable, as Moerk (1977) suggests, that although specific constructions may first appear in imitation, they are then used in both imitation and spontaneous speech and finally in spontaneous speech alone.

However, it should be borne in mind that the varying results may be, in part, due to the different research strategies used, to differences in the types of echolalic responses studied, or to differences in the children themselves. Whether Moerk's conclusions are true of all normal children still has to be established.

The outcome of research with handicapped children has also produced differing results (Fay, 1980). Lovell and Dixon (1967) found that mildly retarded children were able to imitate sentence structures before they could use such structures spontaneously. In contrast, work by Berry and Taylor (1976) suggested that when scoring artefacts were removed, the complexity of spontaneous and imitated utterances in severely subnormal children was very similar. On the other hand, studies by Graham (1970) and Menyuk (1969) indicated that the imitations of mildly retarded and language-delayed children were *less* complex than their spontaneous utterances.

In view of the contradictory findings with both handicapped and normal children, the present study examined the speech of autistic children in an attempt to determine whether the complexity of their echoed phrases did, in fact, exceed the level of their spontaneous, communicative utterances.

DESCRIPTION OF THE STUDY

The children

Twenty-six autistic boys were involved in the analysis. All were seen by consultant psychiatrists or psychologists from the Maudsley Hospital, London, and were diagnosed according to the criteria of Rutter (1971). These are:

- (1) Onset before 30 months.
- (2) A severe impairment of social skills which is out of keeping with the child's intellectual level.
- (3) Severe delays and abnormalities in the development of expressive language and impairment of receptive language skills which are, again, out of keeping with the child's intellectual level.
- (4) "Insistence on sameness" and the presence, at least in older children, of ritualistic, obsessive or manneristic behaviours.

None of the children were severely mentally retarded or suffered from obvious neurological defects. Their mean non-verbal I.Q., as measured by the WISC or Merrill Palmer Scales, was 87.8 (range, 68-130). The mean age was 8.61 years (range, 3 years 5 months-12 years 3 months).

All the children lived at home with their parents, and none were institutionalized.

Each of the children studied used at least occasional phrase speech (i.e. combinational utterances of 2 or more words), and all used both echolalic and spontaneous speech. However, the range of language ability varied greatly, from children who used only a few simple phrases (of two to three words in length) to those using complex sentence structures. Because of this variability in language level, which did not relate directly either to age or I.Q., the children were divided into 3 groups approximating to the 'Language Stages' described by Brown (1973). These stages are based on the mean morpheme length (M.L.U.) of a child's spontaneous utterances.

Group 1 comprised 12 children with M.L.U.'s* of below 3.50 morphemes (i.e. at Brown's Language Stages I-III). Group 2 consisted of 8 children with an M.L.U. of 3.50-4.50 morphemes (i.e. at Language Stages IV and V). Group 3 consisted of 6 children whose mean length of utterances was 5.00 morphemes or greater. Details of the children in each group are presented in Appendix I.

The collection of speech samples

Amongst the studies cited in the Introduction, some have made use of elicited imitation, whilst others have assessed imitation in more naturalistic settings. Both techniques have many advocates, although both have their drawbacks, and it is probable, as Donaldson and Wales (1970) suggest, that neither is entirely adequate. Because there is some evidence that language-handicapped children perform less well in a formal testing situation (Dever, 1972; Miller and Yoder, 1974; Prutting *et al.*, 1975) and because of the particular difficulties inherent in testing autistic children (Alpern, 1967), it was decided, for the purpose of the present study, to collect all speech samples during unstructured settings at home.

* This method of sampling was used as we wished to assess both the frequency and complexity of echolalia used by the children. Imitations were not deliberately elicited since this is hardly necessary with most autistic children. Instead, only unprompted, non-communicative echoes were analysed. The decision to restrict the analysis to non-elicited echoes was taken since prompted echoes to parental cues were often deliberately corrected and reinforced by the parent until the child was able to respond immediately and correctly to the prompt. This technique of deliberately prompting correct echoes was used as a language training technique by many parents and was, therefore, not considered as a reliable guide to the child's level of non-elicited echolalia.

Mothers were asked to interact in as normal a way as possible with their children, and their verbal and non-verbal interaction was recorded over a 1½-hour period (see Hemsley *et al.*, 1978). Although the effects of an outside observer on family interaction are difficult to ascertain (Johnson and Bolstad, 1973), attempts to minimise the effects on the family were made by ensuring that recordings were not begun until the families had become familiar with the observer and were used to his presence in the home. The short-term stability (over periods ranging from 1-2 weeks to 6 months) of the measures indicated that patterns of interaction showed little variation over time, and, on the whole, the autistic children showed much less interest in the observer than would normal children (Howlin *et al.*, 1973). From the 1½-hour recording period, the central ½-hour period was chosen for transcription since this period was shown to provide highly stable and reliable estimates of the language used by both mothers and children over longer periods of time (Howlin *et al.*, 1973). In each of the three groups of children the number of echolalic and spontaneous phrases used was assessed and the mean morpheme length of spontaneous and echolalic phrases compared. The number of morphemes and simple transformations used in both spontaneous and echolalic utterances was also calculated. In addition, the proportions of spontaneous and echolalic speech used by the children were measured.

The analysis of language usage

Definitions of echolalia or imitative speech have tended to vary from study to study and occasionally have been omitted entirely, thus making comparisons between studies difficult. For the purpose of the present analysis, echolalic utterances were defined as meaningless, non-communicative repetitions of others' speech or stereotyped repetitions of the child's own utterances. Imitations which were deliberately prompted or elicited by the child's mother were *not* included in this category since they were considered to perform a communicative role. Inter-rater agreement for the different categories of echolalia ranged from 92 to 100%.

The frequency of children's spontaneous utterances was also assessed [see Cantwell *et al.* (1977) for

*Echolalic utterances were not taken into account in this initial calculation of M.L.U.

full details]. Spontaneous utterances were defined as utterances which were non-echoed and used communicatively. They comprised: questions, answers, directions and commands, information-giving remarks, and automatic (or 'intraverbal') responses. All categories reached a level of agreement between independent raters of 94-100%. Correlations with the Reynell Language Scales (Reynell, 1969) and children's use of socialized speech ranged from 0.60 to 0.81.

The short-term stability of all the measures of language usage employed was high, ranging from 0.71 to 0.85 over two occasions, 6 months apart. (See Appendix II for definitions and examples of the language categories used.)

The analysis of language level

The structures chosen for the analysis of the children's utterances were the level of phrase speech and the frequency of simple morpheme and transformational rules which are known to appear early in normal language development (Brown, 1973; De Villiers and De Villiers, 1973). (See Table 1 for details.)

TABLE 1. ANALYSIS OF LANGUAGE LEVEL: STRUCTURES RATED

Morphemes	Present progressive (ing)
	3rd person singular (s)
	3rd person regular past (ed)
	3rd person irregular past
	Plural (s)
	Possessive (s)
	Pronouns + case
	Prepositions
	Articles
	Adverbial and adjectival inflections
Transformations	Imperative
	Question-inversion
	'Wh'-question
	Negation
	Auxiliary
	Copula
	'Do'-support

Mean morpheme length of utterance was used to assess the level of phrase speech, and this was calculated using the criteria suggested by Brown (1973). Mean morpheme length, rather than simply the number of words in an utterance, was used since this gives a more accurate estimate of the child's use of syntactic rules. The reliability and validity of the measures used to assess the language of autistic children as well as the rationale for choosing them has been fully described in previous papers (Cantwell *et al.*, 1977; 1979).

Briefly, however, the measures of syntactical complexity used showed high levels of agreement (of 80-100%) between independent raters; they showed good short-term stability ($\rho = 0.93-0.96$ when language assessments were made on 2 occasions, 6 months apart); and there were high correlations with standard tests of expressive language (correlations with the Reynell Expression Scale ranged from 0.85 to 0.95).

RESULTS

Because of the small size of the groups and the relatively large variation within groups, non-parametric procedures (the Wilcoxon Matched-Pairs Signed Ranks

Test and the Mann-Whitney *U* Test) were used to compare differences between echolalic and spontaneous utterances.

Language level in spontaneous and echoed utterances

The main results of the study are summarised in Table 2. It is apparent that, overall, there are few significant differences between the length or complexity (as measured by numbers of morphemes or transformations per utterance) of children's echoed or non-echoed phrases. However, the relationship between echolalic and spontaneous phrase speech tends to vary according to the child's level of language ability.

TABLE 2. DIFFERENCES BETWEEN THE LEVEL OF SPONTANEOUS AND ECHOLALIC PHRASE-SPEECH IN AUTISTIC CHILDREN (BASED ON ½-HOUR TRANSCRIPTS)

Level of speech		Spontaneous phrases		Echoed phrases		<i>T</i>
		Mean	(Range)	Mean	(Range)	
Group I (M.L.U. < 3.5)						
	M.L.U.†	2.65	(1.1-3.4)	3.35	(2.6-4.4)	<i>T</i> = 4.0 (<i>P</i> < 0.01)
<i>n</i> = 12	Mean no. morphemes‡ per utterance	1.42	(0 -2.4)	1.36	(0 -1.9)	<i>T</i> = 12.5 (No Sig.)
	Mean no. transformations per utterance	0.28	(0 -0.75)	0.71	(0 -0.9)	<i>T</i> = 8 (No. Sig.)
Group II (M.L.U. 3.5-5.0)						
	M.L.U.†	4.05	(3.5-4.7)	3.88	(3.0-6.0)	<i>T</i> = 8 (No Sig.)
<i>n</i> = 8	Mean no. morphemes‡ per utterance	1.19	(1 -1.9)	1.58	(0.5-8.0)	<i>T</i> = 8 (No. Sig.)
	Mean no. transformations per utterance	0.72	(0.2-1.3)	0.67	(0 -1.9)	<i>T</i> = 10 (No Sig.)
Group III (M.L.U. = > 5.0)						
	M.L.U.†	5.6	(5.0-6.2)	4.33	(3.0-5.6)	<i>T</i> = 1 (No Sig.)
<i>n</i> = 6	Mean no. morphemes‡ per utterance	1.69	(1.7-2.5)	1.28	(0.5-3.0)	<i>T</i> = 3 (No Sig.)
	Mean no. transformations per utterance	0.97	(0.2-1.7)	0.41	(0 -0.7)	<i>T</i> = 2.5 (No Sig.)

T value of Wilcoxon Matched-Pairs Signed Ranks Test.

†M.L.U. refers to total numbers of words and bound morphemes or inflections [e.g. (s) plural, (ing) etc. per utterance] [See Brown (1973) for the rules followed in calculating M.L.U.].

‡Mean no. morphemes refers to the number of bound morphemes, or inflections, and other morpheme rules described in Table 1. In 2 cases, children using utterances of 1-3 words did not use any bound morphemes or transformational rules, hence the range from 0 upwards.

Thus, amongst the first group of children (whose M.L.U. ranged from 1.1 to 3.4 morphemes) the average length of echoed phrases was found to be significantly greater than their spontaneous utterances. In fact, apart from one child, *all* the children in this group used longer echolalic than spontaneous phrases. There were

no significant differences in the mean numbers of morpheme rules or transformations used per utterance in either their echolalic or spontaneous speech.

In the middle group of children (M.L.U. ranging from 3.5 to 4.7 morphemes), the lengths of echoed and non-echoed phrases were very similar. Only one of the eight children in this group used longer echolalic than spontaneous phrases and there was no significant difference in mean utterance lengths for the group as a whole. There were no significant differences in the proportion of morphemes or transformations used in echoed or spontaneous speech.

In the third group of children (M.L.U. greater than 5.0 morphemes) the difference in the length of their spontaneous and echolalic utterances was, again, non-significant. However, in contrast to the first group of children, only one child used longer echolalic than spontaneous phrases. For all the other children, spontaneous remarks were consistently longer than their echolalic remarks.

TABLE 3. PROPORTIONS OF SPONTANEOUS AND ECHOLALIC UTTERANCES IN THE SPEECH OF AUTISTIC CHILDREN (BASED ON ½-HOUR TRANSCRIPTS)

Group	Percentage spontaneous utterances		Percentage echolalic utterances		<i>T</i> *
	Mean	(Range)	Mean	(Range)	
Group I (M.L.U. < 3.5) <i>n</i> = 12	51.08	(14-83)	17.33	(1-41)	<i>T</i> = 2 (<i>P</i> < 0.01)
Group II (M.L.U. 3.5-5.0) <i>n</i> = 8	67.63	(40-95)	18.00	(1-55)	<i>T</i> = 1 (<i>P</i> < 0.05)
Group III (M.L.U. > 5.0) <i>n</i> = 6	82.83	(70-94)	8.33	(3-14)	<i>T</i> = 0 (<i>P</i> < 0.05)

*Value of *T* in Wilcoxon Matched-Pairs Signed Ranks Test.

The frequency of spontaneous and echolalic utterances

Although the lengths of spontaneous and echoed remarks did not generally differ significantly except in the first group of children, the relative proportions of these utterances in the children's speech showed marked differences. In each group, echolalic utterances were significantly less frequent than spontaneous utterances (see Table 3). Moreover, the relative frequency of echolalic utterances was found to decrease steadily with language level. Thus, in the first group of children 51% of their speech was spontaneous and 17% was non-communicative echolalia; in the second group the overall proportion of spontaneous utterances was 67%, with 18% of echolalic utterances; and in the most advanced group the proportion of spontaneous utterances was 83%, while echolalic utterances had fallen to 8%.

DISCUSSION

The results of this study indicate that the relationship between echolalic and spontaneous utterances in the speech of autistic children varies according to their level of language competence.

In children who are using very simple phrase speech, that is, children whose average length of utterance is 3 morphemes or less, echolalic utterances are likely to be significantly longer than their spontaneous remarks. The actual size of the difference is small (the M.L.U. of echoed phrases being 3.35, whilst M.L.U. of spontaneous utterances is 2.65), but it should be noted that this group of children was the largest in the study and comprised 46% of the total sample. In assessing children of this level, therefore, it is most important, as Ricks and Wing (1975) suggest, to differentiate clearly between their echolalic and spontaneous utterances if their language level is to accurately assessed.

As spontaneous language develops, however, the relationship between echolalic and spontaneous speech begins to change. The length of echolalic utterances changes only slightly across groups (rising from 3.35 M.L.U. in Group I to 4.33 M.L.U. in Group III), whereas spontaneous utterances more than double in length (from 2.65 M.L.U. in Group I to 5.6 M.L.U. in Group III). Moreover, whilst the complexity of spontaneous utterances (as measured by the average number of bound morpheme or transformational rules used per utterance) increases steadily from Group I to Group III children, echoed phrases show no consistent rises in complexity. Differences between the lengths of echolalic and spontaneous utterances in Groups II and III do not reach significance. However, whereas 11 out of 12 children in Group I used longer echolalic than spontaneous remarks, this was true of only 2 out of the 14 children in Groups II and III.

The other finding to emerge from this study is that echolalia in autistic children, although much more frequent than in normal children of similar age (Shapiro *et al.*, 1970), is less marked than is sometimes assumed. Of the 26 children in the present study, none was entirely echolalic and only 2 of the children used a higher proportion of echolalic than spontaneous speech. Rates of echolalia were higher amongst the more linguistically handicapped children, but even in this group the frequency of spontaneous utterances was significantly higher than the frequency of echoed remarks. As the children's language ability increased, the frequency of echolalia declined markedly.

Since the role of echolalia in the development of language in normal children is still obscure (Fay, 1980), it is not within the scope of the present study to determine whether echolalia in autistic children performs a similar function or is of a very different nature to 'normal echoing'. However, it does seem that the relationships between echolalic and spontaneous speech in the autistic children studied shows at least a similar *pattern* to that found in normal children. Nakanishi and Owada (1973), for example, in a longitudinal study of normal children between 1 and 3 years of age, found that echolalic vocabulary developed along with spontaneous vocabulary for a time, but that as the children's capacity for generating spontaneous sentences grew, echolalia began to decline.

It may well be that the autistic echolalia is not simply a pathological symptom but

that it is, as Phillips and Dyer (1977) suggest, a late onset form of normal imitation and as such should be considered as an important stage of language acquisition. Certainly, studies of language intervention with autistic children indicate that those who are echolalic when treatment begins are most likely to make progress (Rutter, 1980; Howlin, 1981).

In summary, it seems that significant differences between echolalic and spontaneous utterances are likely to be found in children who are using only very simple phrase speech. Such differences are fairly small, but nevertheless almost all children at this level used significantly longer echolalic than spontaneous remarks. The possible discrepancy between echolalic and spontaneous remarks should, therefore, be taken into account in any linguistic assessment of autistic children at this stage of language development. As children improve in their use of phrase speech, however, echolalic utterances do not show a concomitant rise in length or complexity. Differences between spontaneous and echolalic utterances in children at higher levels of language development are non-significant. However, for the majority of children using utterances greater than 3 morphemes in length, spontaneous utterances are longer than their echolalic utterances. There is no evidence that at this stage echolalic remarks will give a highly distorted over-estimate of the child's true language ability.

It also appears that the frequency of echoing in autistic children is less than is often assumed, although this, too, varies with the child's level of language development, and declines steadily as linguistic competence improves.

SUMMARY

The study investigated the syntactical level of spontaneous and echolalic utterances of 26 autistic children at different stages of phrase-speech development. In children using very brief utterances, echolalic phrases were significantly longer than their spontaneous speech. At higher levels of language development there were no significant differences between the lengths of echoed and spontaneous utterances. The frequency of echolalic phrases in children's speech was also found to be significantly less than the frequency of their spontaneous remarks, and the frequency of echolalic utterances declined as children advanced in linguistic competence.

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APPENDIX I

Language level, non-verbal I.Q. and age of children in the study

	M.L.U.	Mean age	(S.D.)	Mean I.Q.	(S.D.)
All children <i>n</i> = 26	4.01 (range, 1.1-6.2)	8.61 yr	(2.72 yr)	87.77	(16.58)
Group I children <i>n</i> = 12	2.65 (range, 1.1-3.4)	8.31 yr	(2.58 yr)	82.75	(11.26)
Group II children <i>n</i> = 8	4.05 (range, 3.6-4.7)	7.72 yr	(3.23 yr)	101.0	(21.38)
Group III children <i>n</i> = 6	5.6 (range, 5.0-6.2)	10.4 yr	(1.6 yr)	80.16	(6.79)

APPENDIX II

Definitions of categories used in the assessment of child's functional speech (examples taken from actual transcripts)

Socialized and spontaneous utterances. (i.e. Utterances used in communication with mother.)

Answers. Child's responses to maternal questions, prompts or directions. Includes both correct and incorrect responses to questions, 'completions' to incomplete sentences, and both refusals and agreements to follow directions, e.g.

Mother "Will you read this page?" *Child* "I not read that"

or

Mother "Who can you see?" *Child* "The plank"

or

Mother "And at night we go to . . . ?" *Child* "Bed"

Questions. Attempts on the part of the child to elicit information from the mother. May be marked by syntax or intonation, e.g.

"You've got a set of Kings, no?"

"Now it is whose turn?"

"That's Mummy?" (For "Is that Mummy?")

Spontaneous remarks. Utterances in which the child makes some voluntary comment to the mother. May follow a conversational course or introduce new conversational topic or express the child's wish for something, e.g.

"I want to play"

"Going to draw a pussy cat"

"What a funny lady"

Directions or demands. Utterances in which the child is directing or telling mother to do something, e.g. (in a card game)

"Your turn"

"Gimme that"

'Automatic' remarks. So-called 'intraverbal' utterances used appropriately, e.g. "Hello", "Please", "Thank You", "Excuse me".

Non-communicative, echolalic responses.

Immediate echolalia.

(a) Immediate Repetitions of Others. In which the child repeats the mother's utterance either exactly or with slight modifications. Often tone of voice, as well as the words used, are copied exactly. Such repetitions may be:

Exact e.g. *Mother* "Where do you live?"

Child "Where do you live?"

Expansions—in which the mother's utterance is repeated and added to, e.g.

Mother "What's your name"

Child "What's your name, yes, tell the lady your name that's a good boy"

Reductions—in which only part of the mother's utterance is repeated, e.g.

Mother "Do you want a biscuit?"

Child "Want a biscuit?"

N.B. Only *non-communicative* or meaningless echolalia was included in these categories. Echolalic responses in response to prompts from the mother, e.g. *Mother* "Say It's a cat" *Child* "It's a cat", or *Mother* "Tell the lady: 'My name is Christopher'" *Child* "My name's Christopher", were not included in this analysis, since these were considered to be used appropriately and to play an important role in language learning.

(b) Immediate Repetitions of Self. In which the child repeats himself, either exactly or with slight variation. These remarks bear no relationship to the topic being pursued by the mother and serve no communicative purpose. Interpolated remarks by the mother may sometimes occur, but have no effect on the child's responses, e.g.

Mother "Let's look at this book"

Child "And a dog" (NO dogs to be seen)

Mother "Look there's a top"

Child "And a dog, and a dog. And a dog"

Mother "Can you show the top to mummy"

Child "And a dog. And a dog"

or *Child* "Going to be black clouds"

"Ooh ooh be black clouds"

"Going to be black clouds"

(No attempt made to involve anyone in this monologue.)

Delayed, stereotyped echoes. Stereotyped utterances which the child has apparently heard before and is repeating verbatim, but which have nothing to do with any on-going conversation, and which have no communicative purpose. Often the child imitates the intonation and the accent of the person from whom he first heard the remark. These utterances may also be copied from T.V. or radio.

e.g. *Child* "Hi there everybody, and welcome to the Tony Blackburn show"

Child "Ding Ding Ding" (passable imitation of Big Ben). "This is the Ten O'Clock News"

or *Child* (to himself, no dog present)

"Mustn't tease her, mustn't tease the dog. I've told you before, leave her alone"

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