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A Comparative Study of the Language Used by  
New Zealand Children of European and of  
Samoan Descent Aged 6 Years 10 Months to  
8 Years in Conversation with an Adult.

A dissertation presented in partial fulfilment  
of the requirements for the degree  
of Doctor of Philosophy in Language  
at Massey University

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ABSTRACT

The research represents an attempt to establish some normative data for the oral language performance of native-English speaking children aged 6 years 10 months to 8 years in conversation with an adult, and by examining the performance of Samoan children in the same age-group to determine those areas which discriminate most strongly between the performances of both groups.

Children were interviewed individually and the conversations recorded over a thirty-minute period. Tapes were transcribed on the same day as the recording, and the data quantified according to the procedures of Developmental Sentence Analysis<sup>1</sup>, which established a rank-order for each group. A more detailed analysis of the data was then made in order to identify those areas of development and/or of uncertainty which were common to both groups, and those which appeared only, or mainly, among the Samoan children.

The statistical analysis, based on the developmental weighting of syntactic items, (DSS scores) indicated that where errors were specific to the Samoan children they occurred in structures described as early-developing among native-English speaking children. At the higher developmental levels, the performance of Samoan children above the 50th percentile (for that group) was similar to that of their English speaking age-mates. The classification of error-patterns also distinguished between 'growth errors' (where performance was characterized by over-generalizing or by substitution, for example), and 'deficiency errors'

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<sup>1</sup> Lee, L.L. and Koenigsnecht 1974, Developmental Sentence Analysis.

(where morphemes and syntactic items were omitted), the latter occurring more consistently among the Samoan children.

In addition, a general indication of language development in relation to chronological age was derived by comparing the DSS scores of the Samoan children falling below the 25th percentile for that group with those obtained by younger children at the 50th percentile point for each one-year interval from age 4 to age 6. In the absence of New Zealand DSS norms for these age-levels, it was necessary to use those derived from a study of American children (Lee 1974), but the results are in accord with other New Zealand-based studies (See 0.1, Introduction) which have noted the "two-year gap" appearing around age 7 among Polynesian children when their achievement on a variety of measures and tests is compared with that of their Pakeha age-mates. In the present study, the "gap" ranged from about 20 months at the 25th percentile (for the Samoan group) to over 41 months at the 10th percentile.

The general intention has been to sharpen the focus for teachers wishing to develop compensatory language programmes so that effort may be directed to those specific areas where non-native speaking children appear to have missed a developmental stage in their acquisition of English. The findings also suggest that difficulty with certain syntactic structures, semantic concepts, and phonological realizations is a function of age-level and the language-situation for both groups of subjects rather than of the ethnic background of the Samoan group.

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Addington	Christchurch
Aranui	"
Bamford	"
Bishopdale	"
Christchurch East	"
Elmwood Normal	"
Freeville	"
Isleworth	"
Linwood Avenue	"
Mary Immaculate Convent	"
Phillipstown	"
St. Anne Convent	"
St. Bernadette Convent	"
St. James            "	"
St. Joseph           "	"
Sockburn	"
Spotswood	New Plymouth
Spreydon	Christchurch
Sydenham	"
Vogeltown	New Plymouth
Wainoni	Christchurch
Wairakei	"
Waltham	"
West Spreydon	"
Woolston	"

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LIST OF ABBREVIATIONS

- DSA\* : Developmental Sentence Analysis.
- DSS\* : Developmental Sentence Scoring (the method),  
or Developmental Sentence Score (the result  
in numerical form).
- ESL : English as a Second Language
- GCE : A Grammar of Contemporary English (Quirk  
et al. 1973)
- LARSP : Language Assessment, Remediation and  
Screening Procedures (Crystal et al.1976)
- LASS : Linguistic Analysis of Speech Samples (Engler  
et al.1973)
- NG : Normative Group (children of native-English-  
speaking parents)
- P.A.T. : Progressive Achievement Tests (New Zealand  
Council for Educational Research)
- SG : Samoan Group (children with at least one  
Samoan parent)
- US : United States (children in Lee and Koenigsknecht  
1974)

\* Abbreviations used in Lee, L.L. and Koenigsknecht, R.  
(1974) : Developmental Sentence Analysis.

## INTRODUCTION

Synopsis: Some recent research in the field of second-language learning is reviewed; terms are defined.

## 0.1 A review of recent research

Studies of the language development and educational achievement of Polynesian children in New Zealand primary schools have shown that they lag behind their age-mates from native-English-speaking homes.<sup>1</sup> The deficiency (or delay) has been variously identified, depending on the kinds of test(s) used, and variously attributed to socio-economic factors and/or home-language background.

Jamieson 1976, for example, identified vocabulary as discriminating most clearly between the Tokelauan and Pakeha children in her study. Clay 1970, 1974, found that Maori children had 'areas of deficit in their early school learning - in oral English, in visual perception of print, and in reading' (1974; 82), whereas Samoan children had a higher average than Maori children in visual perception of print and on 'the reading variables ...at every age after 5-0.' (1970; 161). Barham 1965 (56-57) concluded that there were no significant differences between the sentence structures used by Maori and Pakeha children in spoken language, but suggested that 'the chief handicap of the young Maori pupil is simply the size of his vocabulary.'

The studies cited covered the age-range from 5 to 8 years, the range which is generally relevant to the present study of Samoan and Pakeha children aged 6-10 to

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<sup>1</sup> For convenience, such children are henceforth referred to as 'Pakeha', or as 'native-speaking'.

8 years. In two of the studies (Jamieson; Barham), the samples were matched for socio-economic status as well as for age and sex, and all three tried to take account of the Polynesian subjects' home-language on the premise that these would prove significant variables in measuring school language performance and educational achievement.

Both Jamieson 1976 and Barham 1965 note the difficulty of obtaining perfectly matched samples on the socio-economic scale, as does Crystal 1976 (89):

'We do not believe in the view that it is possible to 'match' samples in some theoretically absolute way, with all variables controlled (cf. Muma 1971). Such matching demands are beyond the bounds of any known procedures.'

One purpose of Clay's 1970 study was to record the actual progress of Maori and Samoan children, but 'of equal importance was a description of the performance of average Pakeha children, and of a 'ceiling-performance' group of Pakeha children who had experienced optimum language learning conditions.' (153) And Barham 1965 (17) acknowledges the potential usefulness of comparing 'the language competence of children from middle-class and working-class homes.' In the present study, the Pakeha subjects were selected from children of average ability from middle-class homes. (See 1.2)

On the question of the effects of home-language background, Clay 1974 and Jamieson 1976 saw the maintenance of a Polynesian home language (Samoan and Tokelauan

respectively) as being generally beneficial to, or at least as not retarding progress in the acquisition of English as a second language, whereas 'a dialect version of the language of instruction' was seen as likely to prove an impediment to learning in school (Clay 1974; 79). A recent British study, (Phillips 1978) concluded that variations 'in dialect or version of English' did not significantly affect proficiency in 'school' English, but admitted that since the survey was restricted to children in their first year at primary school it does not reveal the problems that may appear when language skills become complex (cf. Edwards 1976). The groups studied were described as White (or Native), West Indian, Asian, and Mixed. The non-Native children were English-born.

All the studies cited agree that children from non-English-speaking backgrounds need special help, although there is some difference of opinion on method and teaching objectives, differences which could be broadly described as: structured versus unstructured programmes; general enrichment and social development versus specific language goals; special classes versus normal classroom programmes. The possible approaches are also affected by such variables as the age of the child, his/her previous school experience, the number of children needing help, and the availability of staff and facilities.

Another recent study of newly-arrived and second-generation immigrant children from the West Indies, Asia,

and the Mediterranean countries attending school in and near London (Ward 1978) was undertaken in order to provide an informed basis for decision-making in such matters as

'whether ...to disperse the children evenly among local schools, concentrate them all in a single school, or perhaps send them initially to a reception centre.' (91)

The findings are interesting in that they show the need to differentiate among groups (both immigrant and native-English) and suggest the bases for differentiation.

For newly-arrived immigrant children the optimum (school) environment was seen as that of a small school 'with a low proportion of immigrant peers' (95) and activities which encouraged 'a wide repertoire of classroom responses'.

For second-generation immigrant children, age was the factor most highly correlated with 'successful adjustment', and their optimum environment that of a large school with a high proportion of immigrant peers.<sup>1</sup>

In some urban areas of New Zealand, notably in Auckland and Wellington, 'second-generation immigrant children' experience the optimum conditions described by Ward; in the urban area of Christchurch, however, both the newly arrived and the second-generation children from the Pacific Islands are attending schools with a low proportion of 'immigrant peers', but only a few of the schools could be described as small enough to provide optimum conditions for the newly arrived. Because of their relatively few numbers in South Island

<sup>1</sup> Mainly because of the specialist teaching and extra facilities provided in such schools.

urban areas, Polynesian children are not seen as a 'problem' and so there is no extra staffing allowance, for example. Teachers generally were satisfied that the Samoan children in the present sample were making satisfactory progress in the language skills, although the majority were described as 'below average' in general ability, an assessment often accompanied by comments on lack of concentration, apparent inability to follow oral instructions, extreme shyness, laziness, attention-seeking, etc. ( See APPENDIX II.4)

The present study proceeds from the assumption that children in primary schools, whatever their ethnic or socio-economic background, are assessed by their teachers on their ability to achieve certain standards, whether in 'general ability' or in 'socialization', that these standards are largely based on what teachers see as 'average achievement' and 'desirable behaviour'. It was noticeable, however, that teachers were able to produce more precise descriptions of children's ability in reading and writing than in listening and speaking.<sup>1</sup> Phillips 1978 (34) also comments on this, proposing the reasonable explanation that in assessing the first pair 'What the activities consist in, and what count as adequate standards are matters of familiarity and skill to teachers', whereas the assessment of listening and speaking is often influenced by extraneous factors, or by lack of reliable tests. She concludes that the difficulty experienced by her researchers in formulating a discriminating 'speaking' test 'could be taken as showing that this is a fundamental and largely

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<sup>1</sup> Teachers were asked to supply a general comment on these skills for each of the Samoan children.

undifferentiated ability' (34), a conclusion also reached by Barham 1965, and to some extent by Scott 1970, working with Barham's data.

Findings from the present study, however, indicate that when the analysis of spontaneous speech was based on a developmental model of (in this case, English) language acquisition it was possible to identify specific areas of language-delay among the non-native speaking children, and of normal language-development and -delay among children in both of the groups studied. The distinctions are defined and exemplified as follows:

- (i) language-delay: evidence of error/uncertainty in handling structures described as early-developing among native-English-speaking children. (Brown 1973; 274. Crystal 1976; 72-73) In the present sample only the Samoan children had difficulty in handling the Present Progressive, and the Prepositions in, on, for example.
- (ii) normal language-development: evidence based on weighted developmental scores showing both the frequency and developmental levels of grammatical items produced. In the present study, the development of compound and complex sentences was such an area among the subjects in both groups.
- (iii) normal language-delay: evidence based on the frequency with which non-standard usage appeared in the samples from both groups. Errors in the past tense and past participle forms of irregular verbs, for example, seemed to be such an area. ('Delay' in this sense is defined in terms of adult usage in informal situations. It is seen as 'normal' for the age-level.)

(It was noted, however, that omission of past tense markers was peculiar to the performance of the Samoan children, and it was therefore classified as language-delay or 'deficiency'.)

The efficacy of the instrument used in the present study in discriminating even between groups which were similar in 'language functioning' has been attested by Linares-Orama 1977 who adapted the Developmental Sentence Scoring procedures (DSS) of Lee and Koenigsnecht 1974 for use with pre-school Spanish-speaking Puerto Rican children. Pressnell 1973, using the earlier (1971) version of DSS, found that hearing-impaired children showed significant differences from normal children in the developmental sequence of 'grammatical rules', notably in the handling of verb constructions at the early-developing levels. Her hypothesis, that the differences were due to (a) the order in which structures had been taught, and (b) the presence/absence of visual-auditory cues in the structures themselves, has some relevance to the findings of the present study. Samoan children, for example, may need to be 'taught' the early-developing verb forms which English-speaking children have 'acquired' during their pre-school years. It also seems reasonable to propose that the absence of strongly contrastive features at any linguistic level is likely to cause difficulty. Brown 1973 and Bever 1970 have noted the importance of perceptual salience (whether phonological, syntactic, or semantic) as a determining factor in the rate with which children

develop mastery of structures; Lee 1974 and Crystal 1976 comment on the need to compensate for its absence when teaching 'clinical' children and adults.

PART ONE : THE DESIGN

Chapter 1. Purpose and Procedures

Synopsis: Aims and methods are described;  
modifications made in the  
instrument are explained.

## 1.1 Primary Aims

The primary aims of the investigation were:

- (i) to establish some normative data for the oral language performance of children aged 7 to 8 years;
- (ii) To use the data in examining the oral language performance of Samoan children of the same age, who were attending New Zealand urban schools.

It was hoped, as a result, to distinguish between those areas where difficulties or uncertainties were common to both groups of subjects, and might therefore be described as part of normal language development, and those which occurred only, or with significantly higher frequency among the Samoan subjects, and might therefore be described as showing delayed language development for the age-level.

Research studies have shown that Polynesian children make considerable progress during their first two years at primary school (Clay 1970, 1974; Jamieson 1976) but are still behind their age mates from English-speaking backgrounds. By the age of seven years language delay becomes more apparent as children face the demands of reading and writing, and although Samoan children, for example, with less control over oral English (than Maori children) made better progress in reading (Clay 1970), it seems reasonable to suggest that progress in general will be adversely affected by deficiencies in oral expression. (Clay 1974; Jamieson 1976)

## 1.2 Method and Instrument

The desiderata were:

- (i) an adequate language sample from each subject, which would represent performance in an informal situation and in conversation with an adult;
- (ii) an instrument to measure such performance on a developmental scale;
- (iii) A systematic and, as far as possible, comprehensive framework of description.

The choice of spontaneous conversation was determined by the need to minimize any impression that this was a 'test', and was made largely in the interests of the Samoan subjects. The element of interaction with an adult was considered necessary since children's oral language is assessed by, or in the presence of their teachers.

The need for normative data in assessing language-delay is axiomatic. The question was: which level of linguistic description would provide the most productive insights into normal language development at this age-level? The choice of syntax as the primary focus of attention was determined by the choice of naturalistic data, and was seen as providing information which could be used for controlled experimental studies in the future. Brown 1973 (293) sums up a discussion of the advantages and disadvantages of both approaches as follows:

'I think the naturalistic data can yield a truer estimate in the sense of an estimate that is less dependent on performance skills not routinely developed in the child. But the experimental data, needless to say, can often be complete, where the naturalistic data are seriously fragmentary. The two methods together give us the best chance of discovering the truth.'

Crystal et al. 1976 (5-11) see syntax as having the central role in any studies related to language disability and its remediation.

They comment on the necessity for accurate, realistic conceptions of contemporary spoken English, and on the lack of a normative dimension in most of the available syntactic assessment procedures. Above all, they stress the need to relate any descriptions of syntactic disorder to 'conventional descriptive grammars of English' (17)

The choice of instrument in the present study satisfied the need for a developmental model of syntactic maturity, and, to a certain extent, the need for a comprehensive, systematic framework of description. The methods of Developmental Sentence Analysis (DSA) and Developmental Sentence Scoring (DSS) were developed and refined by Lee and Canter 1971; Koenigsknecht and Lee 1971 (unpublished paper); with the final version published by Lee and Koenigsknecht 1974. The earlier version (Lee and Canter 1971), together with three other methods of analysing children's

speech, was analysed by Longhurst and Schrandt and the results published in the Journal of Speech and Hearing Disorders, 38, (240-249) 1973. The main criterion was their usefulness to speech clinicians and this was judged according to:

- A. ease of application
- B. inter-scorer reliability
- C. ability to discriminate language differences between children
- D. ability to describe specifically the differences.

They found that DSS was the simplest to apply, but that scoring instructions were sometimes incomplete so that interscorer reliability was not high (82% and 79%). Discrimination could not be fully evaluated because one of the two subjects<sup>1</sup> did not produce the minimum of 50 complete sentences required for DSS, which they note as being 'in itself a significant discrimination.' In comparing DSS with the procedures of Linguistic Analysis of Speech Samples (LASS) developed by Engler, Hannah and Longhurst 1973, they note common ground in the categorizing of verbs as Main and Secondary,

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<sup>1</sup> The subjects were two girls aged 5-2 and 5-4, the younger described as 'normal to advanced', the older being language-delayed and in therapy. The latter produced only 32 scorable utterances (according to DSS criteria), the majority on the left side of the score sheet, indicating immature syntactic structures.

and a similarity between the application of Sentence Point scores in DSS, and the LASS convention for 'features of arrangement'. They add, however, that withholding of Sentence Points is an inadequate characterization of such features, which they list as:

Word Order

Inflection (grammatical)

Concord (of subject and verb)

Government ('case filler in correct case slot')

Function Words (the only examples given are 'articles with Nouns, and of to indicate possession'.)

Intonation (pitch, stress and juncture)

and for this reason they fault DSS on ability to describe specifically the differences. Crystal et al. 1976 also consider LASS superior because of the separate attention given to the 'features of arrangement' (18).

In the present study, all errors resulting in withholding of Sentence Point (other than those covered by the DSS grammatical categories) were noted and classified for separate attention (See Chapter 4).

The criticism of DSS on the grounds of inconsistency of scoring is also upheld by Crystal et al. 1976, who suggest that the only way to avoid such criticism is to 'relate one's outline to some established grammatical canon' (17). In a pilot study (Moynihan 1976) the present investigator also noted areas where such inter-scorer differences were likely to occur (12-14).

A Grammar of Contemporary English (Quirk et al, 1973<sup>1</sup>) was therefore chosen as the arbiter both of grammatical structure and of contemporary usage, where its noting of certain forms as acceptable in informal situations is an indispensable adjunct to any analysis of spoken language.

Also indispensable is 'some explicit principle of developmental progress, if a systematic remediation procedure is to emerge'<sup>2</sup> and this is provided by the developmental weightings of DSS 1974 based on language samples from two hundred children, five boys and five girls at each three-month age interval, between ages 2-0 and 6-11. The developmental sequence and weightings thus make no assumptions about complexity of structures (cf. Brown 1973) or about the relationship between cognitive and structural complexity (cf. Hayes 1970), an approach with which Crystal et al. 1976 are in agreement, in the context of diagnosis and remediation (29-32).

In the present study, therefore, the drawbacks of DSS have been remedied as far as possible by extending the range of grammatical categories, and by relating the discussion to a systematic framework of description.

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<sup>1</sup> Second impression, with corrections.

<sup>2</sup> Crystal et al. 1976, page 25.

### 1.3 Subjects

Forty children of Samoan parentage, and aged 6-11 to 8 years were sought from the state and private schools in the Christchurch urban area. School principals were asked to provide the following information for each child:

- (i) date of birth; sex
- (ii) whether both parents were Samoan; home address; father's occupation and/or mother's; how long resident in New Zealand
- (iii) date of child's entry to first New Zealand school
- (iv) whether child had any significant physical disability in speech or hearing.

The search produced exactly forty subjects in the required age-group, but it was thought advisable to seek further subjects in the 6-10 age-group as a reserve. Five children were thus added to the sample, which exhausted the population in the Christchurch urban area.<sup>1</sup>

The sample was then matched for age, sex,<sup>2</sup> and type of school (i.e. state or private) with a normative group, broadly defined as children of average general ability from a middle socio-economic, English-speaking home

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<sup>1</sup> The final sample excluded two children with physical disabilities, and three for whom details of parents' ethnic origins and/or residence in New Zealand were not available.

<sup>2</sup> There was one mis-match owing to the inability of SG40 (female) to produce an adequate language sample at the first interview. Since no other Samoan subjects were available, it was necessary to re-interview SG40 four months later, and to include an extra female subject in the normative group as an age-match.

background, and having no significant physical disability in speech or hearing. "Average general ability" was as defined by class teachers, and was cross-checked by reference to school record cards. Socio-economic status was based on father's occupation (or mother's if solo) and was fairly broadly defined to exclude only the top professional levels and the unskilled workers. The rating scale used was Elley and Irving's Socio-economic Index 1976 (based on 1971 New Zealand Census) which defines socio-economic status 'in terms of the reported income and educational levels typical of the occupations listed.'<sup>1</sup> On the six-point scale, the mean level for 38 subjects was 2.93; no information was available for one subject, and the other had a non-working solo mother.<sup>2</sup>

For the Samoan group, the mean level was 5.38 for 37 subjects, with no information available for the remaining three. The variable of home language background was not controlled since the purpose of the study was not to determine the possible causes of above or below average performance within the group, but to examine the data for developmental trends in specific syntactic structures, and, where necessary to extend the discussion to other linguistic levels. From the evidence<sup>3</sup> available, however, it would seem that the

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<sup>1</sup> N.Z. Journal of Educational Studies, 11, 1, page 26.

<sup>2</sup> Additional normative data were obtained from twenty children in a smaller urban centre (New Plymouth) and used mainly in examining performance in the non-DSS categories (4.2 ff.). Their DSS scores and measures are shown in APPENDIX II.5.

<sup>3</sup> Obtained from teachers, from personal contacts through adult evening classes, and hypothesized from parents' length of residence in New Zealand.

majority of the children came from homes where non-working mothers spoke very little English, or where both parents were working and the standard of English spoken ranged from 'limited' to 'very good' depending on length of residence and kind of occupation. The children were not asked whether they spoke Samoan at home. All but two of the subjects had been born in New Zealand, and had entered school on, or soon after turning 5 (one subject, SG23, had attended a kindergarten); thirty-two were still at the school of entry, and eight had had one change of school within the Christchurch urban area. Of the two Samoan-born subjects (SG39 and SG40), one had spent one year, and the other five months in a New Zealand school when their language samples were recorded. (See discussion of Table 1).

#### 1.4 Definition of Terms

Use of 'native-speaking' and 'non-native-speaking' to describe the normative and Samoan groups respectively (NG and SG) has been determined by the presence of distinctive differences in the handling of English,<sup>1</sup> even among the top-ranked SG subjects. This was preferred to 'dialect', a term which would require further distinction as between 'Samoan English' and 'New Zealand English'. (cf. Wilkins 1972; 135). Christopherson 1973 (54-61) comments on the varying interpretations of the terms 'L1' and 'L2', and

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<sup>1</sup> cf. Philips 1978, page 26.

the difficulty of finding an exact criterion for the distinction between the two. Halliday et al. 1964

(78) suggest that

'one could say arbitrarily that any language learnt by the child before the age of instruction, from parents, from others, such as a nurse, looking after it, or from other children, is an L1.'

On such a criterion it would be possible to describe English as L1 for 'second generation children of immigrant origin'<sup>1</sup> since they were born in an English-speaking community to parents of whom at least one is capable of earning a living in that community. Opinions vary about the educational attainment levels of adult Samoan immigrants, about their fluency in English, and about the language spoken in the home,<sup>2</sup> but there is some agreement about New Zealand-born Samoans' loss of their own language.<sup>3</sup>

For the purposes of the present study, therefore, the basic distinction is seen as that existing between the early language experience of children whose parents are native-English speakers and that of children whose parents are Samoan.<sup>4</sup>

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<sup>1</sup> Philips 1978, page 26.

<sup>2</sup> Pitt and Macpherson 1974, pages 78-79  
(cf. Barrington 1978, pages 16-17)

<sup>3</sup> Pitt and Macpherson 1974, pages 16, 19.

<sup>4</sup> In the present sample, two children had New Zealand mothers and one a New Zealand father. Their respective DSS rankings were: 1,35,21 (See 2.4, Conclusions)

## 1.5 Procedures

All subjects were interviewed by the investigator between mid-March and the end of May 1977 (excluding the school holiday period 9-22 May) during morning school hours.

Each session lasted thirty minutes and the recordings were transcribed on the same day. Stimulus materials consisted of the picture-card sequences and the two Looking and Talking charts shown in APPENDIX I.1.

Sequences H and I were presented one card at a time, beginning with the last, and children were asked to guess 'what might have happened'. Each picture in the Looking and Talking charts was covered and children were asked to guess that they might be going to see next, or 'what might be happening'.

All responses were encouraged, and children's spontaneous comments, anecdotes, etc. were welcomed.<sup>1</sup>

When the child had left, the investigator noted any significant factors affecting performance, for example, missing front teeth, a heavy cold, extreme shyness, etc. Relevant contextual clues were also recorded orally, for example, the investigator supplied a reference for pronouns in order to check on gender-accord when transcribing.

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<sup>1</sup> Koenigsknecht (in Lee and Koenigsknecht 1974, page 256) analysed the data for effects of the stimulus variable and found that the use of different stimuli did not affect the overall DSS score, nor the two most strongly discriminating categories (intra-group): Main Verb and Conjunction. (See also selection of corpus, page 21 of this study.)

## 1.6 Transcription and Scoring

In summary, all utterances were transcribed including hesitations, repetitions, and re-formulations but these were not included in the final sentences to be analysed and scored.<sup>1</sup>

DSS requires a corpus of fifty complete sentences, all of them different, intelligible, non-echolalic, and consecutive.

'Sentences' are defined as utterances containing a noun and verb in subject-predicate relationship (single word imperatives, and do + Negative are recognized as complete sentences: Look! Don't!)

All the sentences must be 'different', which means excluding repetitions of, for example, I don't know, what's that? Such utterances are counted only once.

All potentially scorable parts of the sentence must be 'intelligible'.

The intention is to distinguish between articulatory difficulty (for which a child must not be penalized) and unintelligibility due to extraneous factors such as noise, interruptions, etc.

Older children seldom produce a purely 'echolalic' utterance, which Lee 1974 (68) defines as an exact repetition<sup>2</sup> of an utterance made by the interviewer.

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<sup>1</sup> If the procedure were being used for diagnostic purposes with an individual child, such non-fluencies provide valuable clues to areas of difficulty.

<sup>2</sup> Any alteration, including in intonation, makes the repetition non-echolalic. (cf. Crystal et al. 1976, page 96)

The fifty<sup>1</sup> sentences selected must be 'consecutive', but may be selected from any part of the transcript and should include the child's best performance. In the present study all utterance-scores were first tabulated in blocks of five in order to ensure that the 'best' fifty-block was selected for each child.

Lengthy sentences joined by a series of and's were broken up according to the DSS rule:

'only one and conjunction per sentence is allowed when the and connects two independent clauses.' (75)

To score every and would produce disproportionately high scores (at this age-level) for children who are merely stringing sentences together. The phenomenon has been noted in other studies (Loban 1963; Hunt 1965; Scott, 1970) and the above rule provides a practical as well as objective means of separating the clauses (cf Braun and Klassen 1971 commenting on Hunt's T-unit (1965)).

Scoring of utterances was done on the original transcripts and the scores for the fifty selected sentences were then entered on a DSS score sheet<sup>2</sup>, which shows for each subject:

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<sup>1</sup> See Crystal et al 1976, page 87 for a review of opinions on size/length of language sample.

<sup>2</sup> See APPENDIX I.2 for DSS scoring chart and I.5 for score sheet.

age in years and months; sex;  
 overall DSS score;  
 weighted developmental score in each of the  
 grammatical categories, plus sentence point  
 score;  
 number of entries in each grammatical category;  
 mean developmental score in each category;  
 a brief indication of reason for attempt marks  
 and/or withholding of sentence point.

Procedures for the analysis and classification of errors  
 are explained in Chapter 3.

#### 1.7 Modifications of DSS Procedures

Some modifications of DSS procedures were seen as  
 necessary in view of:

- (i) the age-level of the subjects;
- (ii) the purposes of the investigation;
- (iii) the need for consistency in decision-making.

The areas most significantly affected were:

- (iv) use of ellipsis;
- (v) scoring of the passive;
- (vi) scoring of Secondary Verbs.

#### (iv) Use of ellipsis

DSS procedure is to exclude all initial conjunctions  
 when they are 'extensions of previous conversation' (155).  
 In the present study, the conjunctions most frequently  
 excluded on this basis were and (See 1.6 above) and  
because, which almost invariably appeared in response  
 to a Why-question. Therefore, if every initiating  
because (a Level 6 item) were counted the result would

favour those subjects who were reluctant communicators and/or were being asked a high proportion of Why-questions.

Ellipsis is also involved in such responses as:

No, I didn't, She probably could, etc.

According to DSS procedure, such utterances should be noted as 'incomplete' under the Main Verb category, any Negative form scored under that category, and the Sentence Point allowed since 'adult grammatical rules contain elliptical verb forms' (147).

Professor Lee's decision was influenced by the possibility that 'clinical' and younger children may have learned such responses as 'stereotyped giant words' (147). For the purposes of the present study, and taking into account the age-level of the subjects, such elliptical responses were scored as complete whenever the ellipsed<sup>1</sup> lexical verb was recoverable, that is, had been realized in the utterance being responded to:

Q. Did she see him?

R. No, she didn't<sup>2</sup>

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<sup>1</sup> Quirk et al. 1973 use 'ellipted' passim where Crystal et al. 1976 use 'elided' (page 182, for example).

<sup>2</sup> This modification of DSS procedures made no significant difference to overall scores. (see APPENDIX I.4) for details.) The record, however, showed that such elliptical responses occurred more frequently in the NG sample (30 NG as against 11 SG subjects) so that the usage may be an indicator of developing linguistic maturity in the handling of conversational exchanges.

When, however, the ellipted verb was not recoverable, as in,

He got stuck but she didn't, etc.

the Main Verb was scored as 'incomplete' on the basis that children could (and did) produce

He didn't get stucked/got stuck, etc.<sup>1</sup>

There were few instances of what DSS would score as 'incomplete infinitives' (151):

I don't want to, She didn't like to, etc.

and these were scored as 'complete' on the basis that the subjects produced a variety of infinitive forms elsewhere in their language samples. Furthermore, there was evidence to suggest that lack of mastery was demonstrated by omission of the to marker:

SG39: that lifting box make a house

(= that girl is lifting blocks (boxes?) to make a house)

SG40: he's go and get the ball (= going to get)

#### (v) Scoring of the passive

The difficulty of distinguishing between passive and be-cop.+ V-ed<sub>2</sub> constructions where the latter seem to be more appropriately described as be-cop + Adj. (the window is broken) has been noted in the literature describing language acquisition.<sup>2</sup> In the present study,

<sup>1</sup> cf. They've been playing and so have they, etc. which would be scored as 'complete'.

<sup>2</sup> See Ferguson and Slobin (eds.) 1973, and Hayes (ed) 1970 for reviews.

the problem was seen as one of providing a systematic and economical basis for making decisions which would be compatible with the grammatical framework being used. The 'passive scale' as outlined in A Grammar of Contemporary English 1973<sup>1</sup>, 12.14 to 12.18 (808-811) provided such a basis, and the decision to score only 'full' passives (that is, with expressed agent/instrument) and passives with elaborated verb forms (that is, other than simple present or past) under the Main Verb category (Level 7) and the remainder under Main and Secondary Verbs (as Level 4 participles) gave some recognition to the elaborated structures without unduly 'penalizing' the doubtful cases.<sup>2</sup> Also scored as full passives were all forms of get + V-ed<sub>2</sub>, as in DSS (37) even when no agent was expressed, since the get-passive 'is usually restricted to constructions without an expressed animate agent' (GCE, 12.3; 802)

#### (vi) Scoring of Secondary Verbs

In addition to the V-ed<sub>2</sub> forms mentioned above, an extra sub-category was included at Level 8, and some clearer distinctions made between non-complementing and complementing infinitives at Levels 3 and 5. Lexical details are given in APPENDIX I.3, and the following brief summary shows at what Levels and why the modifications were made.

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<sup>1</sup> Following the example of Crystal et al, we shall in future refer to the work as GCE.

<sup>2</sup> See the discussion of the Secondary Verb category in 3.5 of this study.

LEVEL 2: (Early-developing infinitives)

- . No change, but would recommend inclusion of hafta and tryna

LEVEL 3: (Non-complementing infinitives)

- . No change in criterion for post-verb infinitives.
- . Stronger distinction for post-adjective infinitives based on he is eager to please (same subject).

LEVEL 4: (Participles)

- . Include V-ed<sub>2</sub> constructions described under Scoring the passive above.

LEVEL 5: (Complementing infinitives, etc.)

- . Add one further sub-category for post-adjective infinitives of he is easy to please type (subject of main is object of infinitive clause; or different subject in infinitive clause).
- . List the limited group of verbs taking obligatory deletion of to (GCE 12.57; 841)

LEVEL 7: (Passive infinitival complement)

- . No change

LEVEL 8: (Gerund)

- . Add sub-category for post-nominal/pronominal infinitives on the grounds that these represent greater syntactic sophistication than relative-clause constructions (GCE 13.20; 878)<sup>1</sup>

Other modifications

Some items were added to the original DSS listings and are shown in APPENDIX I.3. They are described in Chapter 3 under the relevant categories:

Negative (3.6)

Interrogative Reversal (3.9)

Modifications which were not used in the present study but which are seen as desirable in the light of evidence obtained are discussed in 3.7 (Conjunction) and included in APPENDIX I.3.

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<sup>1</sup> Ten instances were produced by individual children (five from each group).

PART TWO : THE ANALYSIS

Chapter 2. Statistical Analyses

Synopsis: The performance of both groups is examined, using the main DSS measures, in order to determine:

- (i) the most significant similarities and differences;
- (ii) the DSS categories and developmental Levels which discriminate most strongly between and within the groups.

## 2.1 Developmental Sentence Scores (DSS)

The DSS score for each subject represents the mean score per sentence over a 50-utterance sample, and is derived from the weighted developmental scores in each of the eight grammatical categories, plus the Sentence Point score obtained. (Table 1)

The t-score (3.76) shows that the difference between NG and SG subjects in mean DSS scores is highly significant ( $p < .001$ ;  $df$  78).

The standard deviation (4.19) for SG scores confirms the hypothesized intra-group variance for these subjects.

The difference between male and female subjects on the DSS measure is not significant in either group:

	MEAN	SD
NG Males	16.16	3.73
Females	15.93	2.67
		t: .23
SG Males	12.51	4.08
Females	13.29	4.26
		t: -.59

There were, however, 6 female subjects in the top ten SG scores.

Age is a significant variable in the ten SG scores above the 75th percentile point. The mean age of subjects scoring in this quartile is just over 7 years 8 months, whereas the mean age of NG subjects in the same quartile is just under 7 years 3 months. Since the mean age for both groups is 7 years 5 months, there is an indication here that, for the Samoan children, each month produces an increment in performance as measured on the DSS scale.

Table 1 Rank order of DSS scores, and percentiles for NG and SG subjects, with group means and standard deviations shown for male and female subjects combined and separately.

Rank	NG * Sex	DSS SCORE	PERCENTILE	PERCENTILE POINT	SG * SEX	DSS SCORE	PERCENTILE	PERCENTILE POINT	
1	M	25.44			M	20.98			
2	F	21.38			F	19.96			
3	M	21.00			F	18.56			
4	M	20.62	90th	20.49	M	18.54			
5	F	20.34			M	18.50	90th	18.49	
6	M	19.62			F	18.30			
7	F	18.96			M	17.12			
8	M	18.74			F	17.06			
9	M	18.38			F	16.90			
10	F	18.36	75th	18.2	F	16.50	75th	16.33	
11	F	18.02			F	16.20			
12	F	17.56			F	15.80			
13	M	17.30			M	15.62			
14	F	17.20			F	15.60			
15	F	17.08			M	15.04			
16	F	16.82			F	14.58			
17	F	16.76			F	14.14			
18	M	16.28	50th	16.16	M	14.12			
19	M	16.14			M	13.02			
20	F	16.10			M	12.50	50th	12.49	
21	M	16.06			M	12.28			
22	F	15.80			F	11.86			
23	F	15.50			M	11.84			
24	M	15.32			M	11.78			
25	F	14.74			M	11.26			
26	M	14.36			F	11.20			
27	F	14.28			F	10.50			
28	M	14.12	25th	13.59	F	10.50			
29	M	13.56			M	10.14	25th	9.74	
30	F	13.56			F	9.66			
31	M	13.44			M	9.60			
32	M	13.10			F	9.32			
33	F	13.08			M	9.30			
34	F	12.84			F	8.98			
35	M	12.78			M	8.88			
36	F	12.56	10th	12.25	M	7.96	10th	6.99	
37	F	12.20			M	6.61			
38	F	11.35			F	6.12			
39	M	10.58			M	5.20			
40	M	10.20			F	4.11			
19	21	641.53			20	20	516.14		
MEAN DSS		16.04	SD	3.22	MEAN DSS	12.90	SD	4.19	
MEAN DSS (M)		16.16	SD	3.73	MEAN DSS (M)	12.51	SD	4.08	
" "	(F)	15.93	SD	2.67	" "	(F)	13.29	SD	4.26

\* NG = normative group

SG = Samoan group

Unfortunately, that performance still lags behind that of their English-speaking peers, as evidenced by the 19 scores in the SG sample which fall below the 10th percentile point for NG subjects.

Among the SG scores in Table 1 are three cases which are atypical:

Rank 10 subject was only 7 years old; (8+ months below mean age for Rank 1 to 10).

Rank 40 subject, aged 7-2, was newly arrived in New Zealand and had very little English. Over the thirty-minute session she produced only 18 utterances which could be scored as "sentences" according to DSS rules; (See Chapter 5).

Rank 39 subject, aged 6-11, was also Samoan-born and had spent one year and one month in a New Zealand primary school (10 months less than his New Zealand-born peers). His DSS of 5.2 was derived from the required 50 scored utterances.

(See APPENDIX II.1 for comparison tables showing percentile points for US/NG/SG subjects,<sup>1</sup> and differences in increment between NG and SG subjects).

## 2.2 Weighted Developmental Scores in the DSS Categories

The DSS score yields a general measure of a subject's performance and is used mainly to rank the subject in relation to his/her age-mates. It is also necessary to analyse performance within the individual grammatical categories. According to Lee and Koenigsnecht 1974 (241), the combined weighted developmental score is more representative than the DSS of "the typical grammatical load contained in a child's responses" since it takes

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<sup>1</sup> US subjects = the American children in Lee 1974.

into account both weighting (DSS Levels), and frequency of entries in each category. The weighted developmental scores (WDS) in each category are shown for NG and SG subjects in Table 2. The combined and the mean WDS for all categories are also shown. In this part of the study, the main object is to ascertain those areas where the most significant differences appear between the two groups, and also to determine the rank-order of the DSS categories in representing development of grammatical load at this age level.

As shown in Table 2, this rank-order is the same for both groups, apart from a one-place difference in the ranking of the Personal Pronoun and Conjunction categories, the means being very close in both groups. (A difference of .65 in the NG means, and of 1.41 in the SG means for these two categories). This close similarity in rank-order indicates that the order of development is similar for both groups,<sup>1</sup> but the rate of development is significantly slower for the SG subjects as evidenced by their lower weighted developmental scores.

At this point it will be convenient to omit the Interrogative Reversal and Wh-Question categories from the analysis of discriminant function of the categories within and between the two groups. Lee and Koenigsnecht 1974 (246) found that these two categories "correlated inversely with the other component categories, but highly with each other".

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<sup>1</sup> A finding which accords with the evidence from studies of L1 acquisition, for example, Lee and Koenigsnecht 1974; Brown 1973; Carol Chomsky 1969; Menyuk 1969.

Table 2: Group means for weighted developmental scores in the DSS categories, with category rank-order for NG and SG Subjects.

	Indef. Pn. N.Mod.	Personal Pronouns	Main Verb	Secondary Verb	Negative	Conjunct.	Interr. Reversals	Wh- Questions	Combined WDS in all categories
NG									
Combined WDS	3421	6460	9654	2548	1334	6434	246	126	30223
N	40	40	40	40	40	40	21	19	40
Group $\bar{x}$ WDS	85.52	161.5	241.35	63.7	33.35	160.85	11.71	6.63	755.57
Rank-order	4	2	1	5	6	3	7	8	
SG									
Combined WDS	2733	5278	7113	2263	998	5201	232	108	23926
N	40	40	40	40	39	39	17	17	40
Group $\bar{x}$ WDS	68.23	131.95	177.82	56.57	25.59	133.36	13.65	6.35	598.15
Rank-order	4	3	1	5	6	2	7	8	

The high inter-category correlation is of course attributable to the fact that a Wh-Question is usually accompanied by an Interrogative Reversal:

Why did he hit her?

The low rank-order of these categories in discriminant function and the size of the sample (See N for both groups, Table 2) are further reasons for their exclusion at this point.

Table 3 shows the rank-order of the categories in discriminating between NG and SG subjects, using the difference between the group means for WDS in six categories. Apart from the one-place difference in Secondary Verb and Negative, the rank-order of discriminant function is the same as that representing development of grammatical load at this age-level. The two areas showing the greatest difference now appear, viz., the Main Verb and Personal Pronoun categories. The kinds of error responsible will be studied in Chapter 3 under the respective category headings.

The standard deviation for DSS scores among SG subjects (Table 1) has already indicated a wide degree of variance in this overall measure. Table 4 shows the rank-order of discriminant function for the six grammatical categories as measured by the difference between the mean WDS of the top five subjects and that of the bottom five. Results from the NG subjects are included for comparison.

If we consider the top five subjects in each group as

Table 3: Discriminant function of DSS categories, with rank-order, based on intergroup differences between weighted developmental scores, omitting Interrogative Reversal and Wh-Question categories.

	N	Indefinite Pn. Nn. Modifier	Personal Pronoun	Main Verb	Secondary Verb	Negative	Conjunct.
NG Mean WDS	40	85.52	161.50	241.35	63.70	33.35	160.85
SG Mean WDS	40	68.23	131.95	177.82	56.57	25.59	133.36
DIFFERENCE		17.29	29.55	63.53	7.13	7.76	27.49
RANK-ORDER OF DISCRIMINANT FUNCTION		4	2	1	6	5	3

Table 4: Discriminant function of DSS categories, with rank-order, based on intragroup differences between weighted developmental scores for the top and bottom five subjects, omitting Interrogative Reversal and Wh-Question categories.

	N	Indefinite Pn. Nn. Modifier	Personal Pronoun	Main Verb	Secondary Verb	Negative	Conjunct.
NG Mean WDS: Top	5	107.2	198.0	311.2	88.8	41.0	282.6
Bottom	5	62.2	101.4	186.8	41.8	19.4	83.2
DIFFERENCE		45.0	96.6	124.4	47.0	21.6	199.4
RANK-ORDER OF DISCRIM. FUNCTION		5	3	2	4	6	1
SG Mean WDS: Top	5	82.6	181.8	280.6	100.0	45.6	230.2
Bottom	5	34.8	40.5	69.2	25.4	9.4	34.8
DIFFERENCE		47.8	141.2	211.4	74.6	36.2	195.4
RANK-ORDER OF DISCRIM. FUNCTION		5	3	1	4	6	2

representing the syntactic growth areas for their groups, according to measurement by WDS, the indication is that for normally developing native-speakers at this age-level (NG subjects) the development of compound and complex sentences is the most significant growing point, as demonstrated by the top-ranking of the Conjunction category. While the Main Verb category retains its top-ranking discriminant function, as in Tables 2 and 3, for the non-native speaking children (SG subjects), it should be noted that the mean WDS for the top five SG subjects in the Secondary Verb and, to a lesser extent, in the Negative categories is higher than that of NG subjects. Broadly speaking, a developmental sequence can be inferred from these tables, which accords with Brown's (1973; 32) five major processes of sentence construction in which the ascending order is as follows:

1. Semantic roles such as agent, patient, etc. in simple sentences expressed by linear order, syntactic relations, etc.
2. Semantic modulations such as number, tense, etc. expressed by inflections, etc.
3. Modalities of the simple sentence such as question forms and negation.
4. Embedding of one simple sentence within another.
5. Co-ordination with deletion of identical strings. Subordination with use of appropriate connector words.

The highest-scoring NG subjects (Table 4) represent process 5 as measured by the DSS Conjunction category, while the corresponding number of SG subjects demonstrates development of processes 3 and 4 as measured by the DSS Negative, Pronoun (Personal and Indefinite), and Secondary Verb categories. The point may be illustrated by a progressive "elaboration" of a simple sentence according to Brown's model scored according to DSS levels:

1 and 2 : Simple sentence with inflections for number and tense :

He's playing  
2 1 = 3

3 : Simple sentence with negation :

He isn't playing  
2 1 5 = 8

4 : Embedding of one simple sentence within another<sup>1</sup>  
(a) by using a relative pronoun :

I know what he's doing  
1 1 6 2 1 = 11

(b) by using an infinitival complement :

He's trying to build a house  
2 1 5 = 8

---

<sup>1</sup> Brown, (1973; 25) gives a general definition of embedding, from the syntactic point of view, as "any process which makes one sentence into a grammatical constituent of another sentence whether the constituent be subject, object, verb complement, some sort of adverbial, adjectival, or whatever".

5 : Conjunction, with deletion of subject  
 (he), verb (is trying) and to (to make) :  
 He's trying to build a house and make a garden  
 2 1 5 3 5 = 16

Crystal, Fletcher and Garman (1976; 76) subsume the processes of the embedding and connecting of clauses under the heading of a developmental Stage V, which is labelled "Recursion", thus recognizing the powerful rule (in transformational terminology) "which is the primary characteristic of the creativity of language". (Authors' emphasis).

As previously noted, however, the inferences drawn from Tables 2, 3 and 4 about syntactic growth areas can only be tentative at this stage of the analysis. The weighted developmental score must be regarded as a wide-mesh filter producing figures whose size is affected by absence as well as presence of developmental growth. For example, the Personal Pronoun category which, at DSS Level 6, measures one of the embedding devices also measures the ability to mark pronouns for number and gender at Levels 2 and 3, where SG subjects produced a higher proportion of errors than NG subjects.

In Chapter 4 of this study the comparative developmental Levels in each grammatical category are analysed in finer detail. In Chapter 5 a developmental sequence is adduced from the study of one SG subject over a one-year period. (See APPENDIX II.3 for tables showing WDS of DSS categories for American and New Zealand subjects).

Table 5: Intra-group differences between male and female subjects in weighted developmental scores, excluding Interrogative Reversal and Wh-Question categories.

	MEAN AGE Yrs-Mths	N	Indef. Pn./Nn.M.	Personal Pronoun	Main Verb	Second Verb	Negative	Conj.
NG Males	7-5.20	19	89.16	158.84	249.89	58.53	34.16	167.74
NG Females	7-7.50	21	82.24	163.90	233.62	68.38	32.62	157.33
			6.92	5.06	16.27	9.85	1.54	10.41
				+		+		
SG Males	7-5.25	20	64.10	130.05	169.60	57.25	24.47	127.40
SG Females	7-5.60	20	72.55	133.85	186.05	55.90	26.65	139.63
			8.45	3.80	16.45	1.35	2.18	12.23
+ indicates higher score by females			+	+	+		+	+

As already noted, the inter-related variables of age and sex affect the top ten DSS scores in the SG subjects. When WDS are grouped according to sex there is a striking difference between NG and SG subjects, in that female subjects in the SG score higher in all categories except the Secondary Verb (where the difference is not significant) whereas females in the NG have higher scores in only two categories: Personal Pronoun and Secondary Verb. An investigation of differences in syntactic performance attributable to the subjects' sex is outside the scope and purpose of this study (1.1), and Table 5 is included merely as a matter of interest to show the degree of difference in each of the six categories for male and female subjects in both groups.

### 2.3 Number of Entries in the DSS Categories

So far the number of entries (frequency) and the developmental weighting have been taken into account in deriving overall DSS and weighted developmental scores. Frequency as a measure of syntactic development is, however, used by Brown 1973 in establishing Stage I and II, and by Crystal, Fletcher and Garman 1976 for deciding the dominant structure of any stage.<sup>1</sup>

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<sup>1</sup> Seven stages are identified and labelled by Crystal et al. as: I One-element 'sentences'; II Two-element sentences; III Three-element sentences; IV Sentences of four elements or more; V Recursion; VI System completion; VII Discourse structure, syntactic comprehension and style. (pages 63-83).

For Brown, quoting Cazden as data-processor, (258) "acquisition" can be said to have taken place when an inflection "is supplied in at least 90 per cent of the contexts in which it is clearly required" over three speech samples in which the inflection is so supplied. For Crystal et al.<sup>1</sup>:

"....all we can assert with any confidence is the dominant statistic for a stage: at least 60 per cent of the structural processes found in a Stage will be those belonging to that Stage. The exact ratios of the remainder have not as yet been worked out."

Although Brown is primarily concerned with acquisition and Crystal et al. with "dominance", the phenomenon of frequency allied to correctness of usage is critical in both studies. In deriving a frequency count for the eight DSS categories, correctness is also recognised since only scored items are counted. The incorrect items and their potential scores are valuable in identifying both remedial areas and emerging structures not yet stabilised. (See Chapter 3). Analysis of frequency scores, then, should either confirm the findings based on weighted developmental scores, or indicate the need for further investigation to determine the measure most sensitive to mature and immature syntactic management.

Even a cursory glance at DSS score-sheets for subjects in both groups who are top-ranked as compared with those obtaining the lowest DSS shows an obvious disparity

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<sup>1</sup> Crystal et al. The Grammatical Analysis of Language Disability (page 61).

Table 6: Discriminant function of categories, with rank order, based on intra-group differences between mean frequency for the top and bottom five subjects including Interrogative Reversal and Wh-Question categories.

	N.	I.Pn. Nn.M.	Pers. Pn.	Main Verb	Sec. Verb	Neg.	Conj.	Interr. Rev.	Wh- Qn.
NG Mean Frequency:									
Top	5	58.6	87.0	104.00	19.8	7.4	62.8	1.8	0.8
Bottom	5	39.0	45.0	70.06	11.8	4.0	21.8	0.6	0.8
DIFFERENCE		19.6	42.0	33.94	8.0	3.4	41.0	1.2	0.0
RANK ORDER OF DISCRIM. FUNCTION		4	1	3	5	6	2	7	8
SG Mean Frequency:									
Top	5	43.6	84.8	91.6	23.8	8.6	52.4	1.0	0.8
Bottom	5	19.6	21.6	34.4	6.8	2.2	8.8	0.2	1.0
DIFFERENCE		24.0	63.2	57.2	17.0	6.4	43.6	0.8	-0.2
RANK ORDER OF DISCRIM. FUNCTION		4	1	2	5	6	3	7	8

between respective frequencies of entry as well as a tendency, among low-scoring subjects, for entries to cluster in the three columns at the left - a clear indication that sentence-patterns are mainly of the simple SVO/C variety.

Table 6 shows that frequency rank-order for discriminant function intra-group is the same apart from the Conjunction category, which again (See Table 4) ranks one place higher for NG subjects, with Main Verb having precedence over Conjunction among the SG subjects. As in Table 4, the top five SG subjects have a higher mean frequency in Secondary Verb and in Negative than the comparable NG subjects. It should be noted that although rank-order for discriminant function is similar for both groups on the frequency measure, it is not the same as the category rank-order for WDS shown in Table 4. On a frequency-count the Personal Pronoun category now discriminates most effectively between top and bottom scorers. Nevertheless, it is still the same three categories which discriminate most effectively in both groups: Personal Pronoun, Main Verb and Conjunction. Lee and Koenigsknecht 1974, (250) report that the Main Verb and Conjunction "were the two grammatical categories showing the most consistent, progressive growth with increasing age on the average weighted developmental scores" as well as on frequency and mean developmental scores.<sup>1</sup>

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<sup>1</sup> (op.cit., p.252). A mean developmental score is derived from the weighted developmental score divided by the number of entries in each category.

Table 7: Group totals for number of entries in each DSS category expressed as a percentage of total entries in the eight categories in both groups together with rank order of frequency.

CATEGORY	NG TOTAL NUMBER OF ENTRIES:			SG TOTAL NUMBER OF ENTRIES:		
	ENTRIES	% of total	Rank Order	ENTRIES	% of total	Rank Order
				10450		8757
Indef. Pn./n. Mod.	1793	17.15	3	1417	16.18	3
Personal Pn.	2922	27.96	2	2476	28.27	2
Main Verb	3328	31.85	1	2800	31.97	1
Secondary Verb	593	5.67	5	545	6.22	5
Negative	243	2.32	6	191	2.18	6
Conjunction	1490	14.26	4	1245	14.22	4
Interrog. Reversal	50	.48	7	51	.58	7
Wh. Question	41	.39	8	32	.36	8

When the number of entries in each category is expressed as a percentage of the combined totals it is clear that no single category attains the 60 per cent criterion for dominance suggested by Crystal, Fletcher and Garman 1976. In their discussion of Stages VI (System Completion) and VII (Discourse Structure), which are hypothesized as extending from 3 - 6 to puberty,<sup>1</sup> they comment that although children entering school around the age of 5 may give the impression of having completed "the learning of the grammar of the language ...it would be wrong to conclude this, as a large range of grammatical processes remain to be implemented". It is not easy to determine, however, which developments are to be considered for potential dominance of Stages VI and VII. In the first place, research-based information is lacking for these age-levels,<sup>2</sup> and in the second place, the authors in analysing language performance after Stage V reverse direction from describing what a child can do to describing what he cannot, as yet, do. Thus the information "is, in effect, a kind of error analysis".<sup>3</sup>

A general description of developmental areas for Stage VI is given<sup>4</sup> as:

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<sup>1</sup> Grammatical Analysis of Language Disability, page 81

<sup>2</sup> *ibid.* page 78

<sup>3</sup> *ibid.* page 78

<sup>4</sup> *ibid.* page 80

- (i) Initiators (which correspond to the DSS category of Indefinite Pronouns and Noun Modifiers);
- (ii) Co-ordination patterns in the Noun Phrase;
- (iii) Complex Verb Phrases, for example,

I should have been able to.

(Level 8 of Main Verb category in DSS chart)

- (iv) Use of the full passive form, often with complex verb, for example,

She has been bitten by a dog.

(Level 7 of Main Verb Category in DSS chart<sup>1</sup>)

- (v) More complex patterns of post-verb construction, for example,

This is ready to eat.

(Levels 5 and 7 of Secondary Verb category in DSS chart<sup>2</sup>).

For Stage VII the description of developmental areas is given in more general terms,<sup>3</sup> with the comment that "it is not possible as yet to classify them in a precise, exhaustive, numerical way", and that the areas cited are intended as a focus for discussion and analysis, and to provide guidelines for practical use. The areas may be summarized as follows:

- (vi) use of adverbials as sentence-connecting devices; other kinds of connectivity, for example, ellipsis and cross-reference;

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<sup>1</sup> See 1.7 of this study for a discussion of the passive forms and alterations in DSS methods.

<sup>2</sup> See 1.7 *ibid.* (Scoring of Secondary Verbs).

<sup>3</sup> *op.cit.* pages 81-83.

- (vii) inversion of word-order as required after existential-there, or in so did, neither did constructions;
- (viii) more complex embeddings.
- (ix) a growing awareness that identity of surface structure does not necessarily imply identity of meaning. (He is easy to please and He is eager to please.)
- (x) the greater range and flexibility of structures used, leading to the development of personal "style".

It is difficult to assign developmental weightings from DSS to the structures described for Stage VII, but, in general, they correspond to higher level usage in the Pronoun (Indefinite and Personal), Secondary Verb, and Conjunction categories. Inversion of word-order is recognized only in question forms on the DSS chart, but the so did, neither did forms have been added for the purposes of this study. (See APPENDIX I.3)

If we are to use the 60 per cent frequency criterion suggested by Crystal et al. it becomes clear that an additional dimension is needed. We need for example, a more precise definition than "more complex" for the use of embedding and of post-verb constructions by 7- to 8-year-olds. Furthermore we find "frequency" by itself inadequate as evidence of dominant or developing structures at this age-level, or of a lack of development. For example, on the frequency measure alone a subject who used and as a conjunction ten times would show a higher level of development in this area than a subject who used unless five times, although the latter

is described as "more complex"<sup>1</sup>. The DSS measure of weighted developmental scores, however, would produce a score of 30 for the ten uses of and, but of 40 for the five uses of unless. If a finer analysis is required, as, for example, in assessing individual progress in any or all of the categories, a mean weighted developmental score can be derived by dividing the sum of weighted developmental scores by the number of entries. The result indicates the mean level of the items used. (Table 39, Chapter 5)

The percentages shown in Table 7, based on a frequency count alone, do no more than indicate that pronouns and main verbs accounted for 76.96 per cent of all items in one group and for 76.42 per cent in another group of children aged 6-10 to 8 years in an informal, conversational interchange with an adult.

In his preface to The Grammatical Analysis of Language Disability 1976 Crystal acknowledges that LARSP<sup>1</sup> has been used systematically "in detailed studies of some 30 children and 10 adults only" and "in a more partial way" with a further 200 children and 50 adults. The possibility of assigning developmental weightings is not totally discounted,<sup>2</sup> but their value in diagnosis and remediation is considered negligible because of the many complex variables involved,<sup>3</sup> so that "an intuitive evaluation of [language] profiles [is preferred], at least for the time being".<sup>4</sup>

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<sup>1</sup> Language Assessment, Remediation and Screening Procedure

<sup>2</sup> op.cit. p.19.

<sup>3</sup> op.cit. pp.18, 198.

<sup>4</sup> op.cit. p.198.

SUMMARY

In the present study it has been noted that frequency alone will discriminate between high- and low-scoring subjects in both groups, and this finding has a corollary which might be stated as follows:

"the higher the frequency the greater the score on all measures".

In other words, the children in both groups who, for one reason or another, did not say very much used more low-level items in their responses. When one considers that although it is theoretically possible for a child at this age-level to use higher level constructions while producing fewer utterances,<sup>1</sup> yet this did not occur in practice, it seems that evidence of linguistic maturity is demonstrated, at least in performance, by high "output". Among normally-developing, native-speaking children low output with low-level structures may be attributable to an idiosyncrasy such as shyness, or to temporary conditions such as fatigue or illness so that what is being measured, i.e. performance, may be impaired although the subject is perfectly capable of producing the range and variety of structures expected. One cannot, of course make the same assumption about the non-native-speaking child. His low output, low-level performance may be due to shyness, but it is more likely to be due to lack of competence in the target language.

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<sup>1</sup> Compare the DSS of two separate sentences with that of the same sentences combined by embedding.

(Sentence points are included.)

That's a house. 1 + 1 + 1 = 3

That man built it. 1 + 2 + 1 + 1 = 5

That's the house that he built. 1 + 1 + 6 + 2 + 2 + 1 = 13

Therefore in evaluating performance, frequency per se is likely to be a more significant measure of linguistic development for the non-native than for the native-speaking child: the former cannot produce what he does not "know"; the latter may not produce what he does "know".

Table 8 summarizes the NG and SG mean scores on the main DSS measures (Sentence Point scores are included only in the DSS score itself). The t-score indicates that frequency was slightly less significant than the other measures in discriminating between the groups.

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Table 8: Group means and standard deviations for Developmental Sentence Scores (DSS), Weighted Developmental Score (WDS) and number of entries (F) for NG and SG subjects.

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	<u>NG SUBJECTS (N = 40)</u>			<u>SG SUBJECTS (N = 40)</u>		
	DSS	WDS	F	DSS	WDS	F
MEAN	16.04	755.57	261.50	12.90	598.15	218.93
S/D	3.22	164.91	48.50	4.19	225.91	69.05

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t-scores (df = 78):

DSS: 3.76 (p < .001)

WDS: 3.62 (p < .001)

F: 3.19 (p < .005)

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## 2.4 Conclusions from the Statistical Analyses

From the measures studied so far some general conclusions regarding language development and language delay may be drawn.

First, it appears that age and sex are significant variables affecting the language performance of SG subjects. (2.1; 2.2).

Second, the rank-order of developing categories is similar in both groups, but the Conjunction category discriminates most effectively between the top and bottom 5 NG subjects, indicating that the development of compound and complex sentences may be the syntactic growing-point at this age-level. (2.2)

Third, the Main Verb and Personal Pronoun categories rank highest in discriminant function as between the two groups, indicating these as the areas where language delay is most apparent in the performance of SG subjects. (2.2)

Finally, when language delay is measured in months, the widest gap appears for SG subjects with a DSS below the SG 50th percentile point. At the 25th percentile delay is approximately 20 months; from the 25th to the 10th percentile the range is 20 to 41 months. These figures are derived from norms established in Professor Lee's study of 200 American children aged 2-0 to 6-11,<sup>1</sup> so that they must be regarded as giving only a general indication of language delay, in the absence of norms for New Zealand children aged, say, 5-0 to 7-11 based on standardized DSS methods. Nevertheless, the consistency of incremental growth shown by the NG scores at each percentile point when compared with those of the American children a year younger

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<sup>1</sup> Lee and Koenigsnecht, Developmental Sentence Analysis Figure 1, page 167.

suggests that DSS has measured language development in the categories concerned, and therefore the inter-group differences between NG and SG in mean DSS from the 50th percentile down are highly significant. (APPENDIX II.2). To express those differences in terms of language delay in months, the percentile point scores are extended horizontally to meet an equivalent score on the 50th percentile line at an earlier age level.

Figure 1 illustrates the procedure. Percentile points up to 6-6 are those given in Lee and Koenigsknecht, 1974 (167) those at 7-5 are for SG subjects only.

When judging "allowable margins of delay" in remedial work with a clinical child, "if he is to be considered (as) normally developing"<sup>1</sup> a delay of twenty-three months from the age of 5-6 onwards could be regarded as within allowable limits. Even when due allowance has been made for the differences between clinical children learning their mother tongue and normally developing children learning a second language, the indication that for some of these children language delay, even at a conservative estimate, may be as much as three years is cause for concern.

Although the purpose of this study is to examine the areas of language delay rather than its possible causes, it would be interesting to see whether the eleven children below the 25th percentile point are clearly affected by one or more of the variables commonly thought to differentiate between age-mates in language performance.

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<sup>1</sup> op.cit. page 170.

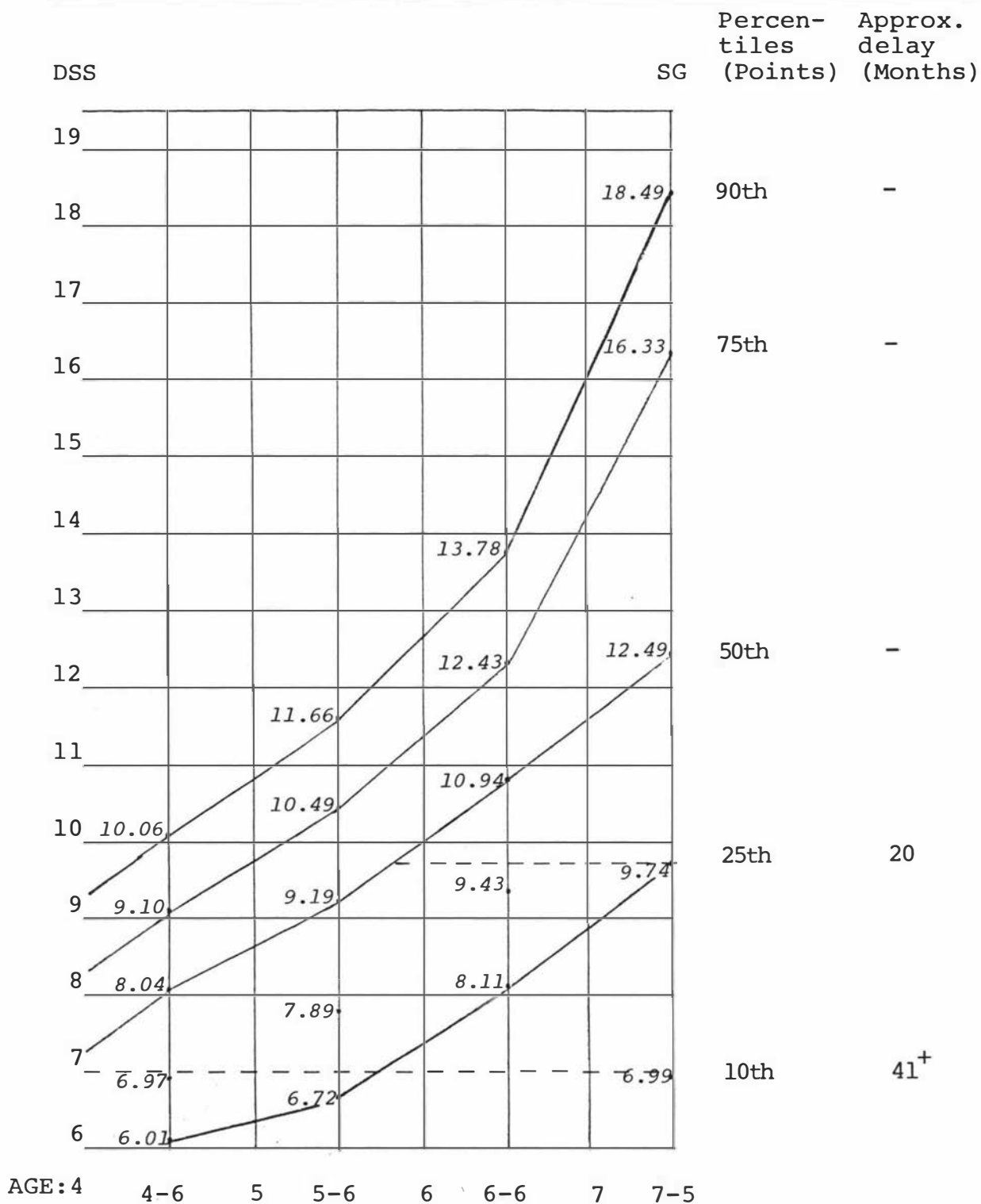


Figure 1: Percentile points for SG subjects at age 7-5 and those for American children from age 4-0 to 6-6, with approximate language delay in months for SG subjects below the 50th percentile point.

First, however, we shall exclude the two lowest-scoring subjects, since neither had attended a New Zealand school from the age of 5 as had the remaining nine subjects.

Mean age for the remaining nine is 7-3, two months below the group mean, and five months below the mean for the ten children above the 75th percentile, so that age again is a significant factor. Follow-up observations should be made, preferably at monthly intervals, to see whether performance levels are approaching group means - a procedure which is recommended for any non-native speaking child whose initial DSS falls below the 10th percentile for his own group. Three of the children in the lowest-scoring group are more obviously in need of help since their ages are above the group mean, being 7-6, 7-8 and 8-0. The girl aged 7-8 is a twin, whose sister's performance placed her within 1.75 points of the 75th percentile, which suggests that in this case factors other than age, sex, length of schooling, and family background are operating. The class teacher also commented on the difference between the two children in listening comprehension, speaking, reading, and writing. Results from the P.A.T. in Listening Comprehension placed one at Level 2c, percentile 41, and the other at Level 0e, percentile 6. (APPENDIX II.4)

No conclusions can be drawn from a consideration of the sex variable. Although only four of the nine were girls (compared with six among the top ten) two of these were aged 7-8 and 8-0. Length of schooling is

DSS	RANK	NUMBER IN FAMILY						COMMENTS
		1	2	3	4	5	6	
1				1				N.Z. mother
2		1						Only child
3					4			
4				3				
5					3			
6					3			
7								Probably 2nd of 3 or 4.
8								Youngest, but number uncertain.
9						5		
10				3				
	30				3			
	31					4		
	32					4=		Twin
	33		2					
	34		2					Very shy
	35						5	N.Z. mother
	36			2				
	37							No reliable information. Very shy.
	38				1			

Figure 2: Position in family of the top and bottom ten\*  
SG subjects, with comments.

\* Excluding SG39 and 40 (see page 72).

correlated with age, so that either or both factors may be affecting the performance of the low-scorers, whose mean length of schooling is 2 years 4 months compared with 2 years 9 months for the top ten. Individual cases again suggest the operation of factors other than age, sex, and length of schooling: a girl aged 7-0 with exactly two years' schooling is just above the 75th percentile point,<sup>1</sup> whereas a girl aged 8-0 with exactly three years' schooling has the lowest score of all (excluding the two Samoan-born mentioned above). It was not possible to determine position in family for all the children interviewed. Some children, for example, included themselves when counting sisters and brothers, others identified people as sisters and later referred to them as "cousins". One child said he had one sister, and later referred to his "sisters". On the basis of information which could be validated (Figure 2), it appeared that five of the ten top-scorers were the youngest children of the family; one was the eldest of three, and one was an only child; two were second youngest in a family of four. Of the nine lowest-scorers, five were the second youngest in their families, two were the younger children in two-child families, and one was the eldest of four children - this being the eight-year-old girl mentioned above. Although there are more "second youngest" among the low-scorers one could not draw any firm conclusion about this factor from

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<sup>1</sup> This subject already noted in 2.1.

such a small sample. The fact that the top-ranked subject (a boy) has a New Zealand mother, and so has the boy ranked 35th again illustrates the inadvisability of attributing either high or low performance to any one factor.

As the description of subjects in 1.3 indicates, the socio-economic status was similar for all the Samoan families, so that this variable was, in effect, controlled.

The factor of innate ability, or general intelligence has not been mentioned, but clearly its operation cannot be discounted. How greatly it affects language acquisition and performance we have as yet no reliable means of measuring. This investigator was struck by a comment in Brown 1973 (408) which, although it refers to language acquisition by young children in their mother tongue, could be applied to the hundred-odd subjects interviewed in the course of this study. Brown remarks on the approximate invariance of the order and the wide variety in the rate of acquisition, and continues,

"What will the determinants of rate prove to be? No one can know at present. No doubt there are family interaction variables that will account for some of the variance but I will go out on a limb and predict that, within some as yet unknown limits of interaction variation, the rate will also prove to be dependent on what the intelligence testers call g or general intelligence."

He goes on to say that studies of language acquisition could yield scores

"that will be able to predict with substantial success IQ scores on standard tests in the school years."

Describing it as a "guess" he bases his prediction on the similarity between the process involved in language development and the conceptual definition of comparative intelligence, i.e.

"the rate at which individuals build general rule systems or theories comprehending sets of data to which they are exposed."

The difficulties involved in attempting to measure the intelligence of non-English speaking children are well known (Kennedy 1970; Labov 1970; Spolsky 1971.), and teachers usually have to rely on subjective judgments. Sometimes, when such a child's "general ability" is described as "below average" one feels that the judgment may have been unduly influenced by the child's obvious shortcomings in oral language performance. (APPENDIX II.4) While it is not claimed that a single DSS can be a more reliable measure of general ability, nevertheless the results in some cases have indicated that the children were not given credit for what they had in fact achieved.

Where the initial DSS shows a serious language delay, taking age and length of schooling into account, it will also show the areas where help is needed. Follow-up recordings at regular intervals will show

whether and where progress has been made. Children will, of course, make measurable progress even without special help, but uneven development will continue to characterize their performance unless there is a planned programme of remediation.

(See Chapter 5). For children like the eight-year-old girl with a DSS of 6.12, mere exposure to language has clearly been insufficient. The phenomenon of uneven development is discussed in Chapter 3.

Chapter 3 : Detailed Analysis of Performance  
in each of the DSS Categories.

Synopsis : Error-patterns and developmental  
levels are examined in each grammatical  
category, and the performance of both  
groups is compared for indications both  
of language-delay and of normal  
language development for the age-level.

### 3.1 Procedure

In examining the pattern of errors and of development the following procedure was adopted:

Step One: note all examples, with context, in each of the eight DSS categories from both groups of subjects.

Step Two: note the developmental Level of each error, i.e. the potential score.

Step Three: classify the error-types as economically as possible.

(In the event, errors in all categories proved to be attributable to Non-agreement, Incorrect Form, or Omission/Redundancy.)

Step Four: tabulate errors, using the lexical items, according to developmental Levels, and give the number of instances.

Step Five: express the number of instances as a percentage of the total number of entries in the DSS category.

Step Six: examine the data for error-patterns, noting in particular any evidence of uneven development among SG subjects, and similarities and differences between the error-patterns and developmental Levels of both groups.

In the following subsections (3.2 - 3.9) each of the DSS categories is examined separately. The results of Steps One through Five are shown in tabular form at the beginning of the subsection, followed by a discussion of the findings from Step Six. There remains,

however, a residue of errors which are not included in the eight categories but which result in the withholding of sentence points. These are described and discussed in Chapter 4.

### 3.2 Indefinite Pronoun and Noun Modifier Category

As Table 9 shows, the percentage of errors in this category is relatively low in both groups: 1.1 per cent of combined total and 2.11 per cent for NG and SG subjects respectively. The patterns of error, however, are different.

In the SG examples about one-third of the errors involve more than the basic element (i.e. Indefinite Pronoun or Noun Modifier). Since this is a recurring pattern we shall label it "duplex" in contrast to "simplex".<sup>1</sup>

Examples are:

Level 1: it might be/there might be

Level 3: all don't know/none of them knows  
your other face/the rest of your face

Level 7: every day on Sunday/every Sunday

Furthermore, at Level 1 nearly all the NG errors could be attributed to contextual or to performance factors unlike those of SG subjects. Hence they could be labelled "mistakes" rather than errors. For example, three of the four cases where it was used instead of them occur in the context of "bars"<sup>2</sup> where these were

<sup>1</sup> Such examples, in both groups, were noted also under the heading(s) appropriate for the other element(s) involved.

<sup>2</sup> In describing the sequence of pictures Looking and Talking 1. (APPENDIX I.1)

Table 9: Error-types and frequency in the Indefinite Pronoun and Noun Modifier category for NG and SG subjects.

	NON-AGREEMENT (NUMBER)	No.	INCORRECT FORM	No.	OMISSION (-) REDUNDANCY (+)	No.	Totals
NG	it/them it/they	4 2	it/he	2	-it (it had a hole in...)	1	
LEVEL 1:		6		2		1	9
	-	0	a bit of/some (leaves)	1	-	0	
LEVEL 3:		0		1		0	1
	-	0	much/many themselves/each other (they're punching themselves)	6 1	-anything (They mightn't be fighting about...)	1	
					-each (...one has different seasons)	1	
LEVEL 7:		0		7		2	9
SG	it/them it/they	2 5	it/there (might be) its/it (looks like) that (is)/he (is) that/an (old man)	1 1 1 1	-that (SUBJECT) -it (SUBJECT) -it (OBJECT) + it (the door's been taking it out)	1 4 3 1	
LEVEL 1:		7		4		9	20
	-	0	all/no one, none of them '(all don't know) one/a (man) some/someone 'nother/the other other/rest of (your face)	1 1 1 1 1 1 1	-(the) others (are) (one is (TITLE) and... (TITLE) (TITLE) )	1	
LEVEL 3:		0		5		1	6
	-	0	anys/any (leaves) anything/something no/any	1 1 1	+every (day) (every day on Sunday)	1	
LEVEL 7:		0		3		1	4
				NG	SG		
No. of errors				19	30		
No. of entries in category				1793	1417		
No. of errors as percentage of category entries				1.1%	2.11%		

Level 1: it, this, that.

Level 3: no, some, more, all lot(s), one(s), two (etc.), other(s), another, something, somebody, someone, half (etc.)

Level 4\*: nothing, nobody, none, no one, no more + Noun.

Level 7: any, any(thing, body, one); every, every(thing, body, one); both, few, many each (other), one another, several, most, least, much, next, first, last, second (etc), enough, (n) either.

\* No errors at Level 4 in either group.

apparently being thought of as cage, jail, or enclosure although the word "bars" was used.

The fourth case occurred in:

If they put their heads in sideways they might  
get it out

where "they" in fact means "a person", so that the grammatical concord at first preserved in the sequence "they... their heads... they.." is then discarded in favour of notional concord.<sup>1</sup> The use of "they" for "a person" or "one" is, of course, common in the informal speech of adults.

The effect of a possibly ambiguous visual cue may be responsible for the two cases of it for they at Level 1 and of a bit of for some at Level 3. (NG errors) The picture sequence<sup>2</sup> shows a tree with its leaves depicted as a mass rather than as separate, countable items, so that the cue seems to have been interpreted literally rather than symbolically.

Such explanations account for only five of the twenty-six errors made by SG subjects at Levels 1 and 3.

No errors appeared at Level 4 (the negative pronouns) for either group, but there were relatively few entries at this level: 11 for NG and 6 for SG subjects (although one could conclude that the "all don't..." for "none(d<sub>o</sub>)..." is a Level 4 rather than a Level 3 error (SG)). In these analyses we look to the higher levels for evidence of developing syntactic maturity as indicated by frequency of use.

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<sup>1</sup> Quirk et al, 1973. (7.24, page 360)

<sup>2</sup> Picture sequence E (APPENDIX I.1)

At Level 7 there were 65 and 30 entries for NG and SG subjects respectively, so that the higher number of errors by NG as compared with SG subjects is related to frequency and not to incidence.<sup>1</sup> A study of error-types at this level also shows the NG simplex - SG duplex characteristic. Apart from the six cases of "much"for "many", the NG errors might be broadly ascribed to failure at word-level (omission and incorrect choice) whereas SG errors also involve redundant "concord" (anys leaves), misuse of positive-negative contrast (anything/something; no/any), and apparent misunderstanding of the semantic function of every (every day on Sunday). The much/many errors by NG subjects cannot be attributed to situational or performance factors. They occurred with the following count-nouns: cars, dolls, pools, colours, posters, leaves.<sup>2</sup>

#### SUMMARY

Uneven development by SG children may be adduced from the number and variety of errors at Level 1.

Errors by SG children usually involve more than a simple error in agreement or usage.

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<sup>1</sup> The percentage of error for Level 7 usage is similar for both groups (NG 13.85%; SG 13.33%)

<sup>2</sup> The possible effect of the visual cue has been mentioned above, but the error in this instance seems to be part of a complex in the utterance as a whole:

The tree doesn't get much leaves off  
(= The tree hasn't lost many leaves)

Nearly all the errors by NG children at Levels 1 and 3 can be attributed to temporary factors, or to a conflict between grammatical plural and "mental" singular:

(bars = cage (it); their heads = his head...it)

Entries for NG children at Level 7 are more than twice those for SG children, suggesting greater syntactic maturity.

### 3.3 Personal Pronoun Category

The importance of the Personal Pronoun category has been indicated by the analyses in Chapter 2. It has the strongest intra-group discriminant function on the frequency measure (Table 6). It ranks second to the Main Verb as a developing syntactic area on the measures of weighted developmental scores (Table 3) and of frequency (Table 7). On the frequency measure the number of entries for SG subjects represents a slightly higher percentage of entries in all categories than that of NG subjects, although at lower scoring levels as shown by the group means for weighted scores in Table 2.

As Tables 10 and 10A show, the highest incidence of error occurs for both groups at Level 2 under the heading of NON-AGREEMENT and involves gender only (apart from two instances of singular for plural in the SG sample). Some of the errors occurred when children in both groups were describing the possible family relationships between two boys and two girls in a picture sequence,<sup>1</sup> the context being,

she's (he's) his (her) sister (brother).

The errors appear to be caused by "attraction" so that either the noun complement incorrectly "agrees with" the gender of the possessive pronoun,

he's her sister

she's his brother<sup>2</sup>

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<sup>1</sup> Looking and Talking 2 (APPENDIX I.1)

<sup>2</sup> Since these errors violate selectional rules, they are noted under Vocabulary in 4.2.

Table 10: Error-types and frequency in the Personal Pronoun category for NG subjects.

	NON-AGREEMENT number/gender	No.	INCORRECT FORM	No.	OMISSION (-) REDUNDANCY (+)	No.	Totals
NG	-		me/I my/thc (my first friend <u>I met</u> )	2 1	-		
LEVEL 1:		0		3		0	3
	him/her his/her her/his hc/she he/it (tree)	2 1 1 3 1	him/he (neither did him) her/she (so is her)	1 1	-		
LEVEL 2:		8		2		0	10
	them/it (bars, head, gold) them/him they/he	4 1 1	them/those of them/theirs (friends of them)	2 1	-		
LEVEL 3:		6		3		0	9
	by itself/by them- (bars) selves	1	hisself himself/by himself	1 1	-		
LEVEL 5:		1		2		0	3
	-	0	what/that, who, which	5	-OBLIG. <u>who</u> -OBLIG. <u>which</u>	1 1	
LEVEL 6:		0		5		2	7
	-	0	ever/whatever	1	-	0	
LEVEL 7:		0		1		0	1

Level 1: I, me, my, mine, you, your(s)

Level 2: he, him, his, she, her, hers, its

Level 3: we, us our(s), they, them, their(s), these, those

Level 5: myself, yourself, ourselves, yourselves, themselves, himself, herself, itself

Level 6: Wh-pronouns: who, whom, whose, which, what, that, how many (much)

Level 7: my (etc.) own, one, oneself, whoever, whichever, whatever

Table 19A: Error-types and frequency in the Personal Pronoun category for SG subjects with error-percentages for NG and SG.

NON-AGREEMENT number/gender	No.	INCORRECT FORM	No.	OMISSION (-) REDUNDANCY (+)	No.	Totals
SG						
-	0	me/my me/I (Paul and me) yez/you (SINGULAR)	4 1 1	-I (think) -you (OBJECT) -it (got)	1 2 1	
LEVEL 1:	0		6		4	10
him/her his/her his/their	1 6 1	"he"/"I" (DIRECT SPEECH) there/he (might be) he's/his (name)	1 1 1 1	-he (got) 11	2	
he/it (car) he/she he/they she/he her/his	2 6 1 5 1			-her (uncle) -her (hands) +this	1 1 1	
LEVEL 2:	23		3		5	31
they/she they/he, one them/it (load of timber)	1 2 1	they/those them/those them/their (food for them/ their food) them/theirs (of them/of theirs) them/they (are) those/that (kind)	1 10 1 1 1 1 1			
LEVEL 3:	4		15		0	19
	0	meself/myself	2		0	
LEVEL 5:	0		2		0	2
		what, which/ that, who	3	-who -which	5 1	
LEVEL 6:	0		3		6	9
LEVEL 7:	0		0		0	0
				NG	SG	
No. of errors				33	71	
No. of entries in category				2922	2476	
No. of errors as percentage of category entries				1.13%	2.87%	

or the possessive pronoun incorrectly agrees with the gender of the pronoun subject,

he's his (=her) brother

she's her (=his) sister

or the gender of the pronoun subject is incorrect, resulting in even greater confusion as the children attempted to process the remainder of the utterance. Such examples might be classified as mistakes rather than errors, but the frequency of occurrence suggests that, in the kind of context described, this is an area of uncertainty even for native-speaking children in this age-group. Of the twenty-three errors in the SG sample under NON-AGREEMENT (Level 2) only five occur in the context described. The remainder appear to be simple errors in choice of pronoun to accord with gender. The remaining examples of NON-AGREEMENT (at Level 3) involve the use of a plural for a singular pronoun. In the NG sample, four of the six instances occur in the context of heads and bars (as described in 3.2) and in relation to a mass, or non-count noun, gold. In the SG sample, two of the four cases involve the use of impersonal "they" (also mentioned in 3.2) and one occurs with the mass noun timber.

In the error-category of INCORRECT FORMS there are sixteen and twenty-nine examples from NG and SG subjects respectively. The highest proportion occurs at Levels 1, 2 and 3 among SG subjects (24 of the 29 examples) whereas for NG subjects only half of the examples occur at these levels. This pattern in SG

examples follows that of Indefinite Pronouns and Noun Modifiers (3.2) where the preponderance of error-incidence occurred at the lowest of the four developmental levels for that category. Under OMISSION/REDUNDANCY there are fifteen examples for SG subjects and only two for NG subjects, both occurring at Level 6 with the omission of an obligatory relative pronoun:

he's the man (who, that) cuts the trees down  
there's a chair (which, that) come like that.

Two of the fifteen SG examples occur in co-ordinate and seven in subordinate clauses:

they told him and (he) got...

they took it out and (it) got...

because of an old man (who) has been driving...

in the cars (which, that) are smashed

Where's the boy (who, that) was over here?

I've got a brother (who, that) goes to...

There's stuff (which, that) comes out.

He thought it was her (that) did it

This is a cowboy (who, that) is riding

In addition, under INCORRECT FORMS, five NG and three SG children have used what instead of who, which, or that. This substitution was fairly common among NG children (other examples occurring outside the 50 scored utterances) which seems to indicate a transition stage in the development of relative pronouns, whereas SG children tend to omit the pronoun in obligatory contexts.

At Level 6, NG subjects show a higher number of entries (65) and a lower incidence of error (10.76%)

than SG subjects (46 and 19.56%). Thus, on the measures both of frequency and of developmental weighting there is a strong indication of language delay in a critical area of syntactic development among the SG children in the sample. As previously noted (Chapter 2) the powerful recursion rule essential to the growth of creative language use is embodied in the Level 6 wh-pronouns (and in their variants at Level 7: whoever, etc.)

Error-patterns at all Levels, together with frequency and error-incidence at Levels 5, 6, 7 are summarized as follows for both groups:

(a) Number of errors at all Levels

	<u>NON-AGREEMENT</u>	<u>INCORRECT FORM</u>	<u>OMISSION</u>	<u>REDUNDANCY</u>
NG	15	16	2	-
SG	27	29	14	1

(b) Number of entries and of errors at Levels 5, 6, 7.

	LEVEL 5		LEVEL 6		LEVEL 7	
	Entries	Errors	Entries	Errors	Entries	Errors
NG	8	3	65	7	4	1
SG	8	2	46	9	3	0

SUMMARY

Uneven development by SG children in the group as a whole is indicated by the frequency of entries and of errors at the lower developmental Levels. It should be noted, however, that the mean developmental score for the top five SG subjects is only 16.2 below that of the top five NG subjects, whereas there is a difference of 60.8 between the bottom five SG and NG subjects (Table 4). It seems that lower-scoring SG children need to stabilize pronoun usage at the earlier developmental Levels, especially in regard to gender concord at Level 2, and to the use of the plural demonstrative those.<sup>1</sup>

The productive wh-pronouns at Level 6 should also be targets for special attention in both groups, since NG children below the 50th percentile point show some delay on the basis of frequency of entries at this developmental Level. In general, the error-pattern of NG children is mainly due to incorrect form (what for who, etc.) and that of SG children to delay in acquisition such that the relative pronoun is omitted in obligatory contexts.

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<sup>1</sup> All ten errors occurred as, them two (children) as did the two errors made by NG children in the scored sample.

### 3.4 Main Verb category

Not surprisingly, this category ranks first on the inter-group measures of weighted developmental score (Table 2), discriminant function (Table 3), and frequency expressed as a percentage of the total entries in all categories (Table 7). It also ranks first in discriminant function within the SG.

In such a critical developmental area it is disquieting to note that the gap between the performance of NG and SG children in this sample is at its widest. There is a difference of 6.26 percentage points in error-incidence between the groups. The difference between the top five subjects of both groups in weighted developmental scores is 30.6 as compared with 16.2 in the Personal Pronoun category. For the bottom five subjects the differences are 117.6 in the Main Verb category and 60.8 in the Personal Pronoun category.

Because of the number and variety of items at each of the six developmental Levels, they will be examined under the following sub-headings:

- 3.4.1 Verb inflections at Levels 1 and 2
- 3.4.2 V-ed<sub>1</sub> and V-ed<sub>2</sub> forms of lexical verbs at Levels 2, 7 and 8.
- 3.4.3 Verb forms at Levels 7 and 8
- 3.4.4 Verb forms at Levels 4 and 6
- 3.4.5 Errors in tense sequence



Table 11. Details of error-types in the Main Verb category at Levels 1 and 2 for NG and SG subjects.

(a) NON-AGREEMENT	LEXICAL VERB	No.	BE-FORMS		Totals			
			CoP.	No.	Aux.	No.	NG	SG
<u>s</u> mor- pheme after <u>I</u> , <u>you</u>	NG	-	-		-		0	
	SG	I starts, you has to	2	You was	1	-		3
<u>s</u> mor- pheme after <u>we</u> , etc.	NG	(Indians) wants	1	two is	1	they was	1	5
	SG	-		boys ) is	3	A+B was	2	
Omission of <u>s</u> after <u>he</u> , etc.	NG	he annoy me	1	-		we ) was	2	10
		that remind him	1			they) was		
		which come like	1			kids) is	3	
		that	1			they) is	3	
	SG	one of the tyres fall	1			A+B is	2	4
	SG	he start, tell, say, etc.	18	-		-		18
							9	31
(b) INCORRECT FORM								
	NG	(Details in)		I were	2	-		20
	SG	( Table 16)	18	it were	1	-		78
		( )	77					
(c) OMISSION			<u>ing</u> SUFFIX	<u>be-CoP</u>		<u>be-Aux.</u>		
in simple sentence	NG	they are) help	2					2
	SG	she is ) help						
in co-ordinate structure	SG	they are help, try, etc.	6					6
	NG	he could be ring- ing and say	1					1
	SG	he's sitting and pretend, etc.	4					4
<u>am/'m</u>	NG			-		-		0
	SG			-		-		0
<u>are/'re</u>	NG				1		2	3
	SG				2		12	14
<u>is/'s</u>	NG						2	2
	SG				7		27	34
<u>was</u>	NG						1	1
	SG				4		2	6
<u>were</u>	NG							
	SG						3	3
							9	67

	NG	SG
No. of errors at Levels 1 and 2:	38	176
No. of errors at all Levels:	100	261
Errors at Levels 1, 2 as a percentage of errors at all Levels	38%	67.43%

- . incorrect forms of simple past tense in the lexical verb (77 instances)
- . omission of be-aux. (44 instances)
- . omission of s-morpheme marking 3rd person singular on the lexical verb (18 instances)
- . omission of be-cop. (13 instances)
- . omission of ing-suffix from lexical verb (10 instances)

Of the 38 NG errors, non-agreement and omissions occur 18 times (9 examples of each), the highest single error-incidence being the 19 incorrect forms of simple past tense in the lexical verb. Patterns of error in past tense forms are examined below, but in general terms it would seem that uncertainty in this area is normal language-delay for the age level, though not, of course, to the extent shown by SG subjects in this sample.

Errors and omissions in the use of be-forms by SG children account for almost 70 per cent (69.69) of all instances in the group excluding those in past tense forms, which strongly suggests an inadequate grasp of their morphological and syntactic features. When we consider that be-forms are usually unstressed in speech, and that three of them (am, is, are) are usually contracted,<sup>1</sup> we should realise that auditory

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<sup>1</sup> Among SG subjects errors and omissions in actually contracted and potentially contractible forms occurred in 91.4 per cent of the instances. In the sample under review no error occurred in the use of I(a)m.

cues for the non-native speaking hearer are at the lowest levels of salience and audibility.

Furthermore, be-cop. and be-aux. do not carry an important semantic load<sup>1</sup> but do require the manipulation of irregular forms which cannot be predicted from the inflection patterns of other verbs. Given this combination, it is not surprising that 57 of the 69 instances are classified under "omissions".

Before going on to examine the use of V-ed and V-en forms, it is perhaps worth noting the error-patterns classified under NON-AGREEMENT, in which the third person singular marker (3s) is omitted from the lexical verb. All but one of the 18 SG instances occur in Main Clauses and in simple SV constructions, whereas of the 4 NG instances two occur in subordinate clauses,

there's a chair which come like that...

...and that remind him... (Occurring after three complex-compound clauses)

and one is probably influenced by 'the principle of proximity'<sup>2</sup>

one of the tyres fall.

---

<sup>1</sup> Several languages, including the Polynesian group, realise the equational pattern without using a linking verb-form, and omission of be-aux (he playing) does not interfere with communication in speech contexts.

<sup>2</sup> Quirk et al. 1973, p.360: "The principle of 'proximity' denotes agreement of the verb with whatever noun or pronoun closely precedes it, sometimes in preference to agreement with the headward of the subject: One in ten take drugs".

### 3.4.2 V-ed<sub>1</sub> and V-ed<sub>2</sub> forms of lexical verbs at Levels 2,7 & 8.

In this examination the aux/mod forms (be, can, may, must, etc) are excluded, and lexical verbs considered under the headings of regular and irregular, the latter classified according to their variation from the regular paradigm of:

Base Form (V)	Simple Past (V- <u>ed<sub>1</sub></u> )	Past Participle (V- <u>ed<sub>2</sub></u> )
walk	walked	walked

The present writer is indebted to Quirk et al.1973 (109 ff) for their model for the classification of irregular verbs (Tables 12 and 13 below). Some 200 irregular verbs are listed, and classified according to criteria derived from the realizations of the forms for V-ed<sub>1</sub> and V-ed<sub>2</sub>.

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Table 12: Variations in the principal parts of irregular verbs

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	<u>BASE</u>	V- <u>ed<sub>1</sub></u>	V- <u>ed<sub>2</sub></u>
all alike	hit	hit	hit
V- <u>ed<sub>1</sub></u> = V- <u>ed<sub>2</sub></u>	shoot	shot	shot
v = V- <u>ed<sub>2</sub></u>	come	came	come
all different	speak	spoke	spoken

---

A matrix is then formed using the following criteria:

- . V-ed identity: V-ed<sub>1</sub> = V-ed<sub>2</sub> (shot, met)
- . Suffixation in V-ed<sub>1</sub> and/or V-ed<sub>2</sub>  
 (slept: V-ed<sub>1</sub> and V-ed<sub>2</sub>)  
 (known: V-ed<sub>2</sub>)
- . Vowel identity: vowel sound is the same in  
 V, V-ed<sub>1</sub> and V-ed<sub>2</sub> (cut, hit)

The criteria divide irregular lexical verbs into seven classes as shown in the following Table:

Table 13. The seven irregular verb-classes<sup>1</sup>

CLASS	EXAMPLES	V- <u>ed</u> IDENTITY	SUFFIXATION		VOWEL IDENTITY	NO. IN CLASS
			V- <u>ed</u> <sub>1</sub>	V- <u>ed</u> <sub>2</sub>		
1	SPELL BUILD	±(spelt (spelled) +	+	+	+	15
2	CATCH	+	+	+	-	28
3	HIT	+	-	-	+	24
4	STICK	+	-	-	-	36
5	SHOW	±	+(- <u>ed</u> )	+(- <u>n</u> )	±	9
6	THROW	-	-	+(- <u>n</u> )	±	43
7	COME GO	- -	- (went)	- (gone)	- -	12

NOTES:

CLASS 5: a small number of verbs, most of them not in common use: HEW, MOW, SHEAR, SOW, STREW. The more commonly used are: SAW, SEW, SHOW, SWELL. All of them have the -ed suffix as an accepted variant of the -n suffix in V-ed<sub>2</sub>: HEWN/HEWED SEWN/SEWED  
 In two of the verbs, vowel identity is not preserved in the -n form of V-ed<sub>2</sub>: SHORN, SWOLLEN

<sup>1</sup> Based on Table 3.3 in A Grammar of Contemporary English (1973) p.111.

As we have seen in Table 11, the highest error-incidence in both groups at Levels 1 and 2 occurred in the past tense forms of lexical verbs. In Table 14, error-types are shown in abstract form together with their incidence in each verb class.

Errors made by NG subjects were distributed fairly evenly among five of the verb classes, but over-generalization of the ed marker accounts for 10 of the 18 instances. Errors by SG subjects, however, occurred most frequently in regular and in CLASS 6 verbs, and omission of the ed marker accounts for 47 of the 77 instances. As noted in 3.4.1, the omission of inflectional morphemes and/or of be-forms could be a general indication of a failure in competence, but in considering the omission of ed from the past tense of regular verbs it is necessary to take more account of performance factors related to the production and reception of these forms.

The following are the lexical verbs involved in the 26 instances shown in Table 14, TYPE (a). (The number of instances is given in brackets after each):

bat (5)	cover (1)
crash (4)	jump (1)
punch (3)	bump (1)
look (3)	bang (1)
start (2)	kick (1)
open (2)	pretend (1)
lift (1)	

When one examines the syntactic contexts, taking into account the phonetic realization of the ed morpheme together with the initial phoneme of the words which followed, one finds that the unmarked verbs were usually followed either

Table 14. Error-patterns in regular and irregular lexical verbs for NG and SG subjects at Level 2.  
(Simple past tense).

TYPE OF ERROR	NO. OF INSTANCES		NO. OF INSTANCES IN EACH VERB CLASS								
			I	R	R	E	G	U	L	A	R
			REG.	1	2	3	4	5	6	7	
(a) V for V-ed <sub>1</sub> ( <u>bat</u> )	NG	3	2	-	-	/	-	-	-	1	
	SG	47	26	3	3	/	5	-	9	1	
(b) V + <u>ed</u> ( <u>threwed</u> )	NG	10	/	-	-	3	-	-	4	3	
	SG	22	/	-	2	3	2	-	12	3	
(c) V- <u>ed</u> <sub>1</sub> + <u>ed</u> ( <u>ranned</u> )	NG	4	-	-	-	-	4	-	-	-	
	SG	3	-	-	-	-	1	-	-	2	
(d) V + <u>ded</u> ( <u>turnded</u> )	NG	0	-	-	-	-	-	-	-	-	
	SG	3	1	-	1	-	1	-	-	-	
(e) V- <u>ed</u> <sub>2</sub> for V- <u>ed</u> <sub>1</sub> ( <u>seen</u> )	NG	1	/	-	-	-	-	-	1	-	
	SG	2	/	-	-	-	-	-	2	-	
TOTALS IN EACH	NG	18	2	0	0	3	4	0	5	4	
VERB CLASS	SG	77	27	3	6	3	9	0	23	6	

by /ð/ or by /d/ so that use of the marked form would have involved the production of such awkward consonantal clusters as:

idð batted the ball, lifted that car, opened the door

ptð bumped them

ptd jumped down

ʃtð crashed the car

or else their base-forms terminated on consonantal clusters, and were either followed by /t/ or by the pronouns him/her in their weak forms:<sup>1</sup>

rtidt started to

ndidt pretended to

ntʃt punched (her  
(him

Such combinations might be difficult for children whose native language sound-system prefers CV to CC sequences. On the other hand, all but two of the Samoan children in the sample were New Zealand born, which suggests that interference from L1 sound-patterns should be minimal or non-existent. That many of the English-speaking children also demonstrated difficulty in producing consonant sequences (notably thr in initial and dge in final positions) suggests that the phenomenon may be related to age rather than to ethnic background. Nevertheless, the English-speaking children, whatever their difficulties at the phonological level, did produce the ed morpheme on the past tense of regular

<sup>1</sup> Gimson, A.C. (ed.) English Pronouncing Dictionary.

1977, pp. 237, 240.

verbs. The investigator, aware of the tendency of native-speaking hearers to gloss the utterances of native-speakers, was particularly careful when transcribing regular V-ed forms, and found that there was a perceptible difference between a minimally realized ed and its complete absence. Of the two instances where it was omitted by native speakers one example, pretend, was actually produced as p'ten'. The subject, a boy, spoke very rapidly but made only two other errors in past tense forms, both being examples of over-generalization: throwed, busted. In the other instance the girl actually said,

It look liked

which was probably a slip of the tongue, since the subject made no other error in the Main Verb category. Both instances, therefore, could be attributed to performance factors, as could the SG instance at Level 1,

Its looks like (Table 9) <sup>1</sup>

When taking into account the situations in which the verbs listed are likely to be heard, one is struck by their association with peer-group/playground activities where articulation by native-speaking children is likely to be less than perfect (for example, bat, kick, jump, bang, bump, pretend, start).

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<sup>1</sup> Similar instances occurred in other categories and are included as "errors" but noted as possible "mistakes" in the accompanying discussion.

It could be hypothesized that for many non-native speaking children their maximum exposure to colloquial English occurs in such situations - and perhaps in listening to the rapid-fire, often slipshod enunciation of commercial radio announcers and certain hosts of children's television programmes.

Whatever the reasons for the omission of the past tense marker from regular verbs, it seems to the writer that the high error-incidence among the Samoan children in the sample should not be solely attributed to lack of knowledge of the simplest of the past tense inflections. Support for this hypothesis is lent by the appearance of 22 instances resulting from over-generalizing the -ed morpheme. (Table 14, TYPE (b)).

It is generally accepted that over-generalizing "shows that children are learning rules and not simply utterances"<sup>1</sup>, and so we shall call it a growth-error in contrast to omission of syntactic forms which are more likely to be delay-errors. If we classify the error-patterns shown in Table 14 as examples of omission, that is,

(a) V for V-ed,

and of over-generalizing, that is

(b) V + ed

(c) V-ed, + ed (over-generalizing + redundancy)

the differences between the two groups of subjects can be seen in terms both of growth and delay, and of incidence in each verb-class. (Table 15).

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<sup>1</sup> Roger Brown in Hayes (ed.) 1970: Cognition and the Development of Language, p.49.

If over-generalizing indicates a growing point or transition stage in the development of a syntactic structure, then it could be expected to occur more frequently among the top-scoring subjects on the overall DSS measure. Evidence is more confirmatory for NG subjects (Table 16) but the size of the sample available in this sub-category of Level 2 verbs does not warrant any firmer conclusion.

Among the irregular verbs, those in CLASS 6 appeared to cause the greatest difficulty for the SG children (Table 14). Since only eight verbs were involved it does not seem that incidence is significantly related to the greater number of verbs in this class (Table 13). Furthermore, the stimulus materials had the effect of eliciting a similar repertoire of verbs from both groups, so that a comparison between them has a stronger validity than one might expect from a theoretically uncontrolled naturalistic study.

Of the eight verbs, throw and blow appear in both groups, accounting for 4 of the 5 NG errors, and for 8 of the 23 SG errors. One can only speculate as to the source of the difficulty with verbs in this class, but it may be significant that, in common with CLASSES 2, 4 and 7, they do not preserve vowel identity in their principal parts:

CLASS	V	V- <u>ed</u> <sub>1</sub>	V- <u>ed</u> <sub>2</sub>
6	throw	threw	thrown
2	catch	caught	caught
4	stick	stuck	stuck
7	come	came	come

Table 15. Error-frequency in the simple past tense of regular and irregular verbs classified under OMISSION and OVER-GENERALIZING of the tense marker. (NG and SG subjects).

		V E R B C L A S S E S							TOTALS	
		REG	1	2	3	4	5	6		7
(a) OMISSION										
(V for V- <u>ed</u> <sub>1</sub> )	NG	2	-	-	-	-	-	1	3	
	SG	26	3	3	5	-	9	1	47	
(b) OVER-GENERALIZING										
(V + ed;	NG	/	-	-	3	4	-	4	3	14
V- <u>ed</u> <sub>1</sub> + <u>ed</u> )	SG	/	-	3	3	4	-	12	5	27

Table 16. Incidence of over-generalizing the ed morpheme on the simple past tense of irregular verbs among NG and SG subjects with DSS scores falling above the 50th percentile point.

	NO.OF INSTANCES ABOVE 90th P'TILE		NO.OF INSTANCES BETWEEN 75th & 90th P'TILE		NO.OF INSTANCES BETWEEN 50th & 75th P'TILE		NO.OF INSTANCES: In Whole Group Above 50th p'tile			
	N		N		N		N		N	
NG	4	4	6	.2	8	5	40	14	18	11
SG	5	3	5	-	10	3	40	27	20	6



Table 17. Error-patterns in V-ed<sub>2</sub> forms at Levels 7 and 8  
in the Main Verb category for NG and SG subjects.

TYPE OF ERROR	TOTAL NO. OF INSTANCES		NO. OF INSTANCES IN EACH VERB CLASS									
			REG.	I	R	R	E	G	U	L	A	R
				1	2	3	4	5	6	7		
(a) V for V- <u>ed</u> <sub>2</sub> ( <u>get</u> )	NG	1				/	1					
	SG	9	8							1		
(b) V+ <u>ed</u> or <u>n</u> ( <u>threwed</u> , <u>hitten</u> )	NG	7			2	1					4	
	SG	5				1					4	
(c) V- <u>ed</u> <sub>1</sub> + <u>ed</u> or <u>n</u> ( <u>threwn</u> , <u>stucked</u> )	NG	2					1			1		
	SG	14					8			3	3	
(d) V- <u>ed</u> <sub>1</sub> for V- <u>ed</u> <sub>2</sub> * ( <u>took</u> , <u>ran</u> )	NG	21									9	12
	SG	7									6	1
(e) V- <u>ing</u> for V- <u>ed</u> <sub>2</sub> ( <u>taking</u> )	NG	0										
	SG	2	1								1	
TOTALS	NG	31	-	-	2	1	2	-	-	14	12	
	SG	37	9	-	-	1	8	-	-	15	4	

AT LEVELS 7 AND 8:

	<u>NG</u>	<u>SG</u>
Number of entries	508	300
Number of errors in V- <u>ed</u> <sub>2</sub>	31	37
Percentage of errors " "	6.10%	12.33%

\* NOTE: This error can occur only in verbs of CLASS 6 and 7 since all other classes, and regular verbs, are characterized by V-ed identity (Table 13).

Table 18. Analysis of error-patterns in the components of Level 7 verbs among NG and SG subjects. \*

P A S S I V E											<u>have</u> , <u>has</u> , <u>had</u> + V- <u>ed</u> <sub>2</sub>						
NON-AGREE-MENT	O M I S S I O N					I N C O R R E C T F O R M S					NON-AGREE-MENT	O M I S S I O N			I N C O R R E C T F O R M S		
	<u>be</u>	<u>get</u>	<u>be</u>	<u>get</u>	<u>have</u>	V- <u>ed</u> <sub>2</sub>	<u>be</u>	<u>get</u>	<u>have</u>	V- <u>ed</u> <sub>2</sub>	No.	<u>have</u>	<u>have</u>	V- <u>ed</u> <sub>2</sub>	<u>have</u>	V- <u>ed</u> <sub>2</sub>	No.
NG	-	-	2	-	2	-	1	-	1	2	8	2	3	-	4	16	25
SG	-	1	-	2	2	2	2	2	-	14	25	-	14	-	7	16	37

AT LEVEL 7:

	NG	SG
NUMBER OF ENTRIES	381	250
NUMBER OF ERRORS	33	62
PERCENTAGE OF ERRORS	8.67%	24.8%

\* There were no errors in must/shall + V: shall was used only in shall I + V; must + V presents no problems of inflection for tense or number.

We can now see that, after V-ed<sub>2</sub> forms, the omission of aux-have was the most common error among the SG children. All but one of the fourteen instances occurred as,

I, you, she, we, they + got ± to

the exception being,

I never been.

Some of the other abstract descriptions of error-types were realized in such utterances as;

NG he could get telled off

he might of got wrecked

it's/he's went/took/throwed, etc.

SG he'll get cutted

his pants been ripped

she's, etc. came, fell, token, etc.

it's been top of the car (-put on)

At Level 8 the DSS model distinguishes four complex verb constructions:

A. have) been + V-ing: has been playing  
has )  
had )

B. Modal + have + V-ed<sub>2</sub>: could) have eaten  
may )  
must )

C. Modal + be + V-ing: could, etc. be playing

D. Other Mod./Aux combinations: could, etc. have been playing.

In order to elicit such constructions the children were asked to guess what might have happened, on being shown only the last picture in a sequence, or what might be going to happen in the next picture (concealed).

Excluding the errors in V-ed<sub>2</sub> forms already noted in Table 17, there were 7 and 8 instances of error in managing the auxiliary/modal components by NG and SG children respectively. On the basis of such a limited sample one can only note that where there was difficulty in expressing possibility in relation to a past action the SG children seemed to be confusing the alternative constructions:

it might) be that he ~ and: he might) have ~  
must ) must )

whereas the NG children either omitted one of the verb components or produced unsuitable tense/aspect forms:

NG SUBJECTS (7 errors)      SG SUBJECTS (8 errors)

OMISSION OF MORPHEME, AUXILIARY OR MODAL

he's been open (opening)      they been looking (-have)  
could have trying (-been)

INCORRECT FORM OF AUX.MOD. (V-ing/V-ed<sub>2</sub>)

<u>could of come</u>	<u>should have</u> (must have)
	<u>might'd say</u> (have said)
	<u>might be got</u> (have got)
	<u>must be did</u> (have done)
	<u>must be have</u> (have had)

INCORRECT CHOICE OF TENSE OR ASPECT

might want (have wanted)      it has been falling (has fallen)  
might be wanting (want)      might say (might be saying)  
have got (will have got)  
he's might smile because...  
(either: he's smiling..  
or: he might be smiling...)

#### 3.4.4 Verb Forms at Levels 4 and 6.

There was very little difference between the two groups at these levels, either in number or in type of error. The NG subjects, however, produced more entries and so have a lower percentage of error (Table 20).

The verb constructions shown in Table 19 require:

- . the appropriate choice of modal
- . the use of the uninflected lexical verb
- . the marking of do for third person singular at Level 6.

There were very few instances of EMPHATIC-do usage, and no error was made in this construction.

OBLIGATORY-do is scored twice: under Main Verb at the appropriate Level, and under its accompanying structure, that is, Negative or Interrogative Reversal. The method of scoring errors is noted in the discussion of those categories.

Table 20 shows in lexical detail the errors made by subjects in both groups. The sample is too small to provide a generalization, but there is some indication that uncertainty about the choice of modal to mark tense (can/could) and modality (might/would) may be an area of normal language delay at this age-level.

Hypotheses about such delay would have to be tested in controlled experimental studies.

One also notes a further example of might be + verb from the SG group. In this case the form was he might be want, which suggests a possible confusion with maybe he wants.

Table 19. Mean frequency of entries at Levels 4 and 6 in the Main Verb category for NG and SG subjects in groups of ten according to DSS rank-order.

LEVEL 4			LEVEL 6		
MEAN FREQUENCY OF ENTRIES			MEAN FREQUENCY OF ENTRIES		
RANK	NG	SG	RANK	NG	SG
1-10	5.8	5.9	1-10	10.0	9.0
11-20	4.9	3.9	11-20	6.2	4.5
21-30	5.5	3.9	21-30	3.8	3.0
31-40	3.8	1.5	31-40	3.8	1.0

LEVEL 4	LEVEL 6
VERB FORMS	VERB FORMS
A. can, may, will + Verb <u>may go</u>	A. could, would, should, might + Verb <u>she might know</u>
B. OBLIGATORY - <u>do</u> + Verb <u>don't go, do you go?</u>	B. OBLIGATORY - <u>does</u> <u>did</u> + Verb <u>doesn't go; does</u> <u>did he go?</u>
C. EMPHATIC - <u>do</u> + Verb <u>I do know</u>	C. EMPHATIC - <u>does</u> , <u>did</u> + Verb <u>He does know</u>

Table 20. Errors in the verb-forms at Levels 4 and 6  
by NG and SG subjects.

NG SUBJECTS	No.	SG SUBJECTS	No.
CHOICE OF MODAL/OBLIGATORY - <u>do</u>			
V for <u>will</u> + V ( <u>they go</u> )	3	-	
		V for <u>would</u> , <u>should</u> + V ( <u>I like</u> )	2
<u>can</u> for <u>could</u>	2	<u>can</u> for <u>will</u>	2
<u>will</u> for <u>would</u>	1	<u>will</u> for <u>would</u>	1
		<u>might</u> (n't) for <u>would</u> (n't)	1
		<u>might be</u> + V/ <u>might</u> + V	1
<u>will</u> + V/ <u>is</u> + V-ing ( <u>will blow/is blowing</u> )	1	* <u>does</u> (n't) <u>be/isn't</u>	1
	7		8
FORM OF LEXICAL VERB			
<u>do</u> <u>haves</u>	1	<u>will</u> <u>gets, tells</u>	2
<u>don't</u> <u>seed</u>	1	* <u>doesn't</u> <u>be</u>	1
<u>might</u> <u>not able</u> ( = be able)	1	<u>won't</u> <u>get</u> ( = be able to get)	1
	3		4
FORM OF OBLIGATORY - <u>do</u>			
<u>he</u> <u>don't</u>	1	<u>which way</u> <u>you start?</u> (-do)	1
	1		1

\* same instance

<u>AT LEVELS 4 AND 6:</u>	<u>NG</u>	<u>SG</u>
<u>Number of entries</u>	438	327
<u>Number of errors</u>	11	13
<u>Errors as a percentage of entries</u>	2.5%	3.98%

3,4.5 Errors in Tense Sequence.

With some exceptions, verbs used incorrectly in co-ordinate or subordinate clauses have not been included in the previous tables. The exceptions occurred in the following examples from SG subjects, where the error seemed to be one of incorrect form rather than incorrect tense sequence:

he punch her on the nose and make it bleeding.

(and) he kick and they start to fight

they were coming and they crash

she fall down and he cut his finger

she lift and he put...and it slipped.

Some examples, in both groups, included errors in choice or use of conjunctions, and these will be discussed under that category (3.7).

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Table 21. Frequency of tense-sequence errors in co-ordinate and subordinate clauses for NG and SG subjects.

---

	<u>NG</u>	<u>SG</u>
A. IN CO-ORDINATE CLAUSES ( <u>they ran and ask; they come and they took</u> )	6	8
B. IN NOUN CLAUSES ( <u>he said he'll go home himself</u> )	4	4
C. In <u>when</u> CLAUSES ( <u>he can't when he wanted to</u> )	3	3
D. In <u>so</u> CLAUSES ( <u>they like them so they were playing...</u> )	3	1
E. In <u>because</u> CLAUSES ( <u>I've got it because I start...</u> )	1	0
F. In <u>if</u> CLAUSES ( <u>if it was ladies they'll scream</u> )	0	11
G. In <u>until</u> CLAUSES ( <u>they were towing it till they reach...</u> )	0	1
	<u>17</u>	<u>28</u>

Errors in sequence have no obvious pattern in clause-types A and C, instances appearing as:

	<u>NG</u>	<u>SG</u>
Past followed by present or present perfect	2	4
Present " " past	4	4
Omission of morpheme in ellipsis	2	-
Incorrect choice of modal	1	1

All errors in noun clauses, however, were similar in both groups, most of them occurring in he thought, said (that) constructions similar to the example given in Table 21. The investigator noted that children in both groups often switched from reported to direct speech, and vice versa, in mid-sentence,

"he [fireman] said we'll get you out and take him home but he [boy] said no he'll go home himself."

Such instances are under-represented in the error count since many others occurred outside the selected blocks of 50 utterances.

Errors by SG subjects in the tense-sequence of if clauses were represented by the use of present for past form of modals or lexical verbs as in the example given in Table 21. In three of the eleven examples if was used as an alternative to whether, both of which are scored as Level 8 conjunctions, and the error in each was one of aspect.<sup>1</sup>

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<sup>1</sup> "aspect" is defined (Quirk et al. 1973, p.90) as:  
"the manner in which the verb action is regarded or experienced. The choice of aspect is a comment on or a particular view of the action."

he's telling him if he's crashed (going to crash)

he came over to see if she got (had got)

he's seeing if he could reach (can reach)

In general, errors in tense sequence do not seem to be a cause for concern in either group, when one takes into account both the number of entries in the Conjunction category,<sup>1</sup> and the possible effect of the stimulus materials as well as of performance factors such as memory lapse in longer utterances. In describing the events in a sequence of pictures, for example, children sometimes used both past and present tense in the same sentence when referring to a previous picture and to one being described,

NG example: when he hit her, her nose starts to bleed

SG example: when they're gone he's opened it up

#### 3.4.6 Conclusions.

From a developmental point of view, the most significant findings to emerge from a detailed analysis of the Main Verb category are:

- (a) the developmental lag evidenced by the high error-incidence at Levels 1 and 2 among the Samoan children in the sample;

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<sup>1</sup> NG 1490; SG 1245 entries. The figures are a rough guide to the number of complex/compound sentences produced, but they do, however include conjunctions which are not followed by a realized clause, for example,

that girl and that boy are friends  
 he could be there or over there  
 he looks like a policeman

(b) delayed development of verb-forms at Levels 7 and 8, indicated by error-percentage, and by the low number of entries at Level 8 for the same group.

The native-speaking children showed uncertainty in the handling of V-ed<sub>1</sub> and V-ed<sub>2</sub> forms, which suggests that these forms represent an area of normal language delay at this age-level. To a lesser extent the choice and use of modals also appeared to cause some difficulty. It was noted, however, that difficulty or uncertainty was generally represented by the error of over-generalizing, whereas omission of morphemes and verb components characterized the performance of the non-native speakers.

Although performance and situational factors may account for some of the errors made by children in both groups, they do not significantly reduce the difference between them in the handling of early-developing verb forms, nor do they affect the difference in the frequency measure for entries at all levels.

Table 22 provides a summary of comparative frequency and error-percentage at all levels in the Main Verb category for both groups of subjects.

Table 22. Number of entries and percentage of error  
at all Levels in the Main Verb category  
for NG and SG subjects.

NG	No. of Entries	% of Error		SG	No. of Entries	% of Error
	2382	1.59	LEVELS 1 & 2		2173	8.10
	200	4.50	LEVEL 4		152	3.95
	238	0.84	LEVEL 6		175	4.00
	381	8.67	LEVEL 7		250	22.80
	127	14.70	LEVEL 8		50	30.00

MAIN VERB CATEGORY

	<u>NG</u>	<u>SG</u>
Total of entries at all Levels	3328	2800
Total of errors " " "	100	261
Errors as percentage of total entries	3.0%	9.32%

### 3.5 The Secondary Verb Category.

Constructions in this category are infinitives, participles and gerunds and are seen as devices whereby basic sentences can be combined by embedding or by nominalizing. Together with wh-pronouns and conjunctions they are essential in the developing of syntactic structure beyond the simple SVO/C stage.

The developmental sequence for infinitival constructions goes from Level 2, the early-developing gonna, wanna, gotta forms, to Level 3, where the infinitive generally expresses purpose,

I went, ran, stayed, etc. to see it  
to Level 5, where the subject of the infinitive is different from the subject of the main clause,

I told you to go  
or where the infinitive is object or complement of the verb in the main clause,

I tried to go, I ought to go.

At Level 7 the infinitive is used in its passive form,

He needs to be told.

Nominalizing of the verb in a second basic sentence appears at Level 4 with the use of present or past participles:

I saw a boy running

She found the toy broken

and at Level 8 with the use of gerunds:

They finished building the house

They won by cheating

Swimming is fun.

In this study, Level 4 also includes the past participle (V-ed<sub>2</sub>) when used with be in truncated passives in simple past or present tense

the window is)broken  
was)

The reasons for this decision are discussed in 1.7.

In effect, it makes for greater consistency in scoring - an important consideration when scorers may have little or no background in formal grammar - and does not significantly affect the overall score since, for example,

it was broken

which would score 7 as a passive in the Main Verb category, scores 6 in the Main and Secondary Verb categories.

There will, however, be an increase in the number of entries in the Secondary Verb category.

Professor Lee comments that

"Normally developing children seem to generalize the various rules and uses of infinitives without much distortion"<sup>1</sup>

Data from the present study are generally confirmatory in that NG subjects made only 11 errors in 593 entries. She goes on to say that children with delayed language development seem to follow the same developmental sequence, but that some tend to omit the infinitive marker to "considerably beyond the time when normally developing children have adopted its consistent use".<sup>1</sup>

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<sup>1</sup> Lee & Koenigsknecht 1974, page 51.

It is therefore interesting to note that five of the normally developing children omitted the to, and only three of the SG children did so. On the other hand, there were seven instances where the infinitive construction (to + V) was omitted by the Samoan children, against three such instances in the NG. In these instances, omission of the infinitive resulted in sentences in which the action is incorrectly described as completed instead of attempted, for example,

(NG and SG) when they get it out they can't (= when they want to get it out they can't)

The error therefore seems to be one of aspect, and one cannot be sure whether the illogicality represents a conceptual or a syntactic failure.

The fact that go and get are lexical verbs as well as means of expressing intention and the passive, respectively, seemed to cause some confusion for children in both groups, resulting in errors of various types:

NG & SG: He went to go and get  
He's gonna try tell them off  
 SG: it's thinner to get in (thinner going in)  
if he's crashed (going to crash)  
got them cut (got them to cut)

The various error-types are summarized in Table 23, which shows that those generally connected with aspect and go/get are fairly evenly distributed between the groups, but that SG children made 10 errors in the participle (V-ed<sub>2</sub>) compared with 1 by an NG child. The pattern is similar to that which appeared in the Main Verb category: omission of the ed marked from regular verbs accounts for 7 of the 10 instances, the verbs being,  
 bump, crash, smash, finish, stop.

Table 23. Type and frequency of error in the  
Secondary Verb category at all developmental  
Levels for NG and SG subjects.

OMISSION	INCORRECT FORM OR ASPECT		NG	SG	
	NG	SG			
(a) of <u>to</u> ( <u>he starts cry</u> )	5	3	(a) of INFINITIVE ( <u>make it bleeding/ bleed</u> )	1	4
(b) of INFINITIVE ( <u>when you get/ try to get</u> )	3	7	(b) of PARTICIPLE (V- <u>ed</u> <sub>2</sub> ) ( <u>smash, cutted</u> )	1	10
(c) of <u>be</u> PASSIVE ( <u>it's picked up/ being picked up</u> )	-	1	(c) of GERUND ( <u>finish build</u> )	-	3
REDUNDANCY ( <u>for to push,</u> <u>went to go</u> )	1	2			
			<u>NG</u>	<u>SG</u>	
Total of entries at all Levels			593	545	
Total of errors " " "			11	30	
Errors as percentage of total entries			1.86%	5.5%	

SUMMARY

In analyzing the data in this grammatical category it was encouraging to note evidence of growth and developing mastery in the performance of the Samoan children. Apart from the errors in V-ed<sub>2</sub> forms, which have already been noted as a possible area of normal language delay (3.4.2) their use of the constructions more closely matches that of the native-speaking children in the sample than it did in the Main Verb category, both in number of entries and in number and type of error.<sup>1</sup> The use of nominalization, for example, represented by Levels 4 and 8 seems to be well established, the Samoan children in fact producing more entries at these Levels (220) than the NG children (198), although the latter did produce more Level 8 items. Table 24 shows the number of entries and of errors at each Level for both groups. Levels 2 and 3 have been combined since they represent similar syntactic forms.

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Table 24: Number of entries and of errors at each developmental Level in the Secondary Verb category for NG and SG subjects.

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	<u>LEVELS 2&amp;3</u>		<u>LEVEL 4</u>		<u>LEVEL 5</u>		<u>LEVEL 7</u>		<u>LEVEL 8</u>	
	<u>NG</u>	<u>SG</u>	<u>NG</u>	<u>SG</u>	<u>NG</u>	<u>SG</u>	<u>NG</u>	<u>SG</u>	<u>NG</u>	<u>SG</u>
No. of Entries	193	137	136	190	201	186	9	2	62	30
No. of Errors	4	6	1	10	6	9	-	2	-	3

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<sup>1</sup> In the Secondary Verb and Negative categories the mean weighted developmental score for the top five SG subjects is actually higher than that of the top five NG subjects (Table 4).

### 3.6 Negative Category

In the DSS chart this category deals only with the negation of verbs; negative pronouns and modifiers appear in that category and negative adverbs, for example, never, nowhere are not scored but their appearance in any language sample is noted.

At Level 1 the constructions are:

it, this, that + is-cop. /- aux. + not

It's not mine; That is not moving

At Level 4 there are two negative forms:

can't, don't

And two more at Level 5:

isn't, won't

All other negative forms are scored at Level 7. They include:

#### A. Uncontracted negatives

I cannot go

#### B. Pronoun-auxiliary or pronoun-copula contraction

He's not going

He's not here

#### C. Auxiliary-negative or copula-negative contraction

He wasn't going

They aren't mine

The use of verb negation seemed to be well established in both groups of subjects, with no instance of "primitive" negation such as

he not go, I no sit

which might indicate language delay. Children in the NG produced 243 entries, and SG children 191 entries in this category. Since a negated verb is scored both in the Main Verb and in the Negative category, the figures show

that negation was used with 7.3 per cent and 6.82 per cent of Main Verbs by NG and SG children respectively. Frequency of Level 7 items is also similar in both groups: 49.38% of total entries for NG subjects, and 40.31% for SG subjects. Only three errors appeared in each group, the SG examples being of the double negative type, and the NG varied. With one exception (SG5) all the instances occurred among subjects below the 25th rank on the DSS scale:

SG5: it hasn't got no colours

SG26: no one didn't get

SG33: she didn't do nothing

In accordance with directions for the scoring of double negatives, only the second of these three examples appears as an attempt mark in the Negative category, the others, no and nothing appearing as attempt marks in the Indefinite Pronoun/Noun modifier category at Level 7: any, anything.

The first NG example omitted the negative, which was required by the context, and failed to cope with the compound conjunction:

NG29 no they're all so just nice like that one

(= they're not all as nice as that one

or, none of them is/are as nice as that one).

The second example was considered as acceptable in a conversational context, the second clause being a kind of afterthought,

NG31 he doesn't know I don't think

The third example received a score for the verb and its negation but the sentence point was withheld because the adverb required by the context was never:

I haven't seen that before

(I've never seen that)

It was again encouraging to note, as in the Secondary Verb category, that the quite complex processes of verb negation seemed to have been mastered by the Samoan children. When an auxiliary verb is used the negative morpheme not must come immediately after it,

he is not playing

and in more complex verb forms this means identifying the first auxiliary or modal and marking it for tense as well as negation,

he shouldn't have been eating.

In the absence of an auxiliary or modal, do must be inserted in order to realize the negative rule,

he works

he worked

he doesn't work

he didn't work

In the process, the marking for tense and number is transferred from the lexical verb to obligatory - do. As we have seen in Table 20, the only error made by a Samoan child in this negation process was the form doesn't be for isn't, which was at least correctly marked for number, tense and negation, as well as using the infinitive form be. Two of the native-speaking children, however, produced don't seed and he don't.

In the scored language samples from both groups it was also interesting to find five<sup>1</sup> examples of verb negation

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<sup>1</sup> One of the NG examples came from the 20 children in the New Plymouth group, so that instances are 2 in 60 subjects.

which were not covered by the DSS rules. These demonstrated adult-level competence in the handling of not as a pro-form, which, in effect, enabled the combining of two sentences with ellipsis of redundant items (shown in brackets)<sup>1</sup>:

- 1 NG It hit the boy and (it did) not (hit) the baby.
- 2 NG Dad's coming but not Mum/(is) not (coming).
- 3 SG She's going in a car (she's) not (going) in a bus.
- 4 SG Sometimes they're pretending but (they're)not (pretending) all the time.
- 5 SG There's one there but (there's)not (one) down that end.

In Developmental Sentence Analysis (154) Professor Lee notes the possibility that such examples may occur but thinks they will not occur with such frequency as to distort DSS scores. Since the upper age-limit of her normative sample was 6-11, it is possible that such constructions as those above are not produced with notable frequency before that age-level. Support for this idea is lent by the fact that the word-reversal which appears with the so/neither did he construction is not accounted for either in DSS. These and the not forms above are described in A Grammar of Contemporary English<sup>2</sup> as pro-forms for the predicate, so being the positive counterpart:

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<sup>1</sup> These constructions were scored as 7. (See APPENDIX I.3)

<sup>2</sup> Quirk et al. 1973, 9.80, page 582; 10.59, page 696

Mary wants a cup of coffee and so does Joan  
 Mary wants a cup of coffee but not Joan  
 or, Mary wants a cup of coffee but Joan does not.  
 In the present study such instances of subject-verb/  
 operator reversal are scored under Interrogative  
 Reversal (3.9). When these are taken into consideration  
 together with the negative pro-forms, it would seem  
 that such constructions represent a development in  
 syntactic maturity which may be characteristic of  
 children after the age of, say, 6-6. Crystal places  
 the mastery of so/neither did at his Stage VI<sup>1</sup>  
 (3-6 to 5 years  $\pm$  6 months), and mentions "the more  
 complex patterns of ellipsis and cross-reference"  
 as one of the formal syntactic patterns remaining to  
 be acquired "between 5 and puberty".<sup>2</sup>

#### SUMMARY

The mastery of Secondary Verb and Negative constructions by the Samoan children has been one of the most interesting findings from this study. It has already been noted that the top five subjects had a higher mean weighted developmental score in these categories than their NG counterparts, and this has been taken as an indication of a syntactic growth area (cf. the Conjunction category for NG subjects. (Table 4)).

Among SG subjects however, Level 7 entries begin to decrease after Rank 10 and show a steep decline after Rank 20. Frequency figures for entries in the Negative category by both groups are shown in Table 25.

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<sup>1</sup> The Grammatical Analysis of Language Disability  
 (1976), page 79.

<sup>2</sup> *ibid.*, page 81.

Table 25. Frequency of entries in the Negative category shown for NG and SG subjects at Levels 1,4,5, with Level 7 entries shown for groups of ten subjects according to DSS rank-order and as a percentage of total entries.

<u>LEVELS 1, 4, 5.</u>			<u>LEVEL 7</u>			
	<u>NG</u>	<u>SG</u>		<u>RANK</u>	<u>NG</u>	<u>SG</u>
No.of Entries	123	114	No.of Entries	1-10	40	36
			" " "	11-20	39	23
			" " "	21-30	21	11
			" " "	31-40	20	7
					<u>NG</u>	<u>SG</u>
Total entries in category					243	191
Level 7 entries as percentage of total entries:					49.38%	40.31%

### 3.7 Conjunction Category.

The importance of this category as an index of syntactic maturity at this age-level has been shown by its high ranking in Tables 2, 3 and 4 on the weighted developmental score measure representing "grammatical load" and discriminant function both inter- and intra- group.

In the DSS chart the distribution of items is uneven, in that Levels 3, 5 and 6 contain only eight conjunctions, the remainder being allocated to Level 8. In the original DSS there were some 21 conjunctions at this level, to which 29 have been added from the language samples obtained for the present study, and from the exhaustive listings in A Grammar of Contemporary English. (See APPENDIX I.3). Tables 26 and 27 show error-patterns and incidence at all levels for NG and SG subjects respectively. For ease of reference, the lexical items are included.

The analysis produced some unexpected results. First, there was confirmation of the impression gained while recording the samples that children in both groups were having some difficulty in handling the Level 5 conjunctions (but, so, and so, so that, or, if). Second, there was an atypical frequency pattern for Level 8 entries among the Samoan children. Third, there was a striking similarity between the groups in error-type, incidence, and percentage at all levels.

The apparent difficulty with Level 5 conjunctions was unexpected in view of the age-level of the native-speaking children in the sample (6-10 to 8 years).

Although there were only 9 examples of incorrect usage in the scored samples, they represent a relatively high error-percentage (for this group) of 3.73%. In describing the developmental sequence for conjunctions Professor Lee comments that the appearance of so, so that, if and or will vary among individual children depending on their developing the concepts of purpose, conditionality and alternative choices symbolized by these conjunctions.<sup>1</sup>

She goes on to say:

"Although some sentences produced by these conjunctions would be called compound and others complex by traditional grammar, they all take the sentence + conjunction + sentence form, which is probably the simplest syntactic use of conjunction". If we accept the criterion of simplicity of syntactic use as a basis for allocating these conjunctions to Level 5, it would seem that the difficulties were conceptual rather than grammatical in source.

There are, however, some strong counter-indications. First, there is little apparent difficulty in either group in expressing the concept of purpose through the use of the infinitive (Table 24, Levels 2 and 3). Second, there are only two instances of error in the use of or, symbolizing "alternative choices." Both occur in the NG sample, and one is an instance of omission in a conjunction-sequence (so instead of or so). Third, Professor Lee has commented (156)

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<sup>1</sup> Developmental Sentence Analysis (1974) page 45.

that if, symbolizing "conditionality", probably deserves a higher classification. Finally, the sentence + conjunction + sentence form also appears with all Level 8 conjunctions, apart from the correlative forms (as + ADJ. + as, etc.) so that syntactic simplicity alone does not differentiate between, say, if and when.

One notes, however, that 7 of the 14 Level 5 errors in both groups occurred in contexts which required:

a compound conjunction (so that)

a correlative " ( so scared that)

a conjunction sequence (but because; or so)

or a sequence of preposition + conjunction (about whether)

A similar pattern appears, again for both groups, at Level 8 where, of the combined total of 34 errors, 30 occurred in such contexts. (Tables 26, 27).

It would seem, therefore, that the difficulty arises from the need to manipulate conjunctions in combination and/or in sequence, that the difficulty is common to both groups of subjects, and that it probably represents an area of normal language delay at this age-level. (See also Complex Prepositions, 4.3.2). For this reason a re-weighting is proposed in which the multi-functional, and therefore less precise, use of so is allocated to Level 5, and its compound and correlative forms so/such that, so...that, and so/therefore, to Level 8. In the present study, however, the DSS weightings were used (APPENDIX I.2).

It is also proposed to re-weight if-Conditional at Level 7 since its use generally requires a different verb or modal from that in the main clause, unlike so and because (Level 6):

if he is) tired he'll) go to bed  
was) 'd)

cf. he was tired so he went to bed

he went to bed because he was tired.

In addition, we have noted difficulties in both groups with the expression of conditionality in relation to past actions (3.4.3), and among the SG subjects with tense-sequence in if-clauses (Table 21). The evidence therefore confirms Professor Lee's idea that if was probably misplaced at Level 5, and it is also interesting to note that although one or two very young children in her study used it, "It occurred rarely in the data" (Lee 1974; 156).

Also unexpected was the slightly higher number of Level 8 than of Level 5 entries among the SG subjects (188 Level 8; 173 Level 5). There were, of course, some fifty conjunctions at that Level, compared with only six at Level 5, but since the repertoire was generally limited to the same few conjunctions among both groups of subjects (when, where, like, for example) that variable is not seen as significant, although it is interesting to note that the NG subjects show the usual pattern of a greater number of entries at the lower developmental Level (228 Level 8; 241 Level 5).

(See APPENDIX I.3 for proposed re-weightings in the Conjunction category)

Table 26. Type and frequency of error in the Conjunction category at each developmental Level for NG subjects.

INCORRECT FORM OR CHOICE	No.	OMISSION OF CONJUNCTION/ COMPONENT	No.	REDUNDANCY OF CONJUNCTION/ COMPONENT	No.	Total
<u>LEVEL 3</u>						
and/but	1	and (IN LISTING)	2	-	0	
	1	and (IN CO-ORD.CL)	2		0	5
<u>LEVEL 5</u>						
only/but	1	so (she's scared she got)	1			
so/and	1					
for/so that	1	or ( so I pretended)	1	-		
or/because	1					
if/that	1	but ( because)	1			
if/about whether	1					
	6		3		0	9
<u>LEVEL 6</u>						
because/and	1	because	1	-	0	
	1		1		0	2
<u>LEVEL 8</u>						
that (VERB OMITTED)	1	when (it starts off	2	where + there	1	
when/and so	1	they're digging)		like (nice as like		
that/because	1	if (as if)	1	that)	2	
(because he's winning		as (as if)	1	like (or so it looks		
or that)		as (as nice as)	1	like)	1	
bright as colours as/	1			that (looks like)	3	
colours				that he; as though		
are not as bright as				that he)		
so nice like that/not	1			that + DIRECT SPEECH 1		
so (as)				(she said that "You'll)		
nice as that						
	5		5		8	18
<u>NG</u>						
Total entries in category		1490				
Total errors " "		34				
Errors as percentage of total entries		2.28%				

Table 27. Type and frequency of error in the Conjunction category at each developmental Level for SG subjects.

INCORRECT FORM OR CHOICE	No.	OMISSION OF CONJUNCTION/ COMPONENT	No.	REDUNDANCY OF CONJUNCTION/ COMPONENT	No.	Total
<u>LEVEL 3</u>						
-	0	and (IN LISTING)	4	-	0	
	0		4		0	4
<u>LEVEL 5</u>						
for/so that	1	-	0	<u>because</u> so that	1	
and/and so	1					
if/because	1					
if/maybe	1					
	4		0		1	5
<u>LEVEL 6</u>						
that's why/because	1	-	0	(fighting) <u>over</u> because	1	
	1		0		1	2
<u>LEVEL 8</u>						
when/then	1	that (except <u>that</u> )	1	where + into	1	
so as he/so as to	1	as (as fast as)	2	when + <u>and</u> then	2	
or: so that he		how ( <u>how</u> to get)	2	while + and	1	
				that, as (it looks like <u>that</u> , <u>as</u> he...)	2	
				a way <u>how</u> to	1	
				<u>as</u> bigger than	1	
	2		5		8	15

SG

Total entries in category                    1245

Total errors                                    26

Errors as percentage of total entries    2.09%

Also atypical are the SG intra-group frequency patterns at Levels 5 and 8. When shown for groups of ten subjects in DSS rank-order, the usual steep decline is more apparent at Level 5 and begins after Rank 10, whereas the frequencies are more evenly distributed at Level 8 and the range less extreme (Table 29).

The similarity in error-type and incidence at all levels is shown in Tables 26 and 27, and the error-percentage in Table 30.

#### SUMMARY

There was little difference between the performance of both groups of subjects in this important area of language development.

Where difficulties appeared they were generally related either to conditionality at Level 5, or to the handling of compound, correlative or other conjunctive combinations at Levels 5 and 8. Both syntactic features seem to represent areas of normal language delay at this age-level.

Table 28. Frequency of entries at Levels 5, 8 and at 3 and 6 combined and their expression as percentage of total entries in the Conjunction category for NG and SG subjects.

	LEVEL 5		LEVEL 8		LEVELS 3 & 6	
	NG	SG	NG	SG	NG	SG
No. of entries	241	173	228	188	1021	884
Percentage of total entries	16.17	13.9	15.3	15.1	68.52	71.0

NOTE: Level 3 is represented by and; Level 6 by because.

Table 29. Frequency of entries at Levels 5 and 8 in the Conjunction category shown for NG and SG subjects in groups of ten according to DSS rank-order.

RANK	LEVEL 5		LEVEL 8	
	NG	SG	NG	SG
1-10	90	99	93	84
11-20	65	48	72	59
21-30	52	22	32	33
31-40	34	4	31	12

Table 30. Number of errors expressed as a percentage of entries at Levels 5 and 8, and at 3 and 6 combined for NG and SG subjects.

	LEVEL 5		LEVEL 8		LEVELS 3&6	
	NG	SG	NG	SG	NG	SG
	%	%	%	%	%	%
No. of errors as percentage of entries	3.73	2.89	7.89	8.51	0.69	0.9

### 3.9 Interrogative Reversal and Wh-Question Categories

These categories have the lowest rankings on the three measures of weighted developmental score, frequency, and discriminant function (Tables 2,6,7). Their high inter-category correlation has also been noted (2.2), and it is therefore more economical to combine them for the purposes of this discussion.

A study of the developmental scores and number of entries shows that the performance of subjects was similar in both groups. The samples, however, are limited and can only suggest that the ability to handle question-forms is well established at this age-level. One notes, for example, that low-ranking SG subjects produced items at the higher developmental Levels:

SG 33     Did she die?

SG 38     Do you mean the other one?

Even SG 40, with an extremely limited command of sentence-structure (DSS 4.11), produced three wh-questions at Level 2.

Table 31 shows the mean weighted developmental scores per subject and per entry in each of the two grammatical categories. It is interesting to note that the 17 SG subjects produced a higher mean WDS than the 21 NG subjects in the Interrogative Reversal category. In fact, the highest scores in both groups were produced by SG 20 (52) and SG 26 (49), the next highest being NG 4 (40). These scores are surprising in view of the decline noted in the other grammatical categories after SG Rank 10. They also indicate that the Samoan children had mastered the rules for reversal of be-cop., be-aux., obligatory - do, and have-aux. although still having difficulties with be- and have-forms in the Main Verb category. (See Chapter 5)

Table 31. Mean weighted developmental score per subject and per entry in the Interrogative Reversal and Wh-Question categories\* for NG and SG subjects.

	WDS	N	$\bar{x}$ WDS	NO. OF ENTRIES	$\bar{x}$ WDS PER ENTRY	
NG	246	21	11.71	50	4.92)	INTERROGATIVE )
SG	232	17	13.65	51	4.55)	
NG	126	19	6.63	41	3.07)	) Wh-QUESTION
SG	108	17	6.35	32	3.37)	

\* See APPENDIX I.2 for items and developmental Levels.

Also scored under Interrogative Reversal are the subject-verb/operator reversals following the pro-forms so and neither, of which there were two instances in each group:

NG: and so is she, neither did he

SG: and so do I, neither do they

The only error by NG children was made in the Interrogative Reversal category, and involved an incorrect tense sequence in a tag question:

NG12: That little boy's the one that's hit the ball, wasn't he?

In the same category there were two errors by SG children, both involving omission:

SG9: Which way you start? (-do)

SG32: You doing something? (-are)

There were three errors by SG children in the use of Wh-Questions, two being instances of the same error, and one an example of incorrect choice of pronoun to accord with gender:

SG8: Why did you do it for?

SG11: Why did you do that for?

SG20: Who is~? (What is~?)

It is worth noting that although SG 8 and 11 have evidently confused the constructions why...? and what.... for? they demonstrate mastery of the use of do as operator (OBLIGATORY - do) in conjunction with do as a lexical verb, such that the operator is marked for tense and precedes the subject you, and the lexical form is not inflected. Yet, an examination of the performance of the same two subjects in the Main Verb category shows that SG 8 made 8 errors, of which 7 were at Levels 1 and 2, and SG 11 made 10 errors, of which 9 were at these levels. (See Conclusion)

### 3.10 Conclusions from DSS Analyses

Analysis of the eight categories used in Developmental Sentence Analysis has shown:

- (i) specific areas of language delay among the Samoan subjects in the study, notably in the early-developing verb forms at Levels 1 and 2;
- (ii) specific areas where the native-speaking children were also uncertain, and therefore such areas were described as indicating normal language delay for the age-level (and in the language situation used). The most significant (in developmental terms) were: irregular past tense and past participle forms; Complex Conjunctions at Level 8; appropriate choice of Modal, especially in expressing conditionality;
- (iii) that the performance of SG subjects falling above the 50th percentile for that group is comparable to that of the native-speaking children as measured by frequency and correctness of entries at the higher developmental Levels, notably in the Secondary Verb, Negative, Interrogative Reversal and Wh-Question categories.

It might be thought that since so many of the Samoan children were capable of achieving such standards after only two years of schooling, and without systematic, specialized ESL teaching, they should be able to continue in this manner without seriously falling behind their native-speaking age-mates. This may indeed be true for some, but for the majority the language delay demonstrated in this study is likely to increase because, among other reasons, their

ability to comprehend and to produce high-level structures obscures the quite serious developmental lag at the lower levels and they appear to be 'coping', 'picking it up' etc. with occasional lapses, so that the need for specific help is not seen as urgent.

CHAPTER 4. Detailed Analysis of Performance  
in Areas not Covered by DSS Categories

Snyopsis: Following an analysis of the DSS Sentence Point scores, those errors which were not accounted for in the DSS categories are classified and examined at the appropriate linguistic levels; areas of common difficulty are noted as well as those specific to one or other of the groups of subjects.

#### 4.1 Sentence Point Scores and the OTHER Categories

In this section we shall first examine the sentence-point scores for both groups, and then the additional categories which were needed in order to classify the errors in usage not accounted for in the DSS grammatical categories.

The sentence-point score in itself is no more than a very general indicator of acceptability of usage. For example, an utterance may contain more than one serious error but if these fall outside the eight DSS categories the only "penalty" is the loss of one sentence point. Nevertheless there are some interesting points to note about the distribution of the scores in both groups (Tables 32, 33). First, there is the atypical increase in the mean score for groups of ten subjects in descending rank order in both NG and SG (if we exclude SG 36-40<sup>1</sup>). In fact, the highest mean scores in each group appear in NG 31-35 (42.8) and in SG 16-20 (34.6), with SG 31-35 almost equal (34.4). Looking at individual scores we find the highest and lowest appearing at the following rank positions: (Maximum possible score : 50).

##### SENTENCE POINT INDIVIDUAL SCORES

NG 8	:	47	SG 29	:	42 )	) HIGHEST
NG 39	:	46	SG 36	:	41 )	
NG 29	:	34	SG 9	:	15 )	) LOWEST
NG 2	:	33	SG 13	:	14 )	

---

<sup>1</sup> This group contains two subjects (SG 39 and 40) already noted as having spent less time in a New Zealand school/ environment (2.1). In addition, SG40 produced only 18 scorable utterances for which she received 5 sentence points.

On the Sentence Point measure, there is also a negative discrimination between the top and bottom five NG subjects, and between the top five SG subjects and those ranked 31-35.

Table 32: Total number of Sentence Points received for 50 scored utterances by every five subjects, mean scores for every ten subjects and group means.

RANK	<u>SENTENCE POINT SCORES</u>		<u>MEAN S.P. SCORES</u>		<u>GROUP MEANS FOR S.P. SCORES</u>	
	NG	SG	NG	SG	NG	SG
1-5	192	165				
6-10	204	147				
			39.6	31.2		
11-15	197	146				
16-20	205	173				
			40.2	31.9		
21-25	195	169				
26-30	210	163				
			40.5	33.2		
31-35	214	172				
36-40	209	109				
			42.3	28.1		
					40.65	31.1

Table 33. Intra-group discriminant function of Sentence Point scores. Number of correct sentences expressed as a percentage of total sentences scored for NG and SG subjects.

	<u>MEAN S.P. SCORE</u>		( <u>SG EXCLUDING 36-40</u>
	NG	SG	
Rank 1-5	38.4	33.0	( Rank 1-5 33.0
Rank 36-40	<u>41.8</u>	<u>21.8</u>	( Rank 31-35 <u>34.4</u>
	-3.4	11.2	( -1.4

	<u>NG</u>	<u>SG</u>
TOTAL SCORED UTTERANCES	1988	1929
TOTAL SENTENCE POINTS	1626	1244
PERCENTAGE OF CORRECT SENTENCES	81.79%	64.49%

This pattern suggests:

- (a) that for children at this age-level the ability to handle structures at the higher developmental levels (as evidenced by their DSS scores) may not be matched by their ability to satisfy other requirements for correct usage (as evidenced by low Sentence Point scores) ;

and as a corollary,

- (b) that a relatively high incidence of errors and/or mistakes in areas not covered by the DSS categories may be characteristic of high output ("fluency"). It has already been noted (2.3.) that those children who spoke less freely than others also used structures at the lower developmental levels.

It will be necessary, therefore, to examine the frequency and type of error which resulted in the withholding of Sentence Points. At this age-level, and in the context of second-language learning, it was apparent that additional information to that provided by the DSS categories was required in the interests of planning remedial language programmes. It was also apparent that performance measured only by DSS could give the false impression that Samoan children with overall scores at or above the group mean were showing an adequate command of syntactic structure.

Classification of all errors falling outside the eight DSS categories resulted in a further eight categories. The number of errors made by both groups of subjects are shown under these headings in Table 34.

The fact that the number of errors by Samoan children in the OTHER categories was almost equal to that in the DSS categories confirms the need to expand the classification of data for non-English speaking children at this age-level. (See discussion of LASS in 1.2).

Such classification, however, must serve the primary purposes of this study, which are to describe the oral language performance of the normally developing, native-speaking children and to identify areas of language delay among the Samoan children in the sample. As Professor Lee comments:

"... a grammatical analysis must be kept within manageable bounds if it is to be clinically useful. A clinician cannot spend so much time in studying a child's grammatical structure that he neglects the important task of remedial teaching."<sup>1</sup>

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<sup>1</sup> Lee & Koenigsknecht (1974) p. 136.

Table 34. Number of errors by NG and SG subjects in categories not covered by DSS, together with rank-order of categories in descending frequency.

	NO. OF ERRORS		RANK ORDER	
	<u>NG</u>	<u>SG</u>	<u>NG</u>	<u>SG</u>
1. ARTICLES ( <u>a(n)</u> , <u>the</u> )	16	50	5	3
2. NOUN INFLECTIONS	17	34	4	6
3 (a) PREPOSITIONS	31)	82)	2	2
(b) ADVERBS	7)	27)		
4. VOCABULARY	53	148	1	1
5. WORD/PHRASE ORDER	14	11	6	7
6. REDUNDANT SUBJECT	19	48	3	4
7. AMBIGUITY/OBSCURITY	1	7	8	8
8. PRONUNCIATION	7	42	7	5
Total of "other" errors		<u>165</u>		<u>452</u>
Total scored utterances		1988		1929
Percentage of "other" errors		8.3%		23.43%

Table 35. Group means for errors in DSS and OTHER categories over 50 scored utterances.

	<u>NG (N = 40)</u>	<u>SG (N = 40)</u>
	<u><math>\bar{x}</math></u>	<u><math>\bar{x}</math></u>
DSS ERRORS (8 categories)	5.45	11.42
OTHER " (" " )	4.12	11.30

Therefore the discussion which follows will concentrate on those OTHER categories which contained the highest error-incidence, and attempt to identify significant patterns in either or both of the groups. Since developmental weightings cannot be assigned on the basis of data from one age-level, the criteria used will be frequency of occurrence and error-type.

On a frequency measure the rank order of categories was similar for both groups of subjects in the first four placings, intra-group differences being hardly significant between ranks 3 and 4 for both groups, and between 3 and 6 for the NG. A collapsed version of Table 34 makes clearer the areas of similarity and of significant difference between the groups:

RANK ORDER (ERROR FREQUENCY)

	NG	SG
VOCABULARY	1	1
PREPOSITIONS & ADVERBS	2	2
ARTICLES	3=	3=
REDUNDANT SUBJECT	3=	3=
NOUN INFLECTIONS	3=	6
WORD/PHRASE ORDER	3=	7
PRONUNCIATION	7	3=
AMBIGUITY/OBSCURITY	8	8

Although NG subjects made far fewer errors than SG subjects, it is interesting to note that incidence was significantly higher for both groups in the VOCABULARY and PREPOSITIONS & ADVERBS categories. The most significant difference between the groups (apart from error-frequency) is the higher rank-order of PRONUNCIATION for SG children. Criteria for the judging of errors will be discussed under the separate headings which

follow. (It was considered that the high incidence of error warranted some discussion of VOCABULARY and PRONUNCIATION although these do not belong to the syntactic level of description.)

#### 4.2 Vocabulary

Lexical items noted in this category were nouns, verbs and adjectives. They were first classified under the headings of

(i) INCORRECT CHOICE

e.g. riding for driving  
cave for cage, etc.

(ii) LACK OF VOCABULARY ITEM

No distinction was made here between possible memory lapses and possible lack of knowledge when a child was unable to produce the required word. The difference was often made explicit in such utterances as:

- . then they got the ah...the ah.....ahm-- I've forgotten...
- . then they got the ah...the ah - what's that thing?

Lack of knowledge was more clearly identifiable when, for example, a definition was used instead of a single noun:

- . the man who tells you the things you do (foreman)
- . a building for work (factory, office)
- . a thing they put the building on (foundations)

(iii) VIOLATION OF SELECTIONAL RULES

Some examples common to both groups occurred in the context already noted under PERSONAL PRONOUNS (3.3':

she's his brother, etc.

The incidence of error under this heading was not high (4 in the NG; 14 in the SG), and it was possible to re-classify errors, other than the type exemplified above, under specific semantic fields to be discussed below.

When this preliminary sort had been made, it became clear that a more illuminating and economical model would be required in order to identify significant areas of similarity and difference between the two groups of subjects. Items were therefore reclassified under their grammatical headings of NOUN, VERB, and ADJECTIVE, together with the number of instances. Items common to both groups were then extracted, a process which exhausted the NG list apart from some three or four examples. (These, and the remaining SG examples are discussed below). It now became apparent that some of the errors were at the semantic level, but others seemed to be associated with conceptual and/or logical processes and appeared in relation to specific stimulus materials. Errors common to both groups which could be broadly described as purely semantic in origin appeared mainly in the NOUN category and in relation to describing vehicles and building operations. For example, kinds of vehicle were incorrectly differentiated:

truck ) for (covered) wagon  
 )  
chariot )  
 )  
cart )  
engine for truck, fire-engine (SG examples)  
milk-caravan for milk-truck (NG example)

or there were difficulties due to retrieval or to lack of knowledge of the names of vehicle parts, for example, boot, bonnet, windscreen, tyre, door-handle.

There were similar difficulties with the terminology of building operations,

foundations, framing (scaffolding), crane as well as with the description/differentiation of the various operations (noted under VERBS). Perhaps the most interesting usage common to both groups appeared when children were describing the "Western" scene (APPENDIX I.1, Picture-card D). The arrows were commonly described as bow(s)'n'arrows or referred to as thing(ie)s. They were also described as being thrown instead of fired or shot. In the VERB category there were three areas where children in both groups apparently had difficulty in differentiating between two or more semantically related verbs, either making an unsuitable choice or substituting one verb for another.

The first area involved the set of crash, smash, wreck burst. Among the stimulus materials there were pictures of a broken, or smashed, window; some smashed, or wrecked, cars; a burst balloon, or piece of bubblegum. Errors occurred, for example, in describing the balloon/bubblegum as smashed or as starting to burst (a violation of a selectional rule); the cars and the window had got crashed or were crashed. Among the NG children there were instances of crashed up instead of smashed up. (Such apparent confusion between similar verb forms also occurred with taking up for putting up (a building) and belting up for beating up or the more colloquial belting (someone) ) The second area involved the substitution of go for get or for a more precise verb, and occurred in such examples as:

getting off, getting no (losing)

when they go out (get out)

the door has gone off (fallen off)

made [the hat] go off (fly off)

going lower (getting smaller)

goes old (gets old, withers. Reference is to a tree)

It has already been noted in the discussion of errors in the Secondary Verb category (3.5) that these two verbs were apparently the source of some confusion for both groups of children in the sample. This is understandable in view of their polysemic, multifunctional nature, as well as their frequent occurrence in collocation, for example,

he's going to (go and) get it

it's going to get smashed.

The third area involved the use of such general-purpose verbs as put, make, take, where the context required a finer discrimination, or where the choice was unsuitable:

he's putting the ball/arrow (batting, hitting/shooting)

they're making it (building/mending)

taking it up (building/lifting (by crane))

Finally, in the ADJECTIVE category the only instances of error were similar for both groups and involved the use of same/similar and thin/narrow. Children in both groups did not seem to have the word similar in their active vocabulary, resorting to such phrases as:

a bit, quite, a little the same.

Some of the SG children were also uncertain about the use of same. Two instances from the scored utterances, show an apparent confusion between (the) one and (the) same:<sup>1</sup>

<sup>1</sup> There were other instances in the SG sample showing confusion of one with won, for example, you are one (have won).

the just one house (same)

all made it the same one ((all) one piece)

as does an NG instance from outside the scored utterances:

they might be one of a family ((the) one/same family)

This concludes the discussion of discrete NOUNS, VERBS and ADJECTIVES in which deficiencies were common to both groups of subjects and appeared to be mainly linguistic in source, that is, lack of, or failure to retrieve a specific lexical word, or failure to discriminate among semantically related words. Since the present study is mainly concerned with performance at the syntactic level, data at the semantic and phonological levels have not been subjected to rigorous statistical analysis and are seen as providing a fuller picture of general language development. For example, although the NOUN-vocabulary was largely dependent upon the stimulus materials and therefore comparatively limited, it was interesting to note that the native-speaking children had gaps, or at least retrieval difficulties, in their vocabulary of names for everyday objects - contexts where one tends to assume that such difficulties are confined to non-native speakers. The VERB-vocabulary has a more general application and the study of usage was productive in that it confirmed a previous finding (go/get usage) and identified a specific verb-complex as a potential source of discriminative and syntactic failure (crash, smash, etc.). In addition, it is suggested that the over-use of such general-purpose verbs as put, make, may be producing two effects: defacing of their individual semantic "stamp" to the extent that they seem inter-changeable; and hindering the development of more finely differentiated terms. It is recognized that these verbs are more likely to occur in the setting of informal conversation and where the visual cue

is present to amplify the reference, but it is possible that children (native - and non-native-speaking) whose main exposure is to spoken English in informal settings do not, in fact, have a wider vocabulary at their command.

At this point it will be more economical to consider the three situations and stimuli which produced clear evidence of difficulty for both groups of subjects, and in which the difficulty was associated with factors other than knowledge or retrieval of discrete vocabulary items.

The first of these situations concerns the semantic-conceptual field abstractly labelled "calendar" the stimulus being the picture-card sequence E (APPENDIX I.1 ). Although the evidence is limited to 25 of the NG subjects there is a strong indication that many native-speaking children at this age-level are uncertain about the following:

- (i) the sequence of seasons ;
- (ii) the relationship between the seasons and the calendar year ;
- (iii) the number of months in a year, and their names in correct sequence ;
- (iv) the number of weeks in a month ;
- (v) their own birthdate or, when it is known, the number of months between it and the current month.

Of the 25 NG subjects with whom the picture-card sequence was used, 21 either made factually incorrect statements about one or more of the above calendar concepts or were unable to answer a direct question about them. The four subjects who gave correct answers did so to (i) and (ii) only. The investigator wanted to avoid turning the session into a situation suggesting that factual answers were required to direct questions, and these were asked only when the children seemed unsure about (i) and (ii).

It was also interesting to note that some of the NG children were unsure about the season existing at the time of the interview (April). Not surprisingly, the SG children revealed similar uncertainties and/or lack of knowledge. Of the 25 children commenting on the card sequence only 2 gave correct answers and one of these was uncertain about the number of weeks in a month.

It seemed, from the evidence available, that when the children knew the names of seasons, months and days they were unable to relate them to duration and/or to sequential occurrence. For example, having correctly named the seasons (using the tree as evidence) children then said that it took "four days" or "four years" to complete the building. Similarly, they recited the names of the months or the days in the week in the wrong order; Samoan children in particular did not readily produce the number of days in a week even when they could recite their names.

The second situation also concerned card-sequence E in that there was apparent difficulty in interpreting the visual cues. The first card in the sequence shows the leaves as a solid mass and, as already noted in 3.2, this apparently led to the use of singular pronouns and mass-noun markers, and caused a few children in both groups to identify the mass as snow, thus confusing them about the sequence of seasons. More serious, however, was the apparent difficulty in producing such appropriate verbs as losing, has lost/falling, have fallen. Instead, children in both groups used such verbs as getting, going (off) to describe the process, for example,

it's not getting much leaves on  
the leaves are getting (going) off

It may be that the conceptual deficiency noted in the previous paragraph combined with the morphological difficulties of CLASS 6 fall and CLASS 2 lose to produce syntactic "overload."

The hypothesis of overload resulting in some form of syntactic breakdown is supported by evidence from the third situation. The stimulus here was the third picture in Looking and Talking 1 (APPENDIX I.1 ) in which the boy's head is stuck between the railings. The children were asked to suggest reasons for his being unable to get his head out when he was obviously able to get it in.<sup>1</sup> In general, it seemed that brief answers were more likely to be both syntactically correct and factually accurate:

NG 25 his ears are in the way

SG 27 because it's really tight

Only three of the NG and one of the SG replies fell into this category, the remainder (16 NG and 13 SG) being either inadequate as explanations.

NG 29 I dunno

NG 30 he forgot how to get it out

or showing difficulty at the syntactic or semantic level when children embarked on a more lengthy explanation. The error/deficiency patterns were similar in both groups of subjects and may be summarized as follows:

---

<sup>1</sup> The investigator was careful to phrase the question to suggest that the answer was unknown or uncertain, for example, by saying, "I don't know why..." or, "I wonder why..." A few children were asked, "What would you do if..."

- (i) push for pull :  
 .....  
when they try and push out
- (ii) result for intention :  
 .....  
when they go out (want to get out)
- (iii) use of general-purpose verbs instead of more precise descriptions of the action; use of go for get (as in (i) above);  
put (turn, push)  
took up (lifted)
- (iv) violation of selectional rules in choosing adjectives to describe width :  
skinny for narrow (space between bars)  
fat for wide (head, face)
- (v) other violations of selectional rules :  
your ears are slack  
he stretched the bars

The stimulus material also revealed an apparent lack of the preposition between in the children's active vocabulary. It was used by only one subject (SG6); others used the less precise in, sometimes followed by a singular noun:

he's stuck in the bar(s)

As noted in the discussion of errors in the use of Indefinite and Personal Pronouns (3.2, 3.3) there were several instances of singular pronominalization (it) when referring to the bars and of use of they as an equivalent for he or she followed by a singular noun,

they get their head stuck.

Although the evidence is too limited to be conclusive it does accord with some previously noted error-patterns in that syntactic/semantic breakdown has occurred at similar fault-lines, for example, the expression of hypotheses, and

the selection of general-purpose verbs when the situation represents an extra demand such as the explanation of a logical process or sequence. Furthermore, the breakdown seems to be a result of language rather than of cognitive deficiency since all of the responding children showed an awareness of the possible factors operating, for example, the difference between the forces involved in the action of pushing as against pulling; the difference in width between the front and the back of one's head; the position of the head or ears, etc.

The remaining instances of VOCABULARY errors and deficiencies occur mainly in the SG samples and in the VERB and NOUN categories. Before summarizing the syntactic areas and semantic fields which seemed to cause difficulties for the Samoan children, it is worth noting that an examination of the full transcripts for both groups revealed further examples of apparent confusion between verbs describing reciprocal action (as in push/pull, throw for hit and hit for throw; ask/tell).

In her 1969 study<sup>1</sup> Carol Chomsky included the ask/tell pairing in testing the hypothesis that late acquisition of certain structures was a result of their complexity and that in the case of ask/tell the complexity was due to a conflict between two of the possible syntactic structures associated with ask (i.e. ask meaning request and ask meaning question). Using a transformational approach Chomsky identified the problem as a failure to recognize the deep-structure subject:

John asked Bill to leave (Bill is to leave)

John asked Bill what to do (John is to do)

---

<sup>1</sup> Chomsky, C. The Acquisition of Syntax in Children  
from 5 to 10



- . to win  
 apparent confusion between won and one  
you are, I am one, etc. (you, I have won)
- . ride, drive  
 verbs interchanged or substituted for others and,  
 in one instance, combined:  
the horse is driving, driding (trotting, pulling the  
 wagon)  
he's riding (the horse (driving a wagon)  
 (the car (driving)

In the NOUN category the most frequent instances of deficiency occurred in attempts to describe:

- . articles of clothing:  
cloak, hood; blouse instead of shirt  
hat instead of cap (policeman's uniform) etc.
- . police and firemen  
police-cop, police-office (officer)  
firebrigade man, the firebrigade (fireman)  
 (Other difficulties occurred with inflection of  
 these nouns and use of a for the).

#### SUMMARY

The most frequently occurring patterns of error and deficiency were those common to both groups and consisted of:

- A . apparent failure to relate CALENDAR names to  
 CALENDAR time or sequence;
- B . apparent failure to discriminate
  - (i) between semantically related verbs in the group  
crash, smash, burst, break, etc.
  - (ii) between general-purpose and more precisely descriptive  
 verbs (make for build, etc.) or among general-purpose  
 verbs themselves (put for got; come, get for put, etc.)

- (iii) between go and get (it goes old, smaller, etc.)
- (iv) between pairs of reciprocal action verbs  
(push for pull, etc.)
- (v) between adjectives describing width in relation  
to the space between two points as distinct  
from those commonly used in describing human size:  
thin, skinny for narrow  
fat for wide

The deficiencies in Group A (CALENDAR) concepts are unexpected in native-speaking children at this age-level. The finding perhaps warrants wider investigation than was possible in this study. The Group B findings ((i) to (iv)) are subject to the reservation that incidence may be related to the informality of the situation. It is also possible that some children may not have more finely discriminative verbs in their active vocabulary, that is, readily produced in more formal language situations, either spoken or written.

#### 4.3 Prepositions and Adverbs: Definitions and Classification Procedures.

Usage in these two areas produced the second-highest incidence of error in both groups (NG 38; SG 109). Together with VOCABULARY they account for over half the total errors in the OTHER category:

	<u>TOTAL "OTHER"</u>	<u>ERRORS AS PERCENTAGE OF TOTAL:</u>		
	<u>ERRORS</u>	<u>VOCABULARY</u>	<u>PREPS. &amp; ADVBS.</u>	<u>COMBINED TOTAL</u>
NG	165	32.12	23.03	55.15%
SG	452	32.74	24.11	56.85%

The error-count includes only INCORRECT CHOICE, OMISSION and REDUNDANCY; instances involving WORD-ORDER are discussed separately.

Since some prepositions and adverbs are realized by the same lexical items, as well as being combined to form complex prepositions and multi-word verbs it will be more convenient to include them under the one heading. The arrangement has the further advantage of disposing of, or at least reducing some of the problems attendant upon classification of items under the appropriate grammatical categories - problems by no means confined to non-grammarians. Quirk et al. 1973, for example, comment on the adverb:

"Because of its great heterogeneity, the adverb class is the least satisfactory of the traditional parts of speech. As a consequence, some grammarians have removed certain types of items from the class entirely and established several additional classes rather than retain these as subsets within a single adverb class."<sup>1</sup>

<sup>1</sup> A Grammar of Contemporary English, page 267.

In the language samples under discussion the children's use of prepositions and adverbs was confined to a fairly limited repertoire, the only classification problem being that of deciding whether to include such examples as watching at and looking him under VERB (INCORRECT FORM) or under PREPOSITIONS & ADVERBS (REDUNDANCY/OMISSION) in the OTHER categories;<sup>1</sup> or whether the use of because instead of because of should be noted under the DSS CONJUNCTION category (OMISSION OF COMPONENT) or under PREPOSITIONS (OMISSION OF COMPONENT IN COMPLEX PREPOSITION). Decisions were based on the definitions and general principles given in the 1973 edition of GCE. Those relevant to the present study are set out below, with the GCE sections and page numbers in brackets. The general error-patterns are then described in relation to each syntactic area.

#### 4.3.1 Simple Prepositions (i.e. consisting of one word)

A comprehensive list is given in GCE (6.4; 301).

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<sup>1</sup> Such errors are not covered in the DSS MAIN VERB category, being recognized only by the withholding of the Sentence Point. (Lee, 1974, page 137)

Included among SIMPLE PREPOSITIONS is out, which is described as American English (AmE):

he climbed out the window  
 the British English (BrE) form out of, (through, etc.) being classified as a COMPLEX PREPOSITION. In the present study there were four instances in each group of the AmE form, and it was decided to count them as errors even though the usage is common in adult conversation. The decision was influenced by the occurrence of such utterances as:

he took the tyre out the boot (SG.1 instance)

he hit the ball in the window (SG.6 instances;  
 NG 4 " )

because it seemed that the simple form was being over-generalized to verbs other than, for example, climb, look where there is less possibility of the ambiguity which occurs in the second example above.<sup>1</sup> In addition, the usage appears to be part of a general pattern of difficulty or uncertainty in the use of combinations of prepositions/adverbs/conjunctions, appearing in the present category (see 4.36 below) and already noted in the discussion of the Conjunction category (3.7).

#### 4.3.2 Complex Prepositions (GCE 6.5; 301)

These are classified under three categories, according to their components:

A ADVERB + PREPOSITION: as for, out of,  
up to, etc.

B VERB/ADJECTIVE/CONJUNCTION/etc. + PREPOSITION:  
owing to, due to, because of, but for, etc.

---

<sup>1</sup> All 10 instances occurred in describing picture-card sequence I. In the last picture the ball is in the (shop) window, having been hit through (or into) it.

C PREPOSITION<sub>1</sub> + NOUN + PREPOSITION<sub>2</sub> :

by means of, in comparison with, in spite of, etc.

(This is by far the most numerous category, and also includes the forms in which the noun is preceded by a definite or indefinite article:

in the light of, as a result of, for the sake of, etc.)

Since because of is classified as a COMPLEX PREPOSITION, the two SG instances of omission, for example, because the fire, are included in the OTHER category and not under CONJUNCTIONS.

In practice, there was little difficulty in distinguishing between COMPLEX PREPOSITIONS and a sequence of SIMPLE PREPOSITIONS, for example, on the shelf by [the door], using the criterion that none of the elements forming the COMPLEX PREPOSITION can be altered or omitted. (GCE 6.6; 302-303)

#### 4.3.3 Prepositional Adverbs (GCE 6.9; 305-306)

These are defined as particles sharing "the form, but not the syntactic status, of prepositions." A comprehensive list is given, together with criteria for distinguishing between adverbial and prepositional use:

We stayed in the house (in is a preposition since it is followed by a prepositional complement)

We stayed in (in is a prepositional adverb).

In sentences such as:

(i) He thrust in his hand

(ii) He swam in the lake

it is suggested that since adverbs normally receive stress whereas simple prepositions do not, the spoken form would identify in as an adverb in (i) and as a preposition in (ii). The adverbial function of in in (i) is also indicated by its mobility:

He thrust his hand in (cf. he swam the lake in).

The example, incidentally, illustrates the importance of preserving the distinction between in and into (or through, between, etc.) since the addition of a noun phrase, the window, after in does not fulfil the function of providing a prepositional complement:

He thrust (in) his hand (in) the window

cf. He thrust his hand into/through the window

#### 4.3.4 Verb + Particle(s) (GCE 12.19-28; 811-819)

For convenience, GCE refers to the prepositional and/or adverbial elements in multi-word verbs as 'particles' (12.21; 812). Three categories of such verbs are described, together with distinguishing criteria:

- A PHRASAL VERBS: blow up (a building);  
find out (a secret); see (somebody) off; etc.
- B PREPOSITIONAL VERBS: apply for (a post);  
care for (somebody); look at (someone/thing); etc.
- C PHRASAL-PREPOSITIONAL VERBS: look forward to  
(an event); put up with (somebody's behaviour);  
keep away from (somebody's company); etc.

In the classification of errors, multi-word verbs were considered as syntactic units (GCE 12.21; 812) as distinct from single-word verbs followed by prepositional adverbs and/or prepositional phrases:

MULTI-WORD VERB: I refuse to put up with this

VERB + ADV. + PREP. PHRASE: We managed to put it up with  
great difficulty

Errors in prepositional/adverbial elements following single-word verbs were counted separately (from the verb) under the appropriate headings. It should be noted that errors in the morphology of the lexical verb itself (whether multi- or single-word) were included in the DSS Main Verb category at the appropriate developmental Level.

#### 4.3.5 Adverbs (GCE 5.42-45; 267-295)

From the admirably exhaustive treatment of this heterogeneous class by GCE, the following sections were found to have the greatest relevance to the present study:

5.42-45; 267-271: The two types of syntactic function that characterize the traditional adverb are defined and exemplified. (An adverb need have only one to qualify.):

- (i) as a clause constituent, distinct from subject, verb, object and complement:

He always loses his pencils

Perhaps (INFORMAL: Maybe) you will agree

He spoke briefly.

It is described as being "usually an optional element and hence peripheral to the structure of the clause." (268)

- (ii) As a modifier of adjective and adverb:

they are very happy

he speaks too quickly

In this function the adverb generally comes before the word modified, enough being an exception, he is strong enough to do it.

Among the examples (5.54; 277) that is given as a premodifying adverb:

They didn't injure him that severely.

In the present study, that was also accepted as premodifying an adjective:

I caught a fish. It was that long.

GCE (10.70; 705) defines that, so in such utterances as intensifiers with anaphoric reference. The usage occurred frequently in the language samples, usually accompanied by demonstration. Either anaphoric reference or "reference to what is present to the speaker" (GCE, 706) was judged sufficient, the distinction between its function as adverb premodifying an adverb and as intensifier premodifying an adjective being unimportant.

(iii) criteria for distinguishing between adverbs and prepositions/adjectives/conjunctions according to syntactic function:

- . adverbs and prepositions (4.3.3 above)
- . adverbs and adjectives (GCE 5.5; 233-234)
- . adverbs/prepositions and conjunctions.

Some words, for example, after, before, since, can have all three functions:

I haven't seen it before (adverb)

I'll see you before the meeting (preposition)

I'll see you before you leave (conjunction)

For the purposes of the present study, the criterion of having a finite clause<sup>1</sup> follow the item in question was adopted in the scoring of items as conjunctions.

#### 4.3.6 Classification According to Linguistic Levels

The primary objectives in analysing the data were to determine

- (i) whether there were areas of difficulty common to both groups and/or specific to one group of subjects
- (ii) and, if so, how these could be most economically and productively described.

The error-count based on data from the scored utterances in both groups has already indicated the significance of these two grammatical categories (Table 34). When all items had been classified, some areas of common difficulty were indicated, but with a total of only 38 errors from the NG sample in the combined PREPOSITION/ADVERB category it seemed advisable to see whether such indications could be supported by additional data. Therefore the complete transcripts for the 60<sup>2</sup> NG subjects were examined and all errors noted. The same procedure was carried out for the 40 SG subjects, mainly to determine whether additional instances warranted increasing the number of areas already indicated as being specific to the Samoan subjects. The results are discussed below.

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<sup>1</sup> With the exceptions allowed as OBLIGATORY or ACCEPTABLE DELETIONS, for example, she's taller than her sister.

<sup>2</sup> 40 from Christchurch plus 20 from New Plymouth. (1.3, Footnote)

All instances included in the discussion have appeared at least twice or, if not, have clearly been part of a pattern, either because of syntactic features or because of semantic relationship. For example, of the nine instances of misuse of for, only two are alike; and individual instances of difficulty with adverbs of time are included at the semantic level.

The model shown in Figure 3 was devised to facilitate the classification of errors and the description of their general patterns.

#### 4.3.7 Error-Patterns at the Syntactic Level.

The difficulty of keeping the linguistic levels separate occurred in attempting to classify errors in these as in other areas (4.2 VOCABULARY; 4.4 PRONUNCIATION, for example).

Instances which seemed to be solely or mainly ascribable to difficulties associated with their syntactic features were as follows:

1. OMISSION/INCORRECT CHOICE:	<u>NG</u>	<u>SG</u>
A. of elements in COMPLEX PREPOSITIONS	10	23
B. in use of PREMODIFYING <u>too</u>	2	7
2. REDUNDANCY of PREMODIFYING <u>more</u>	-	4
3. WORD ORDER in PHRASAL VERBS	2	2

(The number of instances shown under NG and SG have been taken from the complete transcripts.)

A study of the lexical items for l.A. above shows that the use of out for out of/through accounts for 7 of the NG instances, but for only 4 of the SG.<sup>1</sup> As already noted (4.31), the usage, in itself, can hardly be described as an "error", and so we should perhaps discount the instances from both groups as evidence of syntactic difficulty

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<sup>1</sup> The use of in for into is discussed in the following section (4.38).

S  
Y  
N  
T  
A  
C  
T  
I  
C  
  
S  
E  
M  
A  
N  
T  
I  
C  
  
P  
H  
O  
N  
O

PREPOSITIONS		ADVERBS			PARTICLES	
SIMPLE	COMPLEX	PREPOSITIONAL	AS CLAUSE CONSTITUENT	PREMODIFYING	IN PREPOSITIONAL VERBS	IN PHRASAL VERBS
INCORRECT CHOICE/FORM		INCOR. CHOICE /FORM	INCOR. CHOICE /FORM	INCOR. CHOICE /FORM	INCOR. CHOICE/ FORM	INCOR. CHOICE /FORM
REDUNDANCY		REDUNDANCY	REDUNDANCY	REDUNDANCY	REDUNDANCY	REDUNDANCY
OMISSION		OMISSION	LACK OF ITEM (VOCAB)	OMISSION	OMISSION	OMISSION
WORD ORDER		WORD ORDER	WORD ORDER	WORD ORDER	WORD ORDER	WORD ORDER
PLACE FOR DIRECTION ( <u>in</u> / <u>into</u> , etc.)			TIME: a. Frequency b. Relation- ship c. Reference	<u>too</u>	<u>look/watch</u>  <u>say/tell</u>	<u>beat</u> , <u>belt</u> ,  <u>bash</u> , <u>crash</u>
AGENT/INSTRUMENT ( <u>by</u> , <u>with</u> , <u>from</u> )						
PURPOSE ( <u>for</u> )						
<u>on</u> for <u>in</u>		-	-	<u>to</u> , <u>too</u>	-	-

Figure 3: A model for the classification and description of errors in the use of prepositions, adverbs, and particles in multi-word verbs at syntactic, semantic and phonological levels.

and attribute them rather to the influence of adult models.<sup>1</sup>

In the common area (1.A.) we are then left with 5 instances of because for because of (NG: 2; SG: 3). The evidence is too slight to be indicative of any other specific difficulty than that associated with COMPLEX PREPOSITIONS and with the lack of a strongly marked semantic distinction, in this case between the conjunction because and the CONJ.-PREP. combination, both expressing 'cause'.

In considering the remaining instances (in 1.A.) which are specific to SG subjects it will be necessary to include data from INCORRECT CHOICE/FORM (Figure 3) related to the use of on top of, which produced a total of 8 errors, such as:

up top of, on, 'm; on top on; top of.

indicating that this COMPLEX PREPOSITION is a specific source of difficulty, and that the difficulty seems to be syntactic rather than semantic in origin since there is in all but one instance an apparent recognition of the need to include all the components in order to describe relative position.

(GCE 6.16; 310ff)

The OMISSION of particles indicating direction accounted for 7 instances with the following lexical items:

<u>up</u> , <u>down</u> , <u>on over</u>	(-to)
<u>down</u>	(-off)
(went) <u>back</u>	(-up)

---

<sup>1</sup> Nevertheless, it may be significant that the influence seems to have affected the NG more than the SG subjects. An examination of the complete transcripts might show that the Samoan children used the BrE form more frequently than the native-speaking children, but such evidence is irrelevant to the main purpose of this investigation.

Here one cannot be sure whether such omissions are due mainly to syntactic or to semantic uncertainty, although there is some evidence to suggest the latter, and this will be included in the discussion of SIMPLE PREPOSITIONS/SEMANTIC. Finally, the remaining 2 instances (one from each group) are included only because they are examples of OMISSION of particle showing relative position:

(SG) across (-from)

(NG) over (-in)

INCORRECT CHOICE/FORM seemed to be an adequate characterization of the various errors occurring in the use of too as a premodifying adverb. (1.B.) Although there were only 7 SG and 2 NG instances, they have been included because they involve the same lexical item, and are the only instances of error by NG subjects in this grammatical category. Lexical details are as follows:

NG

a bit squeaky a voice (too squeaky a )

I haven't gone too often (Context required 'very often')

SG

\* not too long to (not long enough to )

hit it so hard (too hard. 2 instances)

hit it hard (OMISSION of too. 2 instances)

Outside the scored samples, there were 2 instances from SG transcripts involving too meaning also:

I didn't too (either)

\* the same to me (me too)

In both cases the subject was agreeing with a comment made by the investigator, and the usage indicates an understanding of the semantic implication. Those constructions marked \* may

be explicable at the phonological level with their apparent confusion of too and to. (Figure 3).

REDUNDANCY was exemplified by more, (bigger, etc.) and appeared only 4 times and in the SG samples only. The incidence is hardly significant, especially as LARSP places the distinction between the two types of comparison (prettier v. more interesting) at Stage VII, that is, late-developing.<sup>1</sup>

Finally, at the syntactic level, there were 4 instances of error in WORD ORDER, two in each group. They occurred in the use of the phrasal verbs blow up and build up with the particle being followed by the pronoun it;

<u>blow</u>	)	
	)	<u>up it</u>
<u>build</u>	)	

Here the distinction between phrasal and prepositional verbs was useful since the latter accept the sequence PARTICLE+PRONOUN:

look at it

The subtlety of the distinction between such apparently similar surface structures probably accounts for the errors noted.<sup>2</sup>

<sup>1</sup> Crystal et al. 1976, page 81.

<sup>2</sup> That there are also semantic differences involved is apparent when we consider that blow up it becomes acceptable when blow refers to 'wind' or 'breath' instead of to an 'explosive' as in the example given above. In such contexts the verb becomes prepositional:

the wind blew up it (the street)

he blew up it (e.g. a pipe or tube).

Similarly:

look up it (the chimney) PREPOSITIONAL

look it up (in a book) PHRASAL

#### 4.3.8. Error-Patterns at the Syntactic/Semantic Levels

Three of the sub-categories are to be discussed:

SIMPLE PREPOSITIONS

ADVERBS AS CLAUSE CONSTITUENTS

PREPOSITIONAL VERBS & ADVERBS

The number of instances of error occurring in these categories are given below, the figures in brackets showing the additional instances obtained from outside the scored data.

(The count includes all error-types: INCORRECT FORM, OMISSION, etc. as shown in Figure 3.)<sup>1</sup>

	<u>NG</u>	<u>SG</u>
SIMPLE PREP.	22 (+11)	47 (+19)
CLAUSAL ADV.	7 (+7)	16 (+9)
PREP'AL VB/ADV.	7 (+1)	6 (-)

The syntactic and semantic functions of SIMPLE PREPOSITIONS seemed to be interrelated as possible causes of uncertainty about their choice and use.<sup>2</sup> Some of the lexical items concerned appear in the samples from both groups of subjects, and one item, with its semantic variations appears only in the Samoan samples.

Of the common items, there are 19 NG and 25 SG instances of INCORRECT CHOICE distributed as follows:

---

<sup>1</sup> In the absence of developmental weightings, it does not seem necessary to present error-percentages as was done with the DSS categories.

<sup>2</sup> Although GCE devotes some twenty-seven pages (306-333) to defining and exemplifying prepositional meanings, this admirably exhaustive treatment is described as, '.... no more than a presentation of the most notable semantic similarities and contrasts'. (p.306)

	<u>NG</u>	<u>SG</u>
<u>in</u> (into, through) :	10	15
<u>by</u> (with); <u>from</u> (By) :	6	5 (+ 1 OMISSION)
<u>for</u> :	3	6

The distinction between in and into, like that between out and out of is hardly significant (i.e. it is non-'emic') in most contexts and that may be one reason for the high number of instances described as INCORRECT CHOICE - together with the tendency to prefer the SIMPLE over the COMPLEX forms.

Like out for out of, however, the use is sometimes generalized to less acceptable contexts:

SG they're shooting arrows in the wagon (ambiguous)  
 SG we shifted in our new house ( " )

The uncertainties in the use of by/with/from are semantically similar in both groups in that the intended meaning is agentive/instrumental (GCE 323-325) as in, for example,

NG he broke them by the lawnmower  
 NG he cut it with going through  
 NG I don't get bored from stories  
 NG he might get a spanking by his mother  
 SG get hurt from the glass/a nail, him, etc.

but all the SG examples follow the from pattern and occur in the context of get hurt, killed (by someone/thing) whereas the NG examples vary in context and interchange the three prepositions, especially by and with, about which GCE comments (325):

" The difference between instrumental phrases containing

with and by is a fine one:

He was killed by an arrow

He was killed with an arrow

Either of these sentences could describe the same incident. The difference is that the with phrase always implies an agentive: ('Someone killed him with an arrow'), whereas a by phrase does not."

One notes also that NG examples occur in contexts of relative syntactic complexity, for example, a verbal noun is required (I don't get bored from listening to stories) or two alternative constructions are confused (he might get a spanking from/get spanked by<sup>1</sup>). Although the evidence is slight it does suggest that the NG uncertainty was a type of growth-error occurring in contexts of semantic indistinctness and/or syntactic complexity, whereas the SG examples suggest that a syntactic formula is being applied to express a particular relationship between "injury" and its agent/instrument.<sup>2</sup> The one exception resembles NG usage in that it occurs with a verbal noun, but in this case the preposition is omitted:

they kill him throwing arrows (-by)

As a SIMPLE PREPOSITION for is most commonly used to express purpose, or 'intended recipient' when followed by noun phrases denoting persons or animals (GCE 6.36-37; 321-322):

They packed a lunch for the journey

He made a doll for his daughter

---

<sup>1</sup> The example is a further illustration of apparent confusion caused by the different functions of get: as a lexical verb, and as a component of the informal passive.

<sup>2</sup> Benton 1966 attributes the usage to interference from L<sub>1</sub> [Maori] syntactic structure.

and it is in these senses that the preposition was either used incorrectly, or should have been used, in all of the instances from both groups of subjects, those from the Samoan children showing a variety of attempts to give syntactic form to a semantic relationship of which they seemed to be aware, except in the one example where it was omitted:

[cowboys] kill food for them [Indians]  
 = 'they kill the buffalo which is food for Indians'

clothes about a doll (= for)

he set it for a fire (= on fire: 'for the purpose of making it blaze')

the right size for to push (Redundancy)

a place to people to live in. (Note that to can be used to express 'actual recipient'

(He gave it to his daughter v. He made it for his daughter.<sup>1</sup>) in the appropriate contexts).

he had to pay it (= for (a broken window); the subject may not be aware of the semantically insignificant difference between pay it (a bill) and pay for it (the food charged on the bill)

---

<sup>1</sup> GCE 6.37; p.322.

In the three NG examples, there seems to have been a collapsing of two statements into one, which preserves for as an expression of purpose but with some syntactic distortion resulting from the ellipsis:

he's lucky for not getting in (= 'it's lucky for him he didn't go in'<sup>1</sup>)

a playground for cars where children play  
(= 'a playground for children to play with cars in')

not allowed to ride it for school (= 'to use it for the purpose of going to school')

The evidence suggests that the subjects in both groups were aware of the semantic relationship which they wished to express, and that the SG examples are more promising than those noted under from/by in that they are not formulistic.

There remains one further common area not included in the previous error-count, and that is the omission of in, notably in referring to the stimulus pictures:

^ that one he's/it's, etc .

There were 15 such instances (NG: 5; SG: 10), the usage suggesting that the preposition was not seen as necessary when the visual cue was present in a conversational setting. Nevertheless it seemed to be a common speech habit to omit items, notably it and I, in certain collocations, such as,

looks like (- it)

don't know (- I)

---

<sup>1</sup> The example also contains a previously noted pattern: interchanging of go and get.

think it's (- I) <sup>1</sup>

Sometimes the missing items were in initial position and their loss may have been due to sub-audibility (GCE 9.18; 545), but they were missing with similar frequency in non-initial position in the utterance. The investigator gained the impression that the usage was a kind of slang adopted in the language situation described, but whether all the Samoan children omitting items in this way are aware of the restriction is a matter for a different kind of study, as is the premise regarding the usage itself. (cf. Renahan 1977; 188) The omission of in, however, could be seen as further evidence of its loss of semantic significance, a tendency already noted in the blurring of distinction between in ('position') and into ('direction') where such distinction is necessary in order to avoid ambiguity.

At this point it will be convenient to pursue the discussion to the phonological level where it appeared that a similar lack of strong contrastive features, together with the loss of semantic significance, was responsible for an error-pattern which occurred only in the SG sample: the substitution of on ('position') for in ('position'), for example,

on the pram/the car/his hand/his pants, etc.

There were 9 such instances and one of in being substituted for on:

he's riding in the horse.

It is commonly thought that Polynesian children tend to use on indiscriminately as a general purpose preposition, but,

<sup>1</sup> cf. 'Told you so' and 'Serves you right' which GCE (545) describes as being restricted to familiar English. The usage noted above would seem to be an extension of these kinds of stereotyped utterance.

while it is true that it was the most frequently used substitution in the sample (17 instances), there were indications that the substitution was not necessarily either haphazard or unthinking.

The following table shows the prepositions used; the meaning of the prepositions for which these were substituted, and the number of instances noted in the complete SG transcripts:

<u>on</u> for <u>in</u>	POSITION	9)	
		)	A
<u>in</u> " <u>on</u>	"	1)	
<u>on</u> " <u>in</u> , <u>at</u>	CALENDAR TIME	4)	B
<u>on</u> " (on) <u>to</u> , <u>at</u>	GOAL/TARGET	4)	
		)	
<u>to</u> * " <u>at</u>	"	3)	C
		)	
<u>at</u> " <u>to</u>	"	1)	

\* In addition, to was omitted in 5 instances (for example, we go this church; she ran uncle, etc.)

A hypothesis based on this distribution is that substitution is most likely to occur where the contrast between items is minimal and/or when the distinction is idiomatic.<sup>1</sup> A matrix derived from the lexical items, error-count, and linguistic features illustrates the hypothesis: (Minus sign indicates absence of feature)

---

<sup>1</sup> i.e. the distinction is not based on semantic difference.

Examples: The players are on the field

(field = surface for sports)

The cows are in the field

(field = enclosed area of land) (GCE: 309)

on Monday; in August; at Christmas

(Calendar time) (GCE: 6.28; 317)

	CONTRAST/DISTINCTION			No.	PATTERN REFERENCE
	SEM.	PHON.	IDIOM.		
on/in; in/on	-	-	±	10	A
on/in, at	-	-, +	+	4	B
on/(on) to, at	-	+	-	4)	C
to/at; at/to	+	+	-	4)	

Pattern A appeared only in the SG samples and only in the structure:

NP + be + PREP. ('position') + NP

for example: the baby is on the pram (in)

When, however, the structure was:

NP + V + PREP. ('goal, target')

the preposition was realized as in, for example, he hit the ball in the window. (See footnote to Pattern C below)

The prime target for specific teaching would therefore appear to be the establishment of the basic semantic distinction between on (= position on a surface) and in (= position in an enclosed area). The two prepositions are among the 14 morphemes described as early-developing among English-speaking children, ranking equal second in order of acquisition.<sup>1</sup>

It seems reasonable to postulate that, as with the early-developing verb inflections, the Samoan children did not appear to have had the kind of early language experiences which would ensure that correct usage was firmly established by the time they started school.

<sup>1</sup> Brown, R. 1973; Table 38, page 274.

(Crystal et al. 1976 agree with Brown's placing)

Pattern B involves the choice of appropriate prepositions to express 'calendar time', and when we consider the variety of idiomatic usage it is perhaps surprising that only 4 errors were made, these being:

on August (2 instances); On winter; on Christmas

One NG subject also produced on August. With the names of months and holiday seasons on must be used if the date/day is specified:

on August the fourth/Christmas Day/Easter Sunday etc. Errors may therefore be attributable to over-generalizing rather than to unthinking use of on.

There are two sets of prepositions involved in Pattern C; those expressing 'destination' as distinct from 'position' (onto v. on), and those expressing 'target' (at) as distinct from 'intended recipient' (to).

The distinction between onto and on, is usually ignored in colloquial speech (as is that between into and in; out of and out) and we have already commented that such usage was not considered as being incorrect in all contexts,<sup>1</sup> but all instances were included as illustrating a general tendency to prefer the SIMPLE over the COMPLEX member of such pairs. The consequent blurring of semantic distinction was seen as leading to over-generalizing and/or ambiguity. Of the 4 SG substitutions, two were of on for onto:

she pushed the tyre on him

he pushed him on the ground.

---

<sup>1</sup> See GCE 6.13; 308 (Note), for a comment on the general principles governing the acceptability of in, on, etc. to express 'destination'.

The other two may have been the result of misinterpreting a visual cue (Picture 4 in Looking and Talking 2. APPENDIX I.1):

she threw it on his arm (at)

or they may, in fact, represent an unthinking use of on as a general purpose preposition.

Finally, those who used to for at were apparently unaware of the quite significant difference in meaning between, for example,

he ran to me (= goal attained)

and he ran at me (= intended goal; often with connotations of 'hostility')<sup>1</sup>

The substitution may be described as overgeneralizing to in its basic sense of 'direction' and apparently distinguishing it from at meaning 'position' as in:

He went to the shop V. He is at the shop

All three SG instances, and one NG instance occurred in similar contexts viz:

<u>he</u>	)	<u>threw the ball</u>	)	<u>to the</u>	(window
)			)		(
<u>they</u>	)	arrows)			( <u>wagon</u>

Because to in these examples preserves at least the meaning of 'direction' the usage does not constitute so serious an error as does the substitution of at in the single SG instance:

she's going at Samoa

---

<sup>1</sup> Compare also, He shouted to me v. He shouted at me; and the semantic significance of at in, He shot at the President v. He shot the President.

In the sub-category of ADVERBS AS CLAUSE CONSTITUENTS there were 19 instances of error<sup>1</sup> or uncertainty in expressing time frequency, relationship and reference. The lexical items were:

time frequency: sometimes, usually, always, never  
 time relationship: already, any more  
 time reference: now, today, yesterday

Figure 4 shows error-types and distribution, including those specific to one group of subjects.

The most noteworthy features of SG uncertainty in this sub-category were:

- (i) the use of already as a general purpose time adverb: it was substituted for: at last (finally); now; before;
- (ii) the use of time-reference adverbs, which is seen as part of the general pattern of uncertainty about the expression of time concepts, for example, the choice of appropriate tense (or aspect):

I'M seven today (= now)

and now he ran away (either: this time he ran, or: and now he's running)

The effect of the stimulus materials, however, cannot be discounted (See 3.4.5).

Uncertainty among NG subjects appeared most notably with the use of sometimes:

---

<sup>1</sup> Taken from the complete transcripts for both groups.

<u>SEMANTIC AREA AND LEXICAL ITEMS</u>	E R R O R   T Y P E S			
	<u>SYNTACTIC</u> <u>Word- Order</u>	<u>S E M A N T I C</u> <u>Lack of</u> <u>Selectional</u> <u>Vocabulary</u> <u>Rule</u>		<u>SYNTACTIC- SEMANTIC</u> <u>Incorr.Choice</u> <u>or Form</u>
TIME FREQUENCY ( <u>sometimes</u> , <u>usually</u> , <u>always</u> , <u>never</u> )	1 <sup>*</sup>	2 <sup>*</sup>	2	3 <sup>*</sup> + 3
TIME RELATIONSHIP ( <u>before</u> <sup>*</sup> , <u>already</u> <sup>*</sup> <u>any more</u> )		1 <sup>*</sup>		3 <sup>*</sup> + 1
TIME REFERENCE* ( <u>now</u> , <u>today</u> , <u>yesterday</u> )				3 <sup>*</sup>
<sup>*</sup> occurring in NG sample only <sup>*</sup> "        "     SG    "        "				

Figure 4: Error-types and distribution in the sub-category of clausal adverbs (Time) for NG and SG subjects.

3 instances of sometime being substituted;<sup>1</sup>

2 instances of apparent misunderstanding of its semantic significance, such that it co-occurs with mostly and usually.<sup>2</sup>

(One SG subject substituted it for once:

Sometimes I watched it [a television programme])

Uncertainty in the handling of MULTI-WORD VERBS as distinct from SINGLE-WORD VERBS + PREPOSITION(S)/ADVERBS has been mentioned under VOCABULARY ( 4.2) and discussed under WORD ORDER in the present section (4.3.7). At this point it will be convenient to summarize the semantic and syntactic features of the lexical items which appeared most frequently: (See Figure 3)

- (i) the verbs have semantic similarity e.g. smash/crash; look/watch;
- (ii) they can all be used either as SINGLE or MULTI-WORD VERBS, with differences in meaning<sup>3</sup>;
- (iii) MULTI-WORD VERBS are distinguished from VERBS + PREPOSITIONAL PHRASE by their semantic unity; (GCE 12.21; 812)
- (iv) Within the 'set' of MULTI-WORD VERBS, PREPOSITIONAL VERBS are distinguished from PHRASAL VERBS (GCE 12.24; 815)

---

<sup>1</sup> One child used the substitution eight times, but this has been counted as one instance.

<sup>2</sup> GCE 8.63; 493.

<sup>3</sup> e.g. tell him the story v. tell him off  
looking to see (if ) v. looking at, looking on  
belt (sl. = beat, hit) v. belt up (sl. = 'shut up!')

Given the features of semantic similarity and syntactic complexity it is not surprising to find 15 instances of error/uncertainty among the complete transcripts from both groups of subjects. For these reasons the area could be described as one of normal language delay in which frequency of occurrence is to some extent a result of the informal language situation. Whether fewer instances occur in more formal contexts is possibly a matter for investigation, as is the question of whether non-native-speaking children are aware of such stylistic<sup>1</sup> variables.

This completes the discussion of PREPOSITIONS AND ADVERBS, which ranked second to VOCABULARY in error-frequency.

#### SUMMARY

In general, it would seem that uncertainty and difficulty at the syntactic level are associated with multi-word structures such as COMPLEX PREPOSITIONS, and MULTI-WORD VERBS and that these may represent areas of normal language-delay for both groups of subjects. (Similar difficulties were noted in the use of COMPLEX and CORRELATIVE CONJUNCTIONS in 3.7).

Also common to both groups was the difficulty associated with the use of PREPOSITIONS expressing direction, agent/instrument and purpose (Figure 3).

---

<sup>1</sup> Crystal and Davy 1969, page 10:

'... those features which are restricted to certain kinds of social context;'

Specific to the SG subjects were:

- . difficulty with on top of;
- . OMISSION of particles and prepositions indicating direction;
- . use of from to express agent/instrument;
- . use of on for in
- . difficulty in expressing some TIME concepts (Figure 4).

Perhaps the most useful finding is that it is possible to deduce a pattern in what sometimes appears to be a random choice of preposition by the Samoan children. Whatever the reason or reasons, the remedy would appear to be the establishment of basic semantic meanings to start with<sup>1</sup>, as well as the aural discrimination and oral production of the /o/ /i/ contrast as realized in on and in.

---

<sup>1</sup> The GCE provides a useful framework on page 307 (Figure 6:1)

#### 4.4. Pronunciation

The collapsed version of Table 34 showed that PRONUNCIATION ranked third in error-frequency for the SG subjects, compared with seventh for the NG subjects. The number of errors counted in the scored utterances and the number of additional instances<sup>1</sup> from the remainder of the transcripts are as follows:

NG: 7 + 25;            SG 42 + 31

In noting phonological realizations as "errors" the criterion was broadly defined as:

any clearly perceptible substitution/omission/addition of phonemes, excluding such occurring in the realization of bound morphemes.<sup>2</sup>

The following realizations were also excluded from the error-count:

- (i) abbreviated or 'run-together' forms generally acceptable in the informal conversation of children, for example, 'cause (because) 'n' (and), gonna, etc. (going to, etc.) coulda, etc. (could have).<sup>3</sup>;

---

<sup>1</sup> These include repetitions (of instances noted in the original count) produced by other children.

<sup>2</sup> The intention was to exclude such omissions, etc. occurring in the inflection of nouns and verbs, which are discussed under those headings.

<sup>3</sup> The acceptance of 'coulda' forms seemed reasonable on the basis of their similarity with 'gonna' forms. At the syntactic level, however, the 'a' represents the aux.-have of Levels 7 and 8 verbs, whereas in 'gonna' it represents an early-developing form of the infinitive 'to' at Level 2.

- (ii) the various substitutions, omissions and approximations occurring in attempts to produce /θ/ and /ð/. Frequency was high in both groups of subjects and was often attributable to missing upper front teeth. In addition the phonemes are among those described as late-developing and occur in so many commonly used words that it was decided to regard the difficulty as characteristic of the age-group and to abandon the count as unproductive of further insights;
- (iii) for similar reasons the /k/ produced following velar/ŋ/ in final position, notably in the words 'something' and 'anything' was not included in the count. The realizations of /sʌmfɪŋk/ and /enɪfɪŋk/ appeared with such frequency in the NG samples as to indicate a developmental stage.<sup>1</sup>

The following discussion is not intended as an exhaustive examination of phonological development among the NG and SG children in the sample. Items have been selected on the basis of their frequency of occurrence in one or both groups. (See Table 36 )

The instance with the highest frequency in both groups was the addition of initial /n/ to words derived from use (/ju:s/):

use(d) to, usually, as usual (nju:stə, etc.)

---

<sup>1</sup> An impression confirmed by Dr Margaret Maclagan of the Speech Therapy Department, Christchurch Teachers' College, who also commented that the phenomenon was sometimes considered as being characteristic of children from lower socio-economic groups. The NG subjects in the present study were not from such groups.

One NG subject also produced it in 'my uniform' (mainju:nifɔ:m).

On the evidence available it seems that the /n/ represented an interpolation between successive vowel sounds in that it occurred most frequently after the pronoun I (I used to/usually). Two of the SG instances, however, are interesting in that the /n/ appeared after

Table 36. Pronunciation error-types and frequency in the complete language samples from NG and SG subjects.

REF.	ERROR-TYPE	NG	SG
		No. of instances	
A	/nju:stə/etc.	7	13
B	OMISSION OF /r/ FOLLOWING CONSONANT /bɔ:t/ for /brɔ:t/ etc.	4	3
C	ERRORS IN USE OF /z/ " " " " /dʒ/ " " " " VOWEL-LENGTH	0 6 0	4 2 8
D	" " " " /ks/ ( ±l ) " " " " /l/	5 4	9 0*
E	" " " " CONSONANT CLUSTERS /ɛr/; /mθ/; /mb/; /ft/; /tʃ/+t	0	8
F	SUBSTITUTION OF /m/ FOR FINAL /n/ 'them' for <u>then</u> /en/ FOR /n/ IN V- <u>ed</u> <sub>2</sub> FORMS	1 4	5 0

\* but see box/blocks discussion

consonants (as (n) usual, she must've (n) used) as if the usage was being generalized to the word forms themselves: some confirmation of the influence of peer-group speech forms.<sup>1</sup>

Of the phonemes described as late-developing by those researchers quoted in Singh 1976 (157-160) four appear among the error-types listed in Table 36 : /r/, /z/, /d<sub>3</sub>/, /l/. The instances will be discussed briefly for each phoneme in turn.

### /r/

The seven instances of omission/non-articulation occurred after an initial consonant, the lexical items being,

b(r)ought (NG & SG: 2 instances each)

t(r)ousers, prog(r)amme (NG instances)

g(r)ow (SG instance)

The non-articulation of /r/ in this position may be attributable to its low perceptual salience. In fact, there were other instances where it was difficult to determine whether an /r/ had been articulated in similar positions.

---

<sup>1</sup> The interpolation, when it occurs between vowels, may be analogous to 'intrusive r' which appeared in the NG samples. There were 8 instances, all but one appearing in saw a (sɔ:rə) contexts (the exception occurred in bow an' (arrows)) These were not included as errors, and neither were the less acceptable instances of medial interpolation which appeared quite frequently in both groups (for example in 'drawing', etc.)

Since, in the spoken form, the omission/non-articulation of /r/ in enunciating brought and grow produced bought and go, it could be argued that these instances represent an incorrect choice of verb rather than a mispronunciation.

The possibility cannot be discounted, especially as go has already been noted as a general purpose verb in the vocabulary of SG subjects (VOCABULARY, 4.2). The context, however, suggested that grow was the verb intended.<sup>1</sup> The present writer has also noted bought/brought confusion among older students at secondary and even tertiary levels, both in written and spoken forms, and it seems that as targets for remedial teaching such omissions are more productively described as phonological.

/z/, /d / and vowel-length contrast.

On the basis of evidence from Table 36 it might be assumed that SG subjects' apparent difficulty with /z/ and with vowel-length contrast is indicative of a general failure in articulation and/or in aural discrimination probably attributable to interference from L1 where the phonemes are either lacking or not significantly contrasted as Benton 1966, for example, suggests. A study of the lexical items and their contexts, however, shows that error-incidence is neither general nor, in the case of vowel-length contrast, is it necessarily phonological in origin.

---

<sup>1</sup> In describing the tree in the last picture of series E (APPENDIX I.1), the child said: "and in this one they're starting to g(r)ow" (the buds).

All 4 instances of error in the /z/ phoneme, for example, occurred with the word nose: in 3 instances it was not articulated (/no/) <sup>1</sup> and in one instance it was realized as /ɰ/ (/noɰ/), and yet the /z/s/ contrast was invariably realized, for example, in the -s morpheme marking 3rd person singular (/hits/v./goz/).

Of the 8 instances of apparent failure to discriminate between long and short vowel sounds only 2 could be clearly identified as failure at the phonological level,

/kipiŋ/ (for 'keeping') and /pu:kt/ (for 'poked') since the realizations preserved both semantic intent (identifiable from situational referents) and syntactic function (appropriate verb morphemes.) The remaining instances, however, illustrate the difficulty of keeping the linguistic levels separate when describing errors, especially those occurring in the spoken form. <sup>2</sup>

The contexts were as follows:

- A. /hi:z) neim/ "Losi" (4 instances, with names of  
[i:z) different children)
- B. /hi:z fut/ ( 1 instance = 'his foot').
- C. /hi: du:z/ (1 instance = 'he does')

---

<sup>1</sup> The phonetic symbol /o/ is used in the present study to represent a sound somewhere between /ɔ/ as in 'hot' and /ou/ as in 'go'. It should be taken as a neutrally judgmental approximation of the wide variety of monophthongs and diphthongs produced by children in both groups in the realization of the sounds represented by the vowel o.

<sup>2</sup> Slobin (in Ferguson & Slobin (eds) 1973) comments: "The clean breaks between 'phonology', 'syntax' and 'semantics' have no correspondingly clear reality in linguistic theory or practice." (page 169)

It is difficult to decide whether the utterance in A. was intended as:

his name's Losi (etc.)

with /i:/ substituted for /i/ in his and the copula omitted, or as,

he's named Losi (etc.)

with omission of -d morpheme. The latter interpretation seems to account for the 'she's name' example, but we cannot be sure that 'she's' does not represent her, with over-generalization of possessive marker from nouns, or of the he-his inflection. Example B accords with the former interpretation of /i:/ substitution. Since Level 2 Personal Pronouns have already been noted as a source of difficulty for both groups of subjects (3.3) it seems reasonable to suggest that the examples under A and B above should be allocated to that grammatical category and seen as indicating that for Samoan (and perhaps other non-native-speaking) children phonological as well as syntactic distinctions should be a target for special teaching.

The single error noted in C could not be classified in the Main Verb category since the realization /du:z/ was correctly marked for agreement with its subject, and the choice of tense was appropriate for the context. Nevertheless, the realization would be more appropriately classified as an error at the syntactic than at the phonological level since the vowel change from /du:/ to /dʌz/ is analogous to those occurring in the V-ed<sub>1</sub> and V-ed<sub>2</sub> of irregular verbs. The usage represents a not unsurprising over-generalization since do is the only

verb with such a vowel change in the present tense.<sup>1</sup>

In considering the lexical items and contexts in which subjects made errors in the /dʒ/ phoneme one notes the following patterns:

- . the NG instances were more frequent and occurred with phonemes in initial, medial and final positions;
- . in all but one of the NG instances /dʒ/ was substituted for /d/ (in the following words: disappear, bandage, lead (dog's));
- . NG subjects showed uncertainty in the articulation of /dʒ/ in cabbage and vegetables (3 instances)
- . Both of the SG errors occurred in the word jump with the initial phoneme realized as /j/ and /ʃ/, the latter immediately self-corrected (SG 38).

A partial check was made of the samples from both groups to determine whether the phoneme appeared with similar frequency, or whether the higher NG count was a result of higher frequency of use. This showed that the word just was used with similar frequency and without error in the initial phoneme; the words junk (yard) and jump were also used in describing the picture-series Looking and Talking 2<sup>2</sup> without error (apart from the two instances noted in the SG sample). In addition, three of the lowest-ranking SG subjects (36, 37, 38) produced /dʒ/ correctly in the words cage, engine,

<sup>1</sup> Both do and go add e before the 3rd person singular marker (goes, does) and this 'irregularity' also causes difficulty in the written form, for example, 'gose', 'dose'

<sup>2</sup> APPENDIX I.1

sausage, and even in jungle-gym where it appears twice, and in initial position.<sup>1</sup>

Therefore, apart from the three NG instances of uncertainty, and the single SG substitution of /j/ for /dʒ/, there is no evidence of a general difficulty in articulation which might be attributable to the late development of the phoneme, or of specific difficulty attributable to interference from L1 (Samoan) sound-systems.

Samoan children demonstrated no difficulty in producing /z/ as a noun or verb inflection, nor in discriminating between /s/ and /z/ as realizations of such inflections. Instances of difficulty occurred only in the pronunciation of the word nose, and these may perhaps represent a vestigial difficulty attributable to L1 interference.<sup>2</sup>

/ks/ (±l)

LEXICAL ITEMS: except, accident (NG and SG)

blocks, six, sisters (SG only)

(an) hacksaw (NG only)

In describing picture-series F (APPENDIX I.1), some of the Samoan children were apparently confusing box and blocks, either of which was appropriate in describing the objects which the little girl was playing with.

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<sup>1</sup> Another illustration of the effect of exposure to playground/peer-group language.

<sup>2</sup> One of the subjects was SG37, who also produced /dʒ/ as /j/ in jump, and correctly in cage. The father of another (SG24) is a clergyman with a good command of English, but the mother apparently uses Samoan when speaking to the children.

The typical error-pattern was to count them as,

one box, two box ("blocks"?), etc.

At first the investigator thought that the plural morpheme was being omitted, but one of the subjects produced blocks in a subsequent utterance and another (SG38), spelled the word correctly (from the picture-card). These, and the occurrence of the other instances noted above suggested that, at the phonological level, the confusion arose from the similar realizations of x and ks as /ks/. Realizations of the other lexical items were as follows:

except: /eset/

six: /sik/

sisters: /sikstəz/

(an) hacksaw: /an/+/ aks/+/sɔ:/

The word 'hacksaw' was attempted only twice in all of the samples: by two boys in the New Plymouth group, who produced it with the open junctures indicated. The impression gained was that the sequence of sounds in the word had been interpreted as representing 'axe-saw' - an interpretation which is semantically logical ('a tool for hacking (cutting) and sawing') unlike the realizations of six and sisters, where the errors were phonological. A further illustration of the difference in the kind of error produced was shown when the same lexical item was involved. One NG subject produced 'an accident' as an accidence, which preserved the general form of the original word, whereas the two SG subjects who produced accilent seemed to be confusing 'accident' and 'excellent', in sound if not in meaning. Children often hear the expression "He got excellent!" (as a mark, etc.) and

this was the kind of stress and intonation used by both subjects, who also omitted "an". One child repeated the phrase,

we got 'accilent'

and then continued,

from that old man's been driving too fast

so that the usage may be a further instance of a pattern noted earlier: got hurt from, with 'accilent' perceived as a form of hurt.

The few children (from both groups) who attempted except understood its semantic significance, but did not distinguish between the preposition and the compound conjunction except that. In addition, one SG and two NG subjects pronounced it as /eset/.

Whatever the reasons for, or the levels to which these instances are attributable, it seems that the combination of /ks/ is potentially confusing and may also be difficult for some Samoan children to articulate. The phoneme /l/ was included in the heading since its omission and its substitution occurred in blocks and accilent respectively. A further examination of the errors listed from the complete samples showed that /l/ was similarly involved in 4 NG and 2 SG pronunciations:

NG: scalves (=scalps); sundely<sup>1</sup> (=suddenly);  
tilting (=tooting) properly (=property)

---

<sup>1</sup> Subject used the word twice, in different utterances, so that it was not a performance error; subjects producing the other forms noted when asked what they had said, repeated the same form.

SG: anoller (=another); flowing (=throwing)

The phoneme /l/ is placed as reaching 75% criterion between the ages of 6 and 7<sup>1</sup> and on the evidence from these language samples it seems to be causing some residual difficulty, variously attributable to the variables of aural discrimination/oral production/semantic comprehension.

#### Consonant clusters:

Since the sound-system of Polynesian languages do not normally have CC combinations in medial or final positions it is usually assumed that any difficulties shown by Polynesian children will be attributable to interference from L1. Errors were therefore studied for evidence to support this theory.

There were 8 instances of mispronunciation among the SG samples, which involved consonant clusters, these being:

/θr/ in throwing, realized as 'flowing'

/mθ/ in something, realized as 'suffing(k)'

/mb/ in ambulance, realized as 'abbalance'  
(correctly accented)

/ft/ in lifting, realized as 'liffing' (3 instances)

" lifted " " 'lif' (1 instance)

The remaining instance actually involved the production of a redundant phoneme to realize the word touching as 'touchting'.

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<sup>1</sup> Singh 1976, quoting Poole and Templin, pages 159-160.

As noted at the beginning of this section (4.4), difficulties with /θ/ and errors in the pronunciation of something were so frequent in both groups of subjects that the counting of errors was abandoned. The SG errors with /θ/ are included here only because there is an additional error in each case; the substitution of /l/ in throwing and the omission of /m/ in something.

Again it is interesting to note that one word (lift) is responsible for 4 instances (cf. nose), all of omission of /t/. The subjects responsible came from the same school (a Catholic convent); two of them were twins, and a third was related to them through his father (his mother is a New Zealander); the fourth child was extremely shy and her articulation generally poor. The variables are set out below, together with other mispronunciations made by these children:

<u>SG Rank</u>	<u>Age</u> (Y.Mths)	<u>Sex</u>	<u>Family</u> <u>Relationship</u>	<u>Words as</u> <u>Mispronounced</u>
16	7-8	F	twins )	'liffing', 'flowing'
32	7-8	F	)	'liffing'
35	7-3	M	cousin )	'lif' (=lifted) 'burro' (=button)
34	7-1	F	-	'liffing' 'touchting.'

Evidence from the language samples, therefore, does not indicate that the Samoan children were having any general difficulty in the articulation of consonant clusters; the mispronunciations noted either included the late-developing /θ/ which was rarely correctly realized in either group, and/or occurred among subjects with close family or other relationships. The exception, 'abbalance'

appears to be the only example not affected by such variables, and it may be that clusters with /m/ as initial phoneme do cause some difficulty in articulation. (cf. something above)

Final /n/:

There were 5 SG instances of substitution of /m/ for /n/ in final position and one NG instance. The lexical items were:

SG: them for then (4 instances)

'balloom' for balloon (1 instance)

NG: /swɔm/ for swan. (when queried, subject repeated the form. The original utterance was, 'I made a /swɔm/ for Brownies.')

In his analysis of the distinctive features of phonemes, Singh 1976 makes the interesting assumption that "a speaker's substitution is in terms of features and not phonemes." A description using the three articulatory features: manner of articulation, place of articulation, and voicing, shows that substitution of /m/ for /n/ is an error in only one feature (placing) and therefore to be regarded as 'very minor'.

His Table 1-1 illustrates the descriptive model, using nine English consonants,<sup>1</sup>

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<sup>1</sup> Singh 1976, page 7.

<u>Manner of articulation</u>	<u>Place of articulation</u>			<u>Voicing</u>
	<u>Bilabial</u>	<u>Alveolar</u>	<u>Velar</u>	
Oral stop	p	t	k	Voiceless
Oral stop	b	d	g	Voiced
Nasal stop	m	n	ŋ	Voiced

Finally, there were 4 instances of insertion of /e/ between /w/ and /n/ in the V-ed<sub>2</sub> forms of throw, grow, blow to produce 'throwen', 'growen', 'blowen'. The usage is fairly common in the speech of adults and appears to be a dialectal variant.<sup>1</sup> It was therefore not classified as an error in the V-ed<sub>2</sub> forms (Table 17). The usage did not appear in the SG samples.

#### SUMMARY

Errors and uncertainties related to phonemes described as late-developing among English-speaking children occur in the language samples from both groups of subjects, suggesting that they represent an area of normal language development at this level rather than one of special difficulty for children whose first or home language is Samoan, although it is possible that this increases the difficulty for such children.

Apart from ERROR-TYPES B (Table 36) which are common to both groups, and E (appearing only in SG) the problem did not appear to be one of articulation. The non-articulation of /r/ following an initial

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<sup>1</sup> The writer does not know whether the variant is peculiar to New Zealand or not.

consonant is more likely to be due to a failure in aural discrimination than to difficulty in articulation; difficulties with consonant clusters (TYPE E) are also associated with late-developing phonemes, as well as being confined to a group of four Samoan children, three of whom are closely related and the fourth displaying both extreme shyness and a general difficulty with articulation - variables which seemed to be correlated for the Samoan children in the sample.

In general, it may be said that for both groups the error-patterns discussed above are attributable to one or more of the variables of aural discrimination/oral production/semantic comprehension. As Ferguson and Slobin 1973 (138) comment:

"a child may understand perfectly the difference between a bill and a pill and use both words satisfactorily but be unable to localize the difference and give explicit recognition to the initial segments as such."

and on page 146 (ibid.):

"the inability to pronounce a sound correctly does not signify the inability to discriminate it in the word and to differentiate it from others."

#### 4.5 Indefinite and Definite Articles

Since the definite and indefinite articles in English:

- (i) have low perceptual salience in spoken forms;
- (ii) carry a minimal semantic load but are capable of conveying subtleties of discriminative contrast;
- (iii) distinguish between COUNT and NON-COUNT NOUNS,

it is hardly surprising that the SG children had a higher incidence of error than those in the NG. Details of error-types and frequency are as follows:

	<u>NG</u>	<u>SG</u>	<u>ERROR-TYPE</u>
OMISSION OF <u>the</u>	5	13	A )
" " <u>a(n)</u>	1	17	)
<u>a</u> + NON-COUNT NOUN	2	9	)
<u>a</u> + PLURAL NOUN	1	5	B )
<u>a</u> for <u>the</u>	1	1	)
<u>the</u> for <u>a</u>	-	4	C )
<u>the</u> for <u>his/his</u> for <u>the</u>	1	2	)
<u>a</u> for <u>an</u>	7	3	D
TOTAL	18	54	

Brown 1973 (340) uses the terms 'specific' and 'nonspecific' to describe the semantic distinction governing the use of a and the, and later (356) comments that, of the fourteen morphemes in his study of language-acquisition:

"The definite and nondefinite articles seem to involve the greatest semantic complexity of the lot."

Yet, compared with the incidence of OMISSION (Error-type A above), there are very few instances where SG children clearly failed to realise the semantic distinction between a and the (Error-type C). One cannot, of course, be sure that OMISSION errors do not to some extent reflect the subjects' awareness that there is a distinction, and their uncertainty about its representation.

That perceptual salience may also be a determining factor is indicated by the fact that, in all but one instance, it was the unemphatic form /ðə/ that was omitted by the SG subjects. Similarly, there was only one instance of omission of the an form. It seemed unnecessary to examine the transcripts in order to discover whether an and /ɔi:/ were required and produced with significant frequency, since the hypothesis can be tested more economically and conclusively by a controlled study.

Of the instances of a + NON-COUNT NOUN, in both of the NG and 4 of the SG the noun was bubblegum (or chewing-gum), so that the usage could be considered as acceptable among children.<sup>1</sup> The remaining SG instances involved the nouns sand, concrete, glass and blood.<sup>2</sup>

As noted in the discussion of VOCABULARY (4.2) some SG children had difficulty when attempting to refer to one policeman, and 3 of the 5 instances occurred as,

a police

the others being,

a dice, a bars.

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<sup>1</sup> Some teachers and parents have also commented that they regard the usage as acceptable.

<sup>2</sup> In attempting to describe the girl with the bleeding nose in Looking and Talking 2.

The singular form, die is rarely used, even by adults, and the bars were evidently seen as a cage, jail or enclosure.<sup>1</sup> In general, therefore, the instances noted under Error-type B, are confined to a few words, some of which also appeared among NG children, so that, from the evidence in this sample, the SG subjects did not seem to be having any general difficulty with usage in this area.

The relatively high incidence of a for an among the NG children suggests that this too is common usage among children. The lexical items were:

icecream, iceblock (NG and SG)

enemy, animal, Indian, old (NG)

arrow (SG)

#### SUMMARY

Omission of a and the (in its unemphatic form) was the error-type which discriminated most strongly between the performances of the NG and SG subjects in the sample. From the data available, it would appear that the difficulty arises from the interaction of aural and semantic discrimination. In this, as in other areas of apparent language delay, the influence of parental models in English usage may be a contributory factor.

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<sup>1</sup> NG subjects also showed this pattern. (See discussion of errors in the Indefinite Pronoun category. (3.2)

#### 4.6 Redundant Subject

A study of the instances from both groups of subjects has led to the conclusion that these are not properly classifiable as "errors" but rather as features of informal conversational situations, which may be subclassified as:

(i) rephrasings, as in such utterances as:

and the other boys wen'..went..ah they  
ran off

(ii) reformulations in which the initial noun phrase appeared to serve as the designator of an object or person present, as in:

these two they're playing with the tyre

All such instances occurred in describing the pictures used as stimulus materials.<sup>1</sup>

(iii) reformulations in which the initial noun phrase referred to the speaker's family or friends, as in:

my sister Nicola she had a dog

(This pattern is seen as a variation of (ii) in that the designated person is not present.)

In transcribing the recorded data it was sometimes difficult to distinguish between rephrasings and reformulations, and the distinction is not seen as

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<sup>1</sup> GCE (9.150; page 633) comments that 'In informal spoken English...this construction is also considered by some to be substandard.'

important in the present context. It would require a study of children's usage in more formal situations (in written work, for example) to determine whether the redundant subject occurs with significantly greater frequency among Samoan children.<sup>1</sup> Such a study should include NG and SG children from older age-groups where formal usage is more commonly required. In this, as in other areas where acceptability of usage is dependent on the level of formality, it is not uncommon to find uncertainty among teachers and even among linguists (Footnote, p.210) and it must be bewildering for children to be told that it is 'wrong' to use, for example, the contracted forms of be, have, and not in formal written work when they are perfectly acceptable even in formal speech.

#### 4.7 Noun Inflection

The relatively low error-incidence<sup>2</sup> among SG subjects, and the appearance of similar error-patterns in the NG sample indicate that noun inflection in general is not a problem, and that there are specific areas where uncertainty may represent a stage in normal language development, or may be caused by situational variables.

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<sup>1</sup> In the present study the number of SG errors (Table 34 ) is misleading in that 19 of the 48 instances were produced by two subjects.

<sup>2</sup> To obtain additional data in this category the complete transcripts of both groups were examined.

The latter seem to be operating in those contexts where errors and informal usage have been noted under previous headings, such as:

- (i) non-agreement in number between plural pronouns, they, etc. and apparent concept of bars as (singular) cage, jail, enclosure (3.2)

Under NOUN INFLECTION the error appeared as substitution of singular for plural:

he's stuck in the bar;

- (ii) the use of they as the informal version of 'a person' or 'one', resulting in apparent non-agreement (3.2):

they get their head stuck, etc.

- (iii) non-agreement in gender in referring to brother/sister relationships (3.3). The error was ascribed to the phenomenon of attraction, which also seems to be operating in such utterances as,

those two are brothers and sisters/  
sisters and brother.

Such structures account for 14 of the 30 SG and for 5 of the 15 NG instances.

A stage in normal language development for this age-level is indicated by the instances showing uncertainty in the use of -s genitive constructions. Although the instances were comparatively few (4 in the NG; 2 in the SG) they occurred with the same nouns, and examination of the complete transcript produced 4 additional SG instances (again with the same nouns). We shall call these Set A. In retelling the story of The Three Bears, children from both groups made apparent errors in the use of -s genitive, but these are more

appropriately classified as mistakes due to performance factors, and will be described briefly under Set B. Set A examples were classified as -s genitive with inanimate nouns and occurred with:

car: the car's boot, the cars' windows

grocery: the grocery's window, at the grocery's

(=grocer's (shop))

(There was one instance of omission of

-s genitive with animate noun: the grocer

shop)

shoe: his shoe's lace

In discussing the choice of -s genitive and of-genitive, GCE (4.97-4.101; 198-201) comments:

"There is considerable overlap in the uses of the two genitives. Although either may be possible in a given context, one of them is, however, generally preferred by [adult] native speakers for reasons of euphony, rhythm, emphasis, or implied relationship between the nouns."

Among the examples given (4.101) the car's engine is judged as acceptable, but the wheel's hub as 'hardly acceptable'. The present investigation, therefore, has relied on native speaker's intuition in judging the Set A examples as being unidiomatic, but not as serious errors in view of the age-level. They have been included mainly because of the similarity between the groups, which may be a further instance of peer-group influence on SG performance.

Set B examples are classified as mistakes in performance, with s being transposed, as in:

babys bear bed, mothers bear chair,  
father bear beds, etc.

and may be attributable to the three-noun sequence, as in another SG instance:

the milkman trucks.<sup>1</sup>

Instances from Set B have not been included in the error-count in Table 34.

The foregoing discussion has exhausted the examples of NG errors/uncertainties etc. in the use of noun inflection, apart from 3 uses of plural with non-count nouns, of which there were 4 instances in the SG sample:

NG: bubblegums, tarseals, his hairs

SG: bubblegums, dynamites, junks, woods,  
(= timber),

Having disposed of the shared areas, we are left with those instances which can be described as discriminating between the performances of NG and SG children in the sample. The result is significant in that all the errors involved either redundant plurals (childrens, etc) or the substitution of plural for singular (playing balls). In addition, they account for almost one-third of the original error-count (11 out of 34), with 4 further instances from outside the scored utterances. Difficulties already noted with describing police and firemen reappear

<sup>1</sup> cf. other NG instances also described as mistakes:

its look like, it look liked.

in policemans, polices, firemens (cf. a police, the firebrigade (= fireman) etc.). "He's playing balls" appeared twice, the remaining instances being distributed over a variety of nouns. If we take the appearance of over-generalization and redundancy as indicating a transitional stage in the development of a syntactic feature, it would seem that the plural inflection of nouns represents such a stage for the SG subjects, whereas the omission of a and the, which also discriminated between the NG and SG performances, indicates a lower developmental stage in this area.

#### 4.8 Word Order/Ambiguity, etc.

Low error-incidence (Table 34), lack of discernible patterns, and a number of instances attributable to performance factors (afterthoughts and rephrasings, for example) make discussion superfluous.

#### 4.9 Conclusions from Detailed Analyses

It is recognized that, in the absence of developmental weightings, an error count derived from spontaneous utterances is no more than a coarse measure of performance. In addition, the NOUN VOCABULARY is largely dependent on the stimulus material as is, to a lesser extent, that of the ADVERB and ADJECTIVE; and in the setting of spontaneous, informal conversation it was difficult to distinguish errors from performance mistakes, in the categories of WORD ORDER, REDUNDANT SUBJECT and AMBIGUITY/OBSCURITY.<sup>1</sup>

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<sup>1</sup> Errors under this heading, however, were invariably associated with difficulties noted under other headings, for example, VOCABULARY, use of get, etc.

Nevertheless, the analysis and discussion showed a general pattern similar to that of performance in the DSS categories,<sup>1</sup> and it was possible to identify three error-types which discriminated strongly between NG and SG subjects:

- (i) SUBSTITUTION OF on for in
- (ii) OMISSION OF /ðə / and a
- (iii) REDUNDANT/SUBSTITUTED PLURAL

The finding is significant in that these involve items described as early-developing among English-speaking children (Miller & Ervin 1964; Brown 1973; Crystal et al. 1976).

When PRONUNCIATION errors were counted from the 50 scored utterances, SG subjects produced six times as many as NG (Table 34.) An examination of the complete transcripts, however, reduced the difference to 21 instances (NG:31; SG:52) and a study of the phonemes involved showed that, in general, they were both late-developing and present in the samples from both groups. Where difficulties were specific to SG subjects they were confined to a few children, to a few words, and/or were not necessarily phonological in origin.

The most significant variables affecting performance appeared to be the lack of strong contrastive features (ARTICLES, PREPOSITIONS and certain VERBS) and/or of perceptual salience

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<sup>1</sup> Similar, in that rank-order of categories in error-frequency as in weighted developmental scores was the same for both groups, apart from the higher ranking of PRONUNCIATION for the SG subjects.

(unemphatic form of the, SIMPLE PREPOSITIONS).

The difficulty of keeping separate the linguistic levels of phonology, syntax and semantics was apparent in attempting to describe errors, and a study of individual performances suggests that where the same error is produced by different subjects the primary causative level may not necessarily be the same.

Chapter 5. Rita: A Record of Progress in Oral  
Language Performance (April 1977 to  
August 1978)

Synopsis: Some developmental sequences are noted  
in progressing from 'pre-sentence'  
to full sentence structures; syntactic  
and phonological features are examined  
in the light of data from the remainder  
of the SG subjects; a language profile  
illustrates the use of DSS in on-going  
assessment.

## 5.1 Rita

The subject whom we call Rita was SG40 (Table 1) with a DSS of 4.11 over eighteen scored utterances. Her age when the recording was made (10 August 1977) was 7 years, 2 months and 10 days.

Rita was among the subjects who were recorded during March-April, but on that occasion (Visit 1) she produced only fifteen scorable utterances. She was then aged 6 years 10 months and newly arrived in New Zealand. She had joined the school only two months before and had little or no English. Since Rita exemplified those children hypothesized as likely to experience greater difficulty than those entering a New Zealand school at the age of 5 years, it was decided to make follow-up recordings over a twelve-month period in order to trace her progress, and to note the developmental sequence of her acquisition of syntactic structures. During that period Rita received no specialized teaching, other than in reading (1978) with a small group of Pakeha children.

VISIT 1: 22 April 1977; Age: 6-10

All utterances were counted and then categorized as follows:

	<u>No.</u>
NON-MEANINGFUL RESPONSES	11
IMITATIONS	59
ECHOINGS	50
ANTICIPATIONS	5
SELF-GENERATED UTTERANCES	<u>69</u>
TOTAL:	194*

\* One utterance contained both IMITATION and SELF-GENERATED elements:

"ring (IMIT.) nice!"

Most of the non-meaningful responses occurred during the opening exchanges when Rita answered "No" to each question, including "Have you any brothers and sisters?" (She has an older sister and two younger brothers.) She appeared to be responding to the question-intonation, which she used herself at U.156.

"Imitations" were elicited, and "echoings" were spontaneous repetitions of words from a cue sentence, for example,

CUE: "Five. That's right. She has five blocks"

RESPONSE: "Fife block."

Towards the end of the session, when revising some of vocabulary items, Rita occasionally interrupted cue sentences to provide a word or words appropriate to the context, and such instances were classified as "anticipations".

Since Rita produced only 10 scorable utterances (i.e. with an articulated subject and verb) the remainder of the self-generated utterances must be classified under the headings given for Developmental Sentence Types (DST) in Lee and Koenigsknecht 1974 (Chart 1, 86-87). The DST chart shows a developmental pattern for "the emergence of grammatical forms in pre-sentences"<sup>1</sup>

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<sup>1</sup> Crystal et al. 1976 (198) argue that "the distinction between presentence and sentence is adult-oriented, and impossible to justify theoretically in relation to language acquisition... and it seems unnecessary and potentially misleading to make a rigid separation between them."

(Continued on the next page)

and thus provides a systematic way of studying and evaluating development at this stage. The full DST chart is shown in APPENDIX III.1. Its classification model was used only for the self-generated utterances produced during Visits 1 and 2, and was useful in identifying the areas of development. In general terms, these are based on Nouns, Designators, Descriptive Items, Verbs, and Fragments<sup>1</sup>, with their respective elaborations and modifications.

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(Continued from foot of previous page)

Nevertheless, in discussing the development of syntax in children, the writers' approach is described as being "a descriptive synthesis of what has been discovered about the order and rate of syntactic development... 'descriptive' is opposed here to 'theoretical'. We have not found it helpful in our work to look for theoretical explanations of language acquisition." (60) In this they are in agreement with Professor Lee's approach (1974; 82 ff), which has the added advantage of being based on normative data.

(Crystal et al. recommend that readers who would like to see a statistically more fully developed analysis than theirs go to Lee 1974. )

<sup>1</sup> "An utterance is considered a fragment if it contains neither the subject nor the verb of the sentence." (Lee 1974; 118). Fragments include, for example, counting, reciting days of the week, prepositional phrases, etc.

## SYNTACTIC FEATURES: VISIT 1.

All of Rita's scorable utterances were of the type described by Lee 1974 (89) as the designative sentence (Brown's 1973 "ostensive sentence"). These sentences "begin with this, that, here, there, or it, followed by the copula and the name of the topic."<sup>1</sup> Some examples from Rita's utterances were:

- A. it's the mammy
- B. it's boy
- C. it's the boy
- D. there's ball
- E. there's buses

Lee describes the ability to put noun phrases into acceptable sentence structures as "a big step in language development marking the transition from simple naming to propositional speech."<sup>2</sup>

We note, however, that it was being used as a general-purpose designator: in A. it was used instead of she; in C. instead of that. The articles a and the also appear in seven self-generated utterances, but are more often omitted. Further indications of emerging grammatical forms occur in the following areas: <sup>3</sup>

## NOUN ELABORATION:

Conjunction: and ball; and red; and green colour

<sup>1</sup> Lee 1974, page 89.

<sup>2</sup> *ibid.*, page 89.

<sup>3</sup> Stimulus materials for VISITS 1 and 2 were those used in the investigation with other subjects.

DESCRIPTIVE ITEM: yellow

Basic sentence modification (Pronoun): shes (= her(s)?)

VERB (Single word utterance):

A. Verb elaboration: playing, running

Verbal elaboration (in 2-word combinations):

B. Verb + object: change it

C. Copula + complement: is boy

D. Negative: don't know

Verbal elaboration (in constructions, i.e. 3 or more words):

E. Verb + object: got a ball

Utterances A. were produced in response to picture stimuli, and were unprompted, although playing had been modelled for the previous picture. Utterance B. was a completion of the cue sentence: "And the fireman is trying to...?" and may indicate a comprehension of the infinitive structure, which Rita does not produce until VISIT 3, a year later. The negative forms can't and don't are regarded as single-word forms at this stage of language development (cf. 'wanna', 'gonna'). Utterance E is perhaps the most promising sign of emerging awareness of syntactic relationships. It was a spontaneous response to a picture stimulus and is one of the two utterances to depart from the apparently stereotyped designative patterns. The other could not be included as a sentence since it was not clear whether the second 'word' was intended as a complement or as a V-ing form. It appeared twice:

it's /tʃeli/ buses

he's /tʃeli/ (= driving?)

and the latter was the only instance of the use of a personal pronoun in this sample (other than the single-word shes (= her(s)?)

#### PHONOLOGICAL FEATURES

In both imitations and self-generated utterances there were instances of substitution of voiced for unvoiced stops, and vice-versa, notably with the pairs /b/p/, /d/t/ and /v/f/. In general, however, Rita demonstrated a marked ability to reproduce the sounds and intonations of modelled utterances. In view of this, the occasions when her performance showed evidence of difficulty were examined carefully to determine, if possible the source(s) of the difficulty, and also whether it/they could be related to any of the error-patterns noted in the other SG samples.

It was therefore interesting to note that the most frequently occurring difficulty was associated with the production of -ing forms, and that the difficulty was increased:

- (i) when the modelled utterance contained a pronoun as subject, and/or
- (ii) when the -ing form was followed by the in its unemphatic form before consonants.

The following modelled utterances and Rita's attempts at imitation illustrate these points:

MODEL A: "He's blowing a bubble"

IMITATION: "He's /blon/ a bubble"

MODEL REPEATED: "He's blowing a bubble"

IMITATION: "He's blowin a \*bubba"

\* /l/ was also omitted from blue, apple and building

MODEL B: "He's throwing a ball"

IMITATION: "He's \*/[o/ a ball

MODEL REPEATED: "He is throwing a ball

"He is /fron/ a ball

\* /θ / also produced as /s/ in three

MODEL C: "The girl is building the blocks"

IMITATION: "An dirl is bui(l)din\* block\*\*

\* Later the MODEL "a building" was imitated perfectly, and produced spontaneously some fifteen utterances later, which suggests that that "overloading" occurs when certain phonemes are combined in a complete sentence. When MODEL B above was segmented, for example, Rita produced throwing perfectly.

\* \*/ks/ also omitted from socks.

MODEL D (presented with marked open junctures):

"He..is..driving..the car

IMITATION: "He's drive../dɛər/...(h)is t(r)uck

The "imitation" has some interesting points. First, there is the pronoun-copula contraction he's, when the uncontracted form was modelled. Second, there is the /dɛər/ form which may represent there as being Rita's perception of the modelled /ðə ka:/. There is some support for this interpretation in that when the model was repeated, the following exchange took place

(cues in brackets)

MODEL D REPEATED (the slightly stressed): He's  
driving the car"

RESPONSES & CUES: "dar" (car) "dar" (car) "dar" (car) "car".

The addition of (h)is t(r)uck also suggests that in the model sentence /ðə ka:/ was not interpreted as ARTICLE + NOUN.

Length of modelled utterance did not appear to be a significant variable, since models of similar or greater length (on syllable count, with he's regarded as one "syllable") were imitated almost perfectly when they did not contain a /ŋðə/ sequence. The models were:

MODEL E: The window is broken (6 syllables)

MODEL F: The apple is in the window (8 syllables)

IMITATION: /ti:/ apple is in / də/ window.

The imitation of MODEL F indicates that the difference between the two forms of the, / ði:/v/ðə/, was perceived, but could not be realized. Singh 1976 quotes Templin's data as placing the acquisition of / ð/ at age 7, and although / ŋ/ is acquired earlier<sup>1</sup> it seems reasonable to postulate that its combination with the late-developing / ð/ in contexts of low perceptual salience is likely to present difficulty to non-native speaking children at this age-level.

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<sup>1</sup> Singh 1976 quoting data from Templin and Poole (pages 159-160) who place the acquisition of / ŋ/ at 3 years and 4.5 years, respectively. It should be noted, however, that Poole's criterion was 100% correct production whereas Templin's was 75%.

The other phonemes causing difficulty: /l/, /θ/, /ks/ have already been noted as occurring among the NG and SG samples with similar patterns of omission and/or substitution (4.4). It was also interesting to note that Rita at this early stage had no difficulty in producing the /z/ and /dʒ/ phonemes, which lends support to the findings discussed in 4.4, where the SG performance might otherwise be considered as resulting from longer exposure to L2.

The difficulty of assessing the general intelligence of children with little or no English has already been referred to in 2.4, together with Roger Brown's 1973 hypothesis that rate of acquisition (of L1) will prove to be dependent on this g factor. Since this investigator's impression that Rita was above average in g was confirmed by her subsequent progress (See Tables 37 and 38), an attempt was made to describe the behaviours which contributed to this impression.

The most notable were:

- (i) attention
- (ii) responsiveness
- (iii) aural discrimination/oral production

VISIT 2: 10 August 1977; Age: 7-2

On this visit, almost four months later, Rita showed her comprehension of every question, request, etc. by responding appropriately. When a vocabulary item was missing she asked,

"What's that?"

The low number of utterances is accounted for by the shorter time spent in conversation: 23 minutes instead of 30; the remaining 7 minutes were spent (at Rita's request) in listening to her reading. Utterances were categorized according to the VISIT 1 model, with the following result:

NON-MEANINGFUL RESPONSES	0
IMITATIONS	11
ECHOINGS	3
ANTICIPATIONS	0
SELF-GENERATED UTTERANCES	<u>51</u>
TOTAL:	65

The self-generated utterances included 7 uses of the question what's that?, only one of which could be scored. The scorable and near-scorable utterances were beginning to show greater variety in structure, containing:

QUESTIONS ( <u>wh</u> -questions)	4
<u>is</u> -cop. and <u>is</u> -aux	2
IMPERATIVES ( <u>Look</u> )	2
NEGATIVES	2
PAST TENSE & PAST PARTICIPLE	*3

\* The identification is not positive owing to the articulation. The utterances were:

CUE: "And this ball is going?" (PICTURE-SERIES I)

RESPONSE: "an(d) blo' inbow" (= and broke window?)

and,

CUE: "Someone is eating the apple" (PICTURE-SERIES A)

RESPONSE: "Yeah eat an(d) that one /i : ke/ apple

CUE REPEATED: "eating the apple"

RESPONSE (emphatically): /i:k/ + /ən/ apple

INVESTIGATOR: "eaten apple...it's all gone"

RESPONSE: \*no? /i:k ə n/ apple (POINTING TO WHOLE APPLE)

\* This represented not with glottal stop in place of t.

The remaining near-scorable utterances contained the following "constructions" (i.e. DST description of utterances of more than two words):

4 ELABORATIONS OF THE DESIGNATIVE PATTERN:

Examples: this one paper

that yellow one

In all four instances is-cop. was omitted, but we note the progress from general-purpose it's in VISIT 1 to the use of this/that contrast and of indefinite pronoun one.

4 ATTEMPTS AT is + V + ing:

Examples: girl sitting in plock

(= the girl is sitting on the blocks)

boy is pomb his plooon (3 instances)

(= the boy is popping his balloon)

There is further evidence of development in Rita's use of the conjunction and in a variety of combinations, for example:

and + Noun (3 instances): and car

and + Nouns (3 instances): tree and windows ;

house and snow and boys and girls ;

and + Pronouns/Nouns + Descriptive Items (3 instances):

and this one

and little one

two apple and cheese

Finally, the appearance of VERB ELABORATION in the form of Verb + Object + Prepositional Phrase in,

make tower with block

and of an attempt at comparison in,

look Womble (=he looks like a Womble)

also indicate growing awareness of syntactic relationships.

#### PHONOLOGICAL FEATURES

The interchanging of voiced/unvoiced stops continued to appear, notably with p/b and k/g, as did the difficulty with /ŋð / sequences noted in VISIT 1.

The substitution of /f/ for / θ/ was a source of confusion (evidenced by hesitance) when counting thirteen, fourteen. (A similar instance was noted in another SG sample.)

#### VISITS 3 TO 6

Rita's language development, as measured by DSS, over the five months from March to August 1978 was such as to reduce her language delay from 50 months to about 36 months. (Table 37).

The delay was measured according to the procedure described for Figure 1 (2.4), with the proviso that only a general comparison can be made between the DSS scores in the present study and those obtained by Lee 1974 (See 1.7 MODIFICATIONS OF DSS PROCEDURES).

It should be noted that the procedure adopted for these visits was more flexible than that required for research purposes. The stimulus materials, for example, were selected with a view to eliciting specific structures, as well as to identifying areas of language delay. For this reason, a single session could produce

a biased sample if, for example, the stimulus required the production of interrogative reversals or of relative pronouns. Nevertheless it seemed desirable to follow the kind of procedure which would be used by a teacher in evaluating the achievement of specific language teaching objectives based on the needs of an individual child. The sessions were informal, the purposes being to encourage all responses and to maintain interest. The approach was basically non-corrective, a modelled utterance being provided only when attempting to establish the aux. is + V-ing forms, to supply a missing vocabulary item, or to practise a game formula (for example, Happy Families).

The following summary of VISITS 3 to 6 indicates the kind of stimuli used, their purpose, and the main areas identified as developing and as deficient.

#### VISIT 3.

Stimulus materials: Looking and Talking 1 (APPENDIX I.1);

Large pictures from school supply: family activities (swimming-pool; picnic scenes, etc.)

Areas of development: increase in number of scorable utterances (Table 38);

. some items at higher developmental Levels (Table 40).

Areas of deficiency: is, are + V-ing forms;

. omission of a, the.

Other areas needing development: conjunctions other than and (Table 40).<sup>1</sup>

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<sup>1</sup> The appearance of like at this early stage supports the decision to relegate it in future to Level 5 (APPENDIX I.3).

. the use of pro-form so, or of co-ordinate subject. (Rita produced five sentences of the type: This boy is laughing and these; This girl is go swimming and the mother, etc.)

General comments: on next visit elicit aux-be + V-ing forms;

. check mastery of Level 8 Interrogative Reversal (have you got) which appeared in this session.

#### VISIT 4.

Stimulus materials: picture card sequences B, C, F, G, H. (APPENDIX I.1); card game Happy Families; board game, with dice; story book, Fish is Fish.

Areas of development: marked improvement in Main Verb category (Tables 39 and 40);

. use of a, the (only 3 omissions);

. wh-Questions and Interrogative Reversals (Tables 39 and 40)

. conjunctions because, when, like (with if attempted)

Areas of deficiency: relative pronouns who, that;

. prepositions: out/off; to/with.

Other areas needing development: Secondary Verb;

. Conjunctions.

General comments: Rita's imitations of modelled aux-be + V-ing forms showed continuing uncertainty, which may have been associated with unfamiliar vocabulary items;<sup>1</sup>

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<sup>1</sup> These attempts were not included in the score sheets. They took place near the beginning of the session, and were based on the picture cards B, C, and G: the leaf is falling, the tap is dripping, the birds are flying, etc.

. the card game, Happy Families, was used to elicit both Interrogative Reversals (Have you got...?) and relative pronoun that (the man that sells fish, etc.). The stimulus had to be abandoned when it became clear that Rita's vocabulary of nouns and verbs was inadequate. Although she could not retain the modelled that construction, she used a relative pronoun in, I don't know what he's doing;

. omission of to marker was noted after going (She's going take the cake) with no other attempt in the Secondary Verb category.

VISIT 5.

Stimulus materials: Game Find the Key; Story books: The Three Bears, Three Little Pigs, The House that Jack Built, Fish is Fish.

Areas of development: first appearance of co-ordinate subject (although without plural verb);

. wanna, gunna, tryta also appear (to is still omitted after going, indicating that gunna etc. are stereotyped forms).

. Rita continues to use Wh-questions and Interrogative Reversals frequently, and correctly.

General comment: the game of Find the Key was intended to emphasize is-cop. by giving it extra semantic significance ("Is it in the box?"), but Rita still found production difficult and one had the impression that the difficulty was occurring at the phonological level, with apparent confusion between it is and is it. It also demonstrated Rita's limited productive vocabulary of prepositions; her receptive vocabulary was better but she was unsure of

behind and beside;

. in retelling The Three Bears, she still had difficulty with aux. is + V-ing forms but produced several past tense forms: sat, came, jumped, got, went, pushed, and the possessive morpheme 's.

. used conjunctions so and but;

. demonstrated good auditory memory in retelling the story of Fish is Fish (without the book) which was used in the previous visit, that is, after two months.

. the story, with pictures, of The House that Jack Built was a further attempt to establish relative pronoun that, but again it was clear that she was not yet ready for the construction.<sup>1</sup> When repeating the modelled utterances, her intonation showed that that was perceived as a demonstrative:

"This is the cat. That killed the rat," etc.

VISIT 6.

Stimulus materials: Picture card D, and the sequences E, H, I;

. The Three Bears.

Areas of development: mainly evident in Main Verb and Conjunction categories (Tables 39, 40), as well as in wider vocabulary range.

Areas of deficiency: as noted in the summary of development below (with reference to Table 40).

General comment: picture sequence H (the boy with the bubblegum) had been used in VISITS 2 and 4, so that it was possible to compare performances. She was still

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<sup>1</sup> See 3.3, Personal Pronoun Category where a similar pattern was noted among SG subjects.

uncertain about use of is popping and has popped, perhaps confusing the two:

he is pop the b'lloon

the b'lloon's pop.

. the third retelling of The Three Bears (her favourite story) also provided valuable material, a detailed analysis of which would be out of place in this summary. In general, it seemed that development in one area, for example, in vocabulary, length of utterances, use of past tense forms, was sometimes accompanied by errors in previously correct structures, so that the pattern is one of increasing mastery when viewed as a whole.

A general discussion of Rita's progress as revealed by the quantitative analyses (Tables 37 to 40), and in comparison with the performance of NG and SG subjects follows.

Record of progressive reduction in language-delay by subject SG40 from 10 March to 10 August 1978 as measured by comparing successive DSS with the 50th percentile point scores for earlier age-levels as shown in Lee 1974 (167)

DATE OF VISIT	SG40 AGE Y.M.	DSS	50TH PERCENTILE POINT AT AGE: Y.M.	APPROX. DELAY IN MONTHS
10.3.78	7-9	6.80	3-7 (approx.)	50
7.4.78	7-10	7.34	3-9 ( " )	49
16.6.78	8-0	8.52	4-9 ( " )	39
*10.8.78	8-2	8.84	5-2 ( " )	36

\* It should be noted, however, that on this occasion Rita's mean score over 73 scorable utterances was 9.23, which represents a language-delay of approximately 32 months; her score of 11.88 over the 50 highest scoring utterances is just below the 50th percentile point for the SG subjects in the present study (12.49), and just below the 10th percentile point for the NG subjects (12.25).

Table 38 shows that the proportion of scorable utterances to total utterances increased markedly over the five-month period (from 56.93% to 96.05%). The mean scores over the 50 highest-scoring utterances were taken out in order to make use of all available information, and the procedure would be advisable when recording the progress and identifying areas of development and of delay in the performance of individual children for teaching purposes.

Table 38. Mean scores obtained from all scorable utterances; from fifty scored utterances (DSS); and from the fifty highest scoring utterances by subject SG40 over the period from 22 April 1977 to 10 August 1978.

	VISIT 1	VISIT 2	VISIT 3	VISIT 4	VISIT 5 (40 mins)	VISIT 6
	22.4.77	10.8.77	10.3.78	7.4.78	16.6.78	10.8.78
TOTAL UTTER- ANCES	193	51	137	98	93	76
SCORABLE UTTER- ANCES	10	18	78	80	76	73
MEAN SCORE	1.7	4.11	6.24	6.80	7.32	9.23
DSS (50 utter- ances)	-	-	6.80	7.34	8.52	8.84
MEAN SCORE (50 highest scoring utter- ances)	-	-	-	9.72	10.00	11.88

It is interesting to note that, after one year in a New Zealand school, Rita's DSS of 6.80 (on 10th March, 1978) is higher than that of SG38 (6.12) who was eight years old, had spent three years in school and had been born in New Zealand. The comparison can only be taken as a general one, since the performance of SG38 may have been affected by the interacting variables of the subject's shyness and the unfamiliar situation and interviewer.

Table 39 shows the development, as recorded over 50 scored utterances, in each of the eight DSS grammatical categories, together with Sentence Point scores over the five-month period.

The pattern of development is similar to that noted in the analysis of the performance of NG and SG subjects (2.1 ff). Perhaps the most interesting finding was that Rita, in common with other SG subjects, showed an early mastery of Wh-Questions with reversal of copular and auxiliary is, are, and of auxiliary have (a Level 8 item) while still omitting or misusing these forms in declarative sentences. The language sample from VISIT 3, for example, showed 7 instances of omission of have in attempting have got and yet it was produced in the question,

Have you got books at home?

In the same language sample there were 20 errors in the use of auxiliary-be + V-ing forms at developmental Levels 1 and 2, and a closer study of the items suggested that at this stage Rita perceived auxiliary-is as copular-is in declarative sentences. She produced, for example, the following question-forms correctly:

What are you doing?

What's he doing?

What number's that?

but there were several instances where the declarative form was produced as:

he's stand up

he's go to swimming. I'm go to swimming

the big boy is lay down (= is lying down) etc.

Table 39. Record of development in the eight DSS grammatical categories from 10 March 1978 to 10 August 1978, and Sentence Point scores over that period for subject SG40 (Rita)

	Age	Indef.Pn Nn Mod.	Pers. Pn.	Main Vb.	Sec. Vb.	Neg.	Conjunc- tion	Interr. Rev.	Wh-Q	S.Pt	TOTALS
<u>10 March 1978</u>	7-9										
WDS*		51	71	77	23	16	61	16	6		321
NO.OF ENTRIES		27	55	49	6	4	17	3	3	24	164
MEAN WDS		1.89	1.29	1.57	3.83	4.00	3.59	5.33	2.00		1.96
<u>7 April 1978</u>	7-10										
WDS		75	55	107	-	5	16	73	12		343
NO. OF ENTRIES		41	42	44	-	2	3	10	6	24	149
MEAN WDS		1.83	1.31	2.43	-	2.50	5.33	7.30	2.00		2.3
<u>16 June 1978</u>	8-0										
WDS		23	203	110	15	22	89	15	24		426
NO. OF ENTRIES		19	46	63	5	4	26	5	12	23	180
MEAN WDS		1.21	4.41	1.75	3.00	5.50	3.42	3.00	2.00		2.37
<u>10 August 1978</u>	8-2										
WDS		36	76	127	29	38	101	14	2		423
NO. OF ENTRIES		22	34	52	9	8	30	3	1	19	159
MEAN WDS		1.64	2.23	2.44	3.22	4.75	3.37	4.67	2.00		2.67

\* Weighted Developmental Scores

Table 11 shows that SG subjects were more likely to omit auxiliary be than to omit the -ing suffix and it therefore seems significant that in Rita's performance the auxiliary slot is almost invariably filled. If, as hypothesized, she was confusing the copular and auxiliary functions of be, it would be interesting to determine, by a wider sampling of Samoan children, at a similar level of language development, with similar length of schooling etc., whether this represents a developmental stage in the acquisition of English by such children.<sup>1</sup> By VISIT 6 the be + V-ing forms were still not stabilized, both correct and incorrect forms often occurring in the same utterance, the latter appearing sometimes as omission of auxiliary be, sometimes as omission of -ing suffix. The following instances appear in consecutive utterances at VISIT 6:

"the girl eating Mother Bear's food and the  
girl's eating the baby bear's food"

"the girl is sit in the mother's bear..."

"the girl is sleep in father's bed"

It has already been noted (2.2) that weighted developmental scores provide only a general indication of a child's ability to handle grammatical load in the context of informal conversation with an adult, and that it is advisable, when formulating teaching objectives,

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<sup>1</sup> Brown 1973 noted a similar phenomenon among young English-speaking children (page 265).

to examine the developmental Levels at which items are being produced and/or attempted in each of the DSS grammatical categories.

Table 40 shows in abstract form Rita's language-development profile over the five-month period. The lexical items corresponding to the gaps at the various developmental Levels can be identified from the DSS chart; those corresponding to 'attempts' from the transcripts. Such profiles, therefore, provide the bases for specific objectives in language-teaching. Rita's performance over the four visits indicates, for example, that:

- (i) she is generally accurate in the production of items at the lower developmental Levels in all categories except the Main Verb;
- (ii) negative forms may need to be developed (See Level 4, Indefinite Pronouns; Negative category; Level 5, Conjunctions);
- (iii) embedding devices are not being full utilized (Level 6, Personal Pronouns;<sup>1</sup> Secondary Verb category)
- (iv) her vocabulary of conjunctions needs to be extended. Reference to the transcripts shows that Level 8 items are represented only by like and when; Levels 5 and 6 are also under-represented in terms of frequency.

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<sup>1</sup> Uncertainty about the relative pronoun construction appeared at VISIT 5, when Rita seemed to be confusing Indefinite Pronoun- that with Relative Pronoun - that, in retelling the story of The House that Jack Built. (cf. Kennedy 1972; page 83)

Table 40. Number of entries and of attempts at each of the developmental Levels of the eight DSS categories from 10 March 1978 to 10 August 1978 for Subject SG40 (Rita)

	Indef.Pn/ N.Mod.				Personal Pronoun					Main Verb					Secondary Verb				Nega- tive			Conjunc- tion			Interrog. Rever- sal			Wh- Question											
	1	3	4	7	1	2	3	5	6	7	1	2	4	6	7	8	2	3	4	5	7	8	1	4	5	7	3	5	6	8		1	4	6	8	2	5	7	8
DEVELOPMENTAL LEVELS	1	3	4	7	1	2	3	5	6	7	1	2	4	6	7	8	2	3	4	5	7	8	1	4	5	7	3	5	6	8	1	4	6	8	2	5	7	8	
NO. OF CORRECT ENTRIES	15	12	-	-	41	12	2	-	-	-	39	4	4	-	2	-	1	-	4	1	-	-	1	2	-	1	15	-	-	2	-	2	-	1	3	-	-	-	VISIT 3 10.3.78
NO. OF ATTEMPTS											6	4	-	6	-	-	-	1	1	-	-	-																	
NO. OF CORRECT ENTRIES	27	14	-	1	35	1	6	-	-	-	27	3	8	-	6	-	-	-	-	-	-	-	1	1	-	-	1	1	-	1	-	-	5	5	6	-	-	-	VISIT 4 7.4.78
NO. OF ATTEMPTS											4	6	4	3	-	-	1	1	-	-	-	-	-	1	-	-													
NO. OF CORRECT ENTRIES	17	2	-	-	18	17	5	-	6	-	33	23	5	1	1	-	3	-	1	1	-	-	-	2	-	2	23	-	2	1	3	-	2	-	12	-	-	-	VISIT 5 16.6.78
NO. OF ATTEMPTS											6	22	-	-	-	-	-	-	1	2	-	-																	
NO. OF CORRECT ENTRIES	15	7	-	-	9	8	17	-	-	-	27	12	6	-	4	3	4	-	4	1	-	-	-	6	-	2	26	1	3	-	-	2	1	-	1	-	-	-	VISIT 5 10.8.78
NO. OF ATTEMPTS	1	1	-	-	1	2	2	-	1	-	8	9	1	1	-	3	1	1	-	-	-	-																	

- (v) Level 7 Indefinite Pronouns/Noun modifiers need attention, especially the quantifiers (few, many etc.) and the ordinals (first, second, etc.)

#### SUMMARY

This brief account of one child's progress in oral language performance does not do justice to the wealth of material available in the recordings and transcripts. The investigator is satisfied that the exercise can provide valuable information for a teacher seeking specific language-teaching objectives for individual children, as well as providing a method of evaluating their subsequent progress.

It should be noted, however, that the measurement of 'language-delay in months' is based on norms derived from a study of American children aged 2-0 to 6-11, and is intended only to provide a general indication of progress in relation to a child's current age-level. It is important to bear in mind, in the context of second-language learning, that improved DSS scores over a period may not represent a significant narrowing of the gap between the performance of an L2 child and his L1 age-mates.

The comment of Crystal et al. 1976 (30-31) is particularly apposite:

"...any linguistic remediation procedure based on developmental norms that does not attempt to correlate its structural stages with chronological age is shirking the main issue."

Their argument is that the variability in rate of syntactic development is not sufficiently great to warrant discarding the notion of chronological norms, the emergence of specific features generally clustering "within a period of about 6 months."

## CONCLUSION

In assessing the findings from the analyses of performance one must consider whether the main purposes of the investigation have been achieved, whether its limitations are significant, and what applications are possible in the teaching of English - either as a first or as a second language.

The main findings may be summarized as follows:-

- (i) in certain areas the evidence suggested that difficulty and/or uncertainty was characteristic of language development at the age-level studied. Such difficulties appeared at different linguistic levels and were common to both groups of subjects, for example:
- . past tense and past participle forms of irregular verb (3.4.2);
  - . complex and correlative conjunctions (3.7);
  - . use of relative pronouns (3.3);
  - . the expression of conditionality and of concepts related to calendar time (3.4.4,4.2);
  - . the realization of certain phonemes, notably /θ, ð and dʒ / (4.4);
- (ii) difficulties specific to the Samoan children were identified as appearing in syntactic structures described as early-developing among English-speaking children, the most notable being:
- . the verb forms at Levels 1 and 2 (3.4.1, 3.4.2, Table 22);
  - . gender-agreement of pronouns (3.3);
  - . the distinction between on and in as locative prepositions (as distinct from their use and variations in describing 'goal/target' (4.3.8));

. omission of the and a in their unemphatic/  
 unmarked forms, i.e. before initial consonants (4.5);  
 (iii) language-delay was most serious among the Samoan  
 children below the 50th percentile for that group,  
 their performance on all measures being generally  
 characterized by a steep decline after that point,  
 when compared with the NG scores. (A finding  
 summarized in APPENDIX II.2).

The methods of scoring and analysis, therefore,  
 discriminated effectively both between and within the groups.  
 The measures of frequency and of weighted developmental  
 scores were indicators of syntactic maturity/immaturity in  
 the eight grammatical categories. The classification by  
 error-pattern and by linguistic level enabled finer  
 distinctions to be made when a simple error-count suggested  
 that children from both groups were demonstrating difficulty  
 in a particular area. (This point is discussed below in  
 relation to the possible applications of these research  
 methods.)

The information obtained is seen as having particular  
 value in that it provides specific targets for remedial  
 teaching as well as indicating areas where mastery has  
 been achieved. It was notable, for example, that the  
 performance of the Samoan children above the 50th percentile  
 was comparable to that of the NG children in certain  
 grammatical categories, notably Secondary Verb, Negative,  
 Interrogative Reversal and Wh-Questions, and that in the  
 Conjunction category there were more Level 8 entries in  
 the Samoan group. It was suggested (3.10) that such  
 achievement can be misleading when the same children are

experiencing difficulties with those structures which native-speaking children have generally mastered over the period from eighteen months to five years when they enter primary school. Such 'early-developing' structures are not necessarily less complex: verb inflections at DSS Levels 1 and 2, for example (See 3.4.1), or the distinctions involved in the handling of the and a, and it seems reasonable to suggest that length and kind of exposure to the target language are the main determinants of such mastery by children from English-speaking homes. Nevertheless, it was interesting to note that even low-scoring Samoan children demonstrated mastery of have, do, and be in Interrogative Reversals (3.7, 5.1), while making errors with the same forms in declarative sentences. The difference may be due to their greater semantic load in the interrogative form (Lee 1974, 194), to their clearer aural perception in their uncontracted forms (have you v. you've, etc.), or to the frequency of such interrogative structures in teacher-pupil interaction.

The limitations of the research are seen as arising mainly from the size of the NG sample and the nature of the language situation. The forty native-speaking subjects are not claimed as representing the New Zealand 7- to 8-year-old population, of 'average' children from 'average' homes, since they were all attending schools in urban centres. The need to limit the size of the 'normative' group was dictated by the requirement that both groups of subjects be interviewed within a limited time-span, and that each day's recording be transcribed on the same day by the interviewer, in this case the present writer. Since each

interview represented, on average, over two hours' work it was not possible to deal effectually with more than three per day. It seems unlikely, however, that a larger and more representative sample of the target population would produce significantly different results on the general DSS syntactic measures. Similarly, it could be argued that the Samoan sample may not be representative of the population in that such children are usually attending schools where they form a higher proportion of the roll than they do in the Christchurch area. The study quoted in the Introduction (Ward 1978) suggests that 'a low proportion of immigrant peers' is disadvantageous for second-generation immigrant children mainly because such schools do not qualify for specialist teachers.

One may therefore conclude that if there is a bias in the present sample it is likely to be shown by a lower SG mean score on the overall DSS measure. It should not, however, significantly affect the findings from the detailed analyses of the various grammatical categories.

Reasons for the choice of language situation have been discussed in 1.2. The limitations are those generally accepted as occurring in attempts to reconcile the conflicting desiderata of spontaneous performance and accurate recording. Given the purpose of the present investigation and the age-level of the subjects, the conditions are not seen as having distorting effects on the language produced. Shyness, for example, might be considered as likely to inhibit the performance of Samoan children with an unfamiliar, non-Samoan adult, but the investigator found no evidence of shyness being caused by that situation: the few children whose shyness persisted

throughout the half-hour session were reported by their teachers as displaying the same characteristic in the classroom. As a result, the teachers had been unable to assess their performance in oral language, and had to assume that 'low output' was a reflection of lack of competence in the target language - a natural and probably justified assumption in most cases (see 2.3, SUMMARY).

It was interesting to note, however, that at least two of the Samoan children described as being shy or uncommunicative in the classroom did not display these characteristics during the recording sessions, their performance on the overall DSS measure ranking them 7th and 10th<sup>1</sup> in the SG sample.

It is hoped that this attempt to establish some normative data for the oral language performance of children aged 6-10 to 8 years will provide a basis for evaluating the level of achievement both of native- and non-native-speaking children. The analysis of language data according to the methods used in this study will indicate specific areas of difficulty, and the developmental sequence shown for each of the DSS categories is an invaluable aid in planning programmes for individual children. It should be noted that the instrument (Developmental Sentence Analysis) can, and should, be used in evaluating progress. (Chapter 5)

A teacher can also verify, for example, whether a child's non-use of an item represents a lack of knowledge, or merely

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<sup>1</sup> SG10 is also noted (2.1) as being 8 months below the mean age for SG subjects scoring above the 75 percentile point.

a lack of opportunity to use it - a procedure which was not always possible under research conditions. The importance of closely examining the lexical details should also be stressed. In the present study this was illustrated in the analysis of error-patterns in the use of prepositions (4.3.8), and also in the study of pronunciation (4.4) where it was found that high error-incidence among the SG subjects was not necessarily indicative of difficulties specific to that group. Close examination also showed that where both groups experienced difficulty in the same syntactic area, or at the same developmental level, the difficulty was not always similarly manifested, for example, in attempts to express agent/instrument (4.3.8), and in the handling of past tense markers (3.4.2). In these and other areas, the classification according to error-pattern distinguished between 'growth errors' (characterized by over-generalization or by substitution of semantically related words) and 'delay/deficiency errors' (characterized by omission of required morphemes, or by application of a stereotyped formula, got hurt from). It was not always possible, however, to attribute the source of the difficulty to a specific linguistic level because of the interacting variables of aural discrimination/oral production/syntactic-semantic features. The implication is that in a teaching programme the choice of method will depend on identifying the dominant variable: for one child the persistent use of on for in may represent a failure in aural discrimination; for another, a failure to comprehend their semantic distinction in certain contexts.

It should perhaps be stressed at this point that the terms "language delay" and "deficiency" as used in this study apply only to specific linguistic structures (Introduction; 22-23). There is no suggestion that omission of the copula, for example, represents a failure in logic (3.4.1; 95-96), or that the use of on for in represents an inability to perceive spatial relationships (4.3.7; 181-182). Nor should the references to possible differences in early language experiences be understood as implying cultural or linguistic deprivation: they merely note as a possibly significant variable that a Samoan child's L1 experience must be different from the L1 experience of children born to native English-speaking parents, whether his parents spoke Samoan, or English as a second language. The term "delay", as used in the present study is not synonymous with retardation or underdevelopment (terms used by Cazden et al<sup>1</sup> in criticizing the concept).

In commenting on language differences, Cazden et al<sup>2</sup> maintain that one should not regard nonstandard speakers (in this case Black and Puerto Rican children) as being "retarded in their verbal development" simply because many nonstandard forms happen to coincide with the early developmental patterns of children learning standard English. Their argument is that such forms actually represent "further developments - going beyond the standard - and more remote from childhood patterns than SE." (Authors' emphasis) According to this rich interpretation, the omission of be-cop. (He my brother) should be described as deletion, that is, rule-based. The present writer would argue that until we have an adequate description of the English spoken by Samoan children in New Zealand as a separate dialect, it is not possible to judge which, if any, of its forms represent further developments of standard English.<sup>3</sup> In the present data, for example, it was noted that be-aux. forms were more frequently omitted (or possibly "deleted") than be-cop. forms (Table 11). Nor did the Samoan children demonstrate any significant difficulty with negative forms, among which "negative concord" and "negative inversion" are given

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<sup>1</sup> Cazden, Baratz, Labov, & Palmer: "Language development in day-care programs." In Cazden, C.B.(ed): Language in Early Childhood Education (1972), page 89.

<sup>2</sup> *ibid.* pages 83-99.

<sup>3</sup> One might also question the usefulness of the exercise since the speakers of standard English have not yet recognized these forms as improvements.

as exemplars of rule-based, non-standard usage in Black English. It therefore seems more economical to use the developmental model and to postulate as variables early experiences in the target language, and perceptual salience at one or more of the linguistic levels. This model is also more productive as a basis for teaching in that it focuses attention on the possibility of individual differences rather than assuming that all differences may be ascribed to dialect forms.

The idea that nonstandard speakers should be helped to acquire standard English has also come under attack in the general reaction against the deficit theory, so that to use terms like "remedial" or "compensatory" is to be labelled in turn as "patronizing", "ethnocentric", and as favouring "assimilation" over "multiculturalism". It would be unfortunate if in our anxiety to avoid negative labels we were to ignore the realities of an education system in which a command of standard English is a prerequisite for success, and from which most parents expect to derive improved prospects for their children. A recent article in the Oxford Review of Education<sup>1</sup> seems to herald a return to equilibrium, following the extremes of the deficit-difference controversy.

Having examined the various theories advanced to account for "the persistence of educational under-achievement by children from working class homes", Gutfreund comments:

"Because education is primarily universalistic, related to historical and macrocultural processes which transcend local boundaries, it remains relevant for all. Searching for a unique 'working class' culture or 'black culture' only detracts from this and legitimates the provision of what may be regarded as 'second-rate education.'"

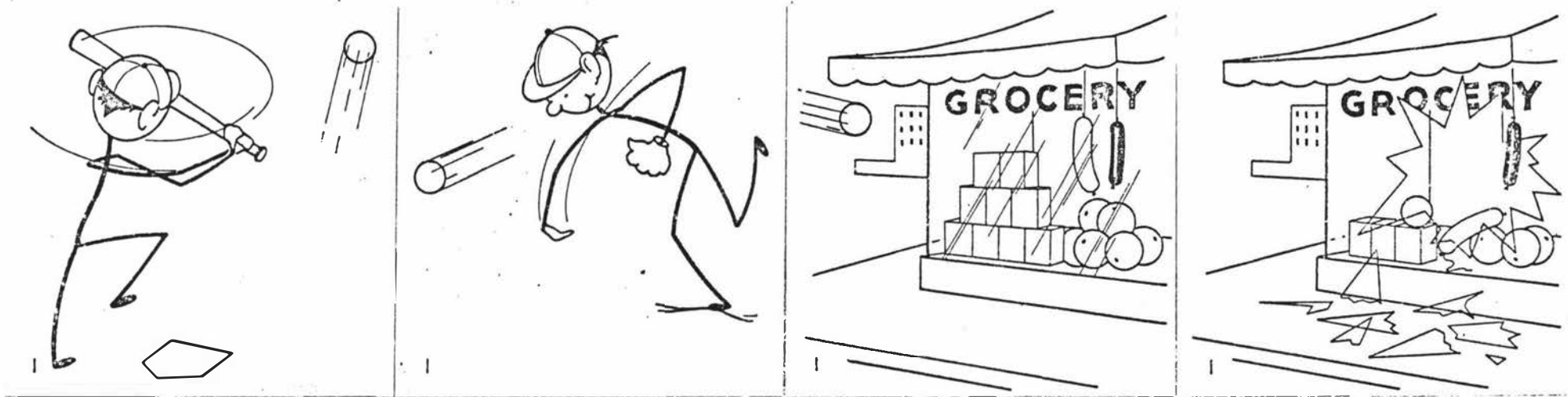
Until, therefore, our education system provides some tangible recognition for proficiency in nonstandard/dialect forms of English, teachers will continue to feel concern for those who may be handicapped by their use, and will want to translate that concern into action.

The present study was undertaken in order to provide the kind of information on language use that those teachers ask for.

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<sup>1</sup> Gutfreund, R.: "Some assumptions in the assessment of educational disadvantage." Oxford Review of Education, Vol.5, No.1, 1979.

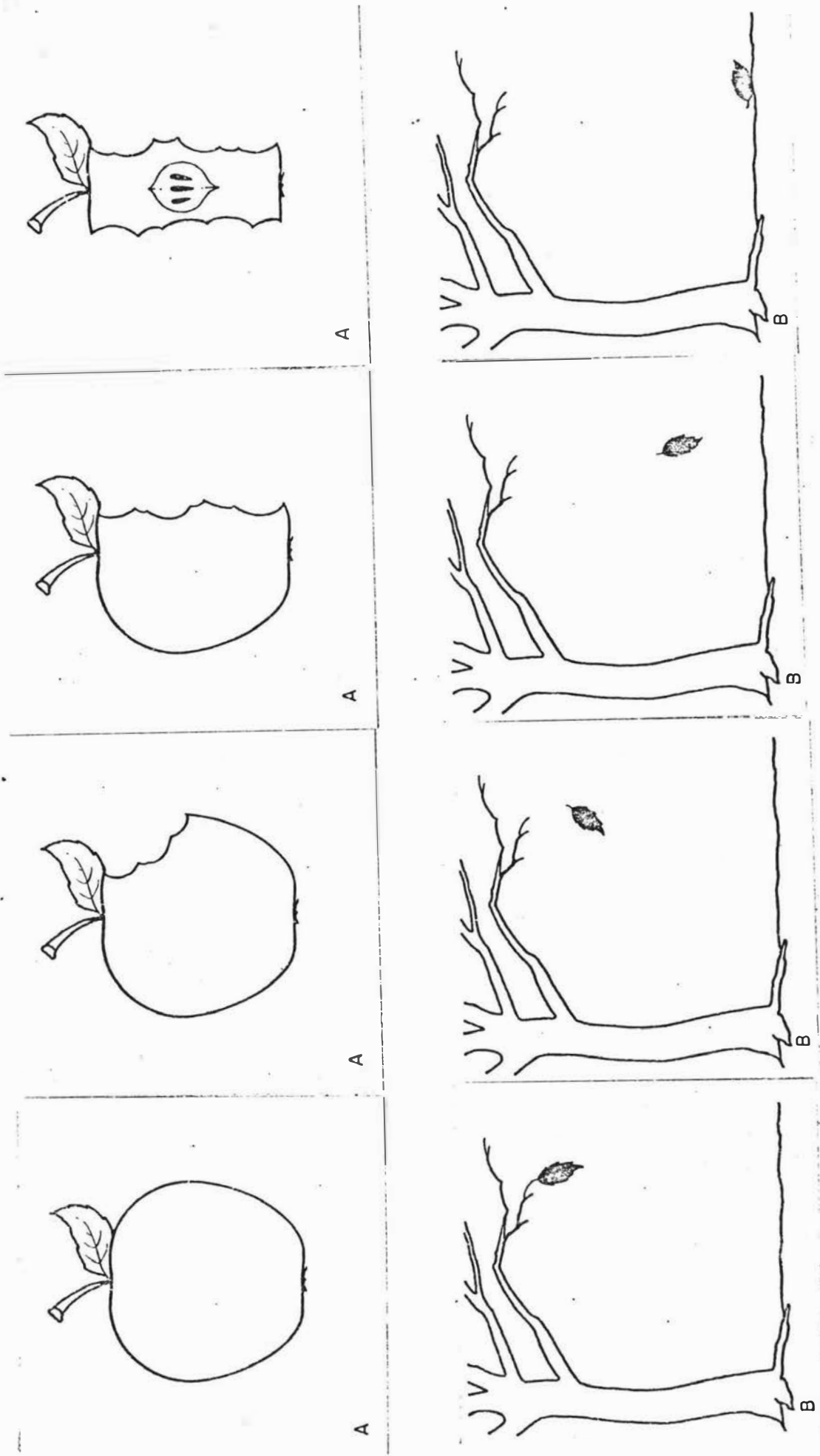
. APPENDIX I



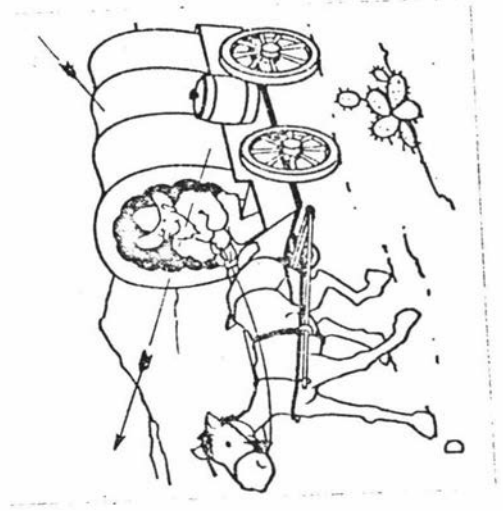
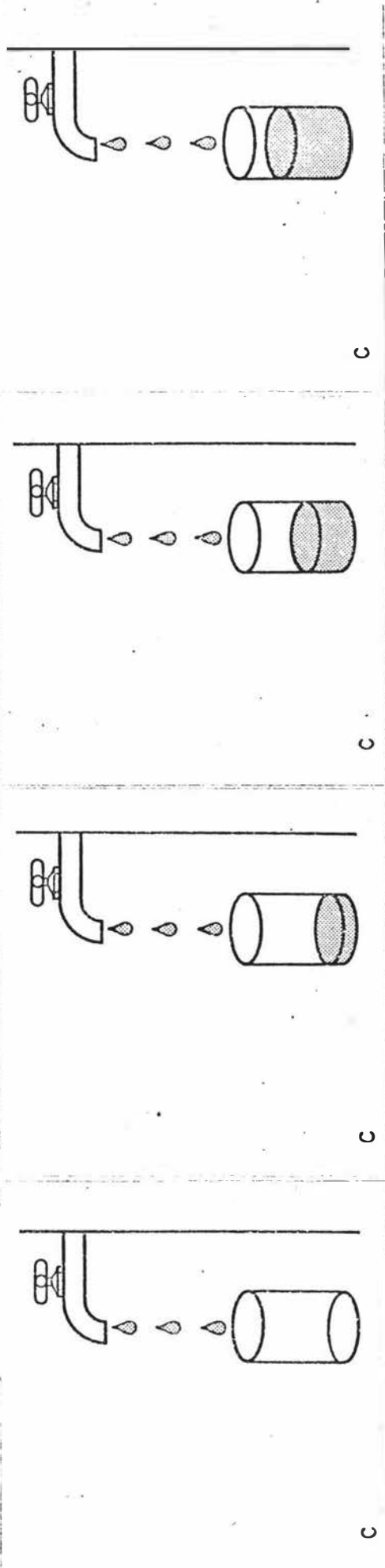
I.1 Stimulus materials: picture-card sequences A,B,C,E,F,G,H,I, and picture-card D.<sup>1</sup>

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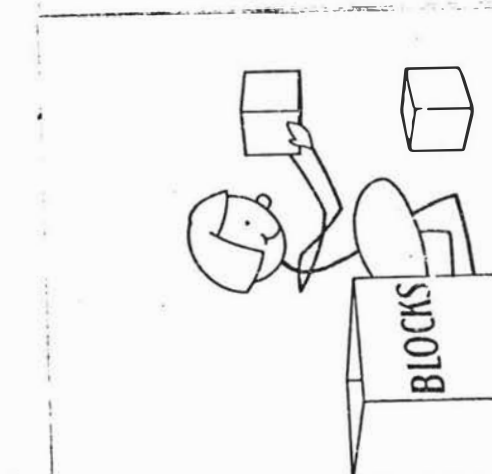
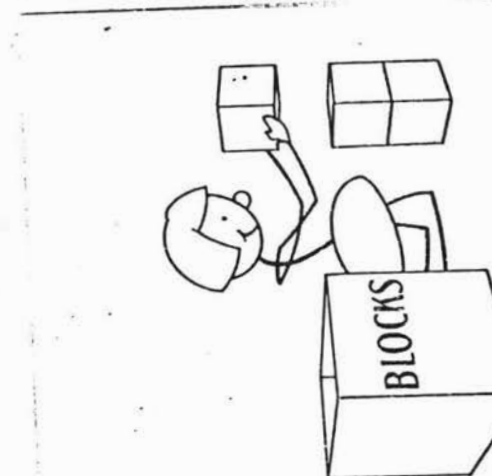
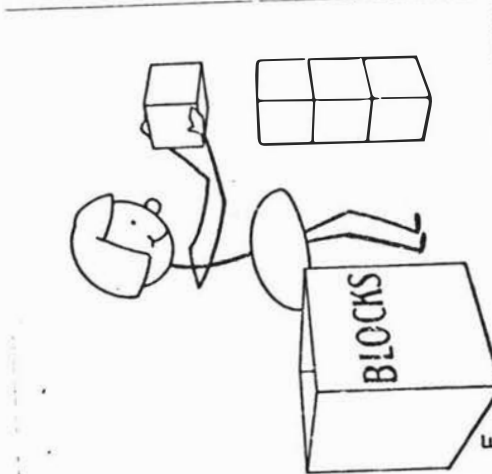
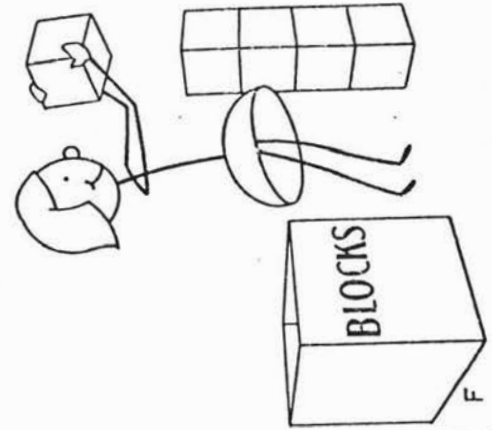
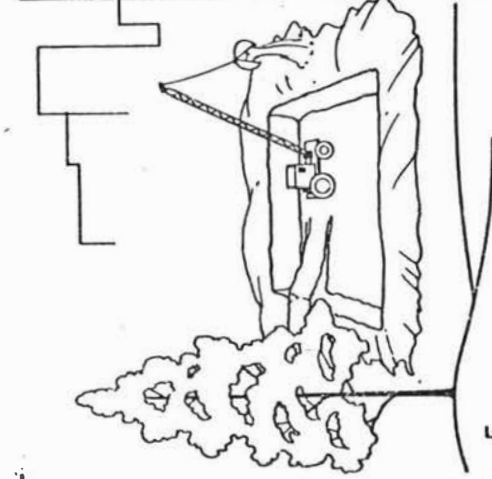
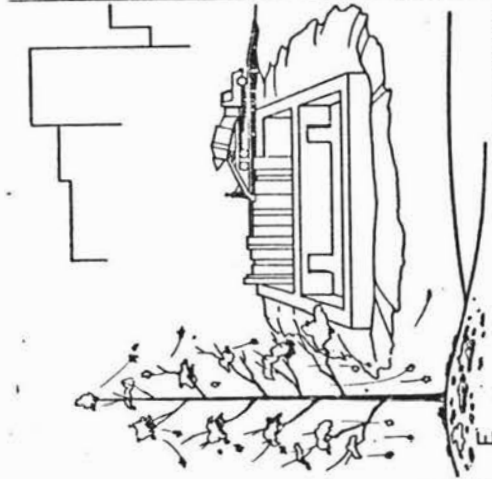
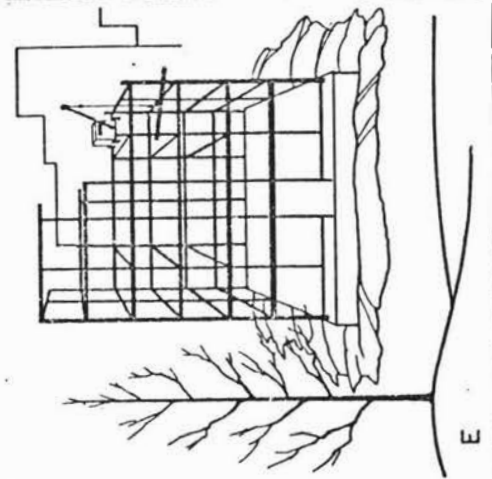
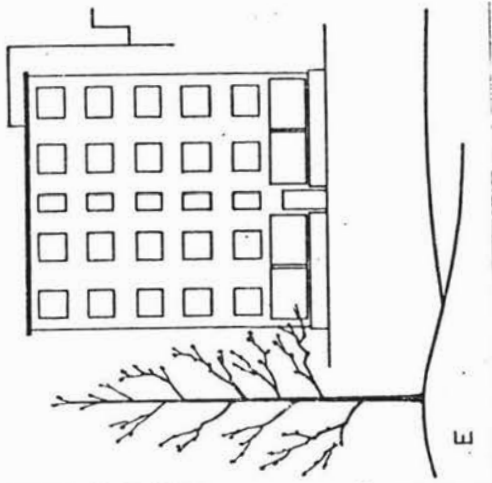
<sup>1</sup> Instructional and Assessment Materials for First Graders. Prepared by the Educational Testing Service for the Board of Education of the City of New York. (1965)



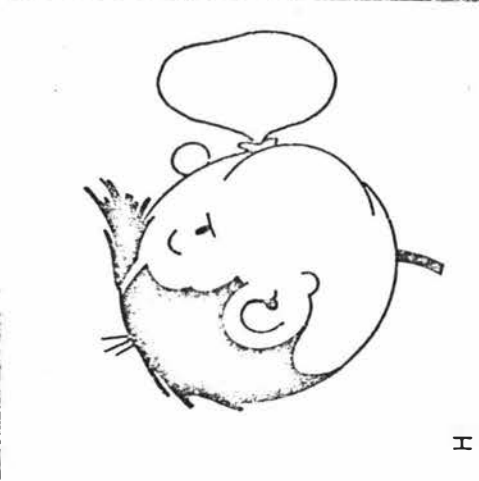
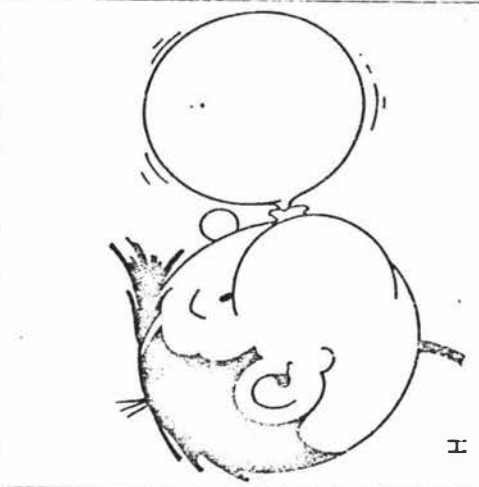
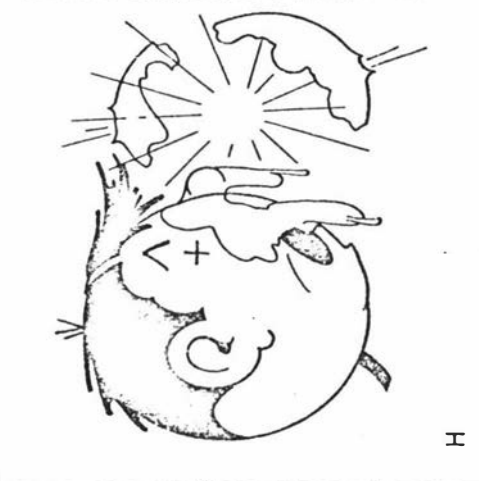
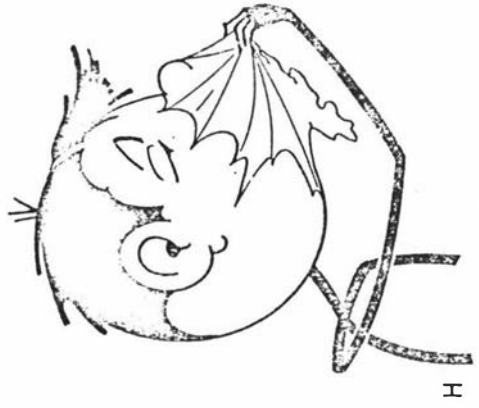
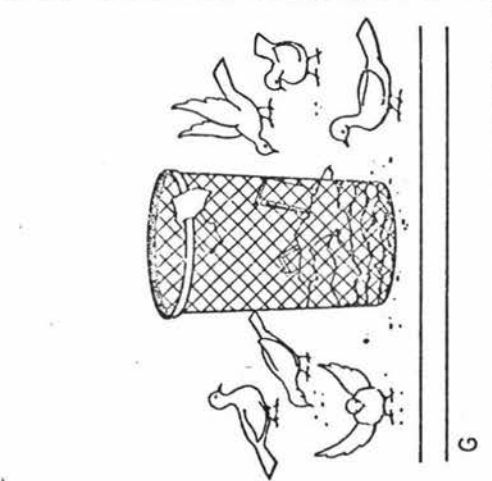
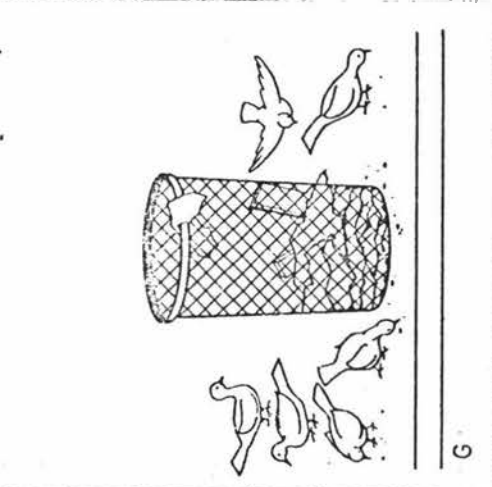
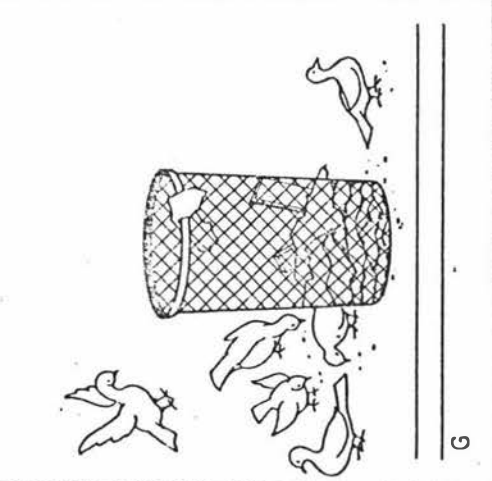
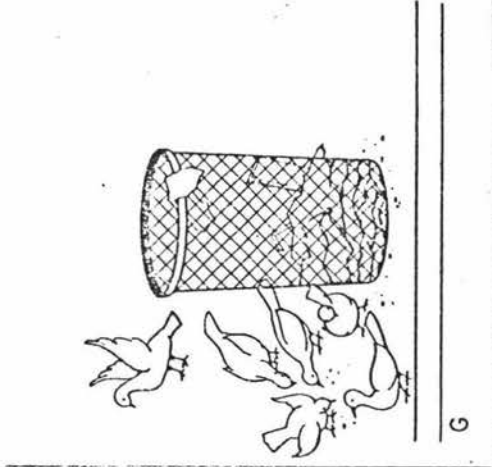
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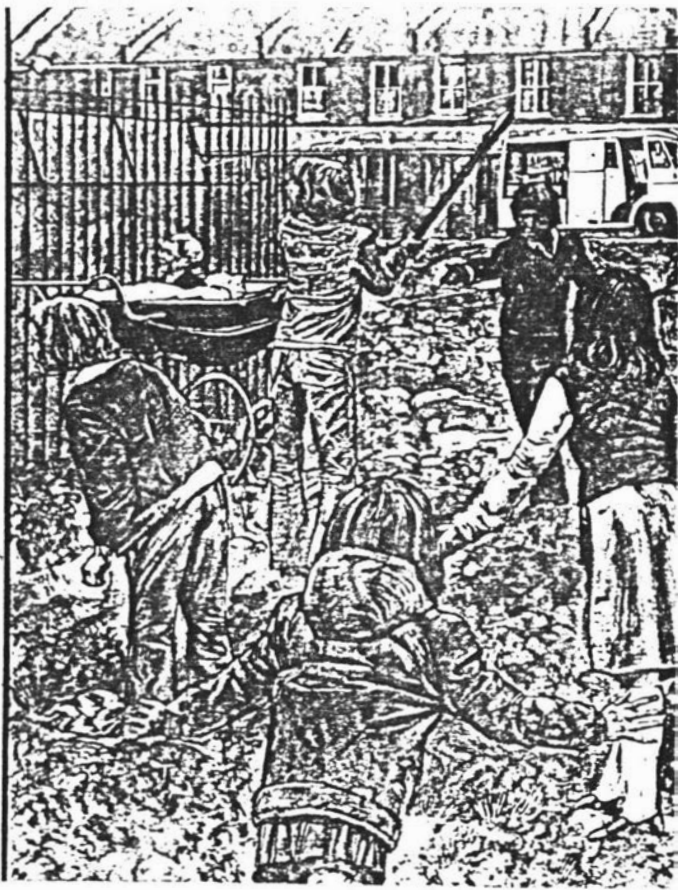
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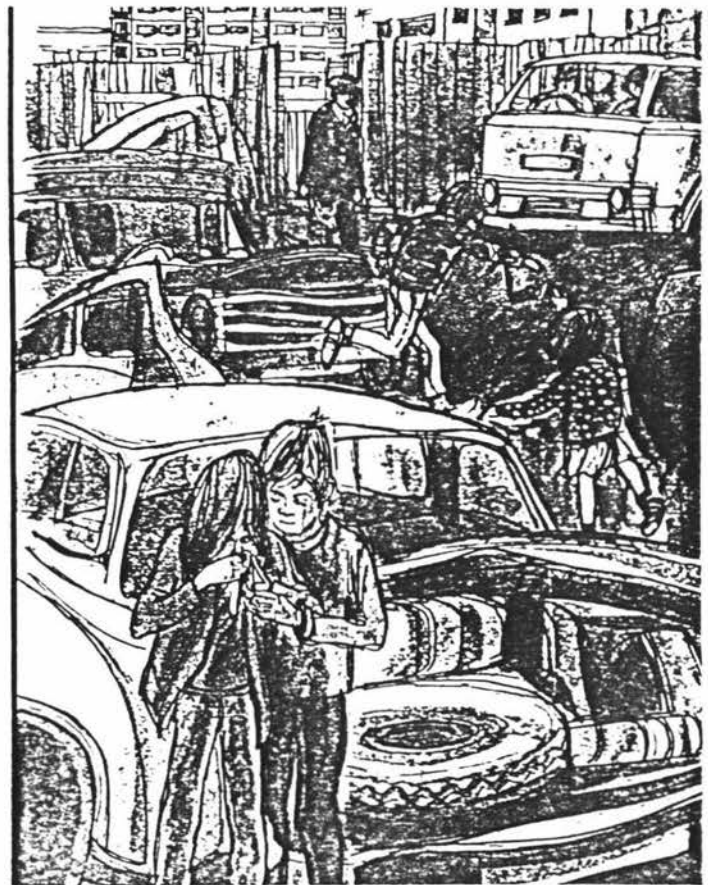
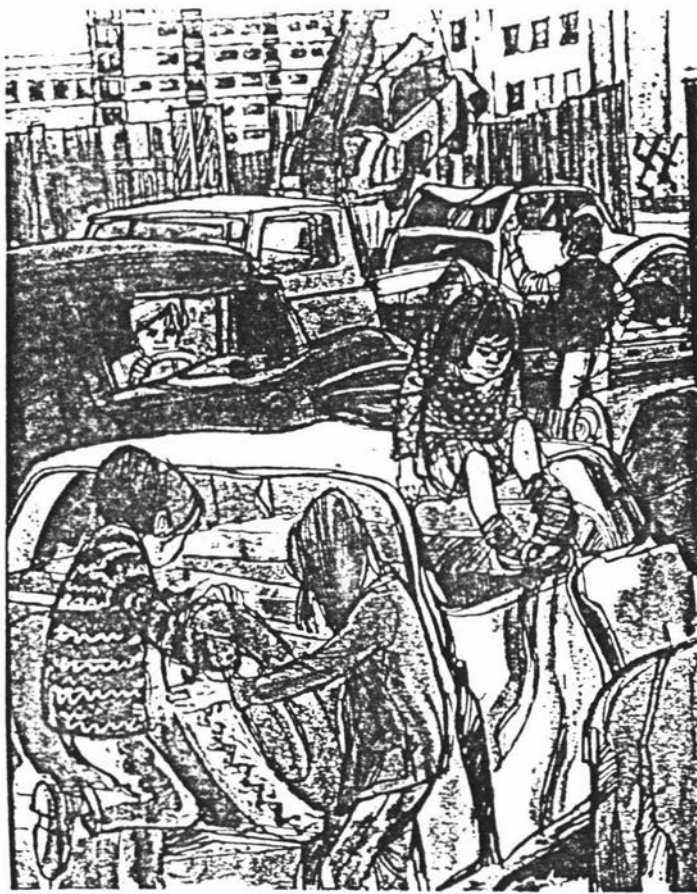
I.1. Stimulus materials (continued).



I.1. Stimulus materials (continued).



I.1. Stimulus materials: Looking and Talking 1. (from Child Education, June, 1976. Colour, 30x87cm.). London: Evans.



I.1. Stimulus materials: Looking and Talking 2. (from Child Education, July, 1976. Colour, 30x87cm.). London: Evans.

SCORE	INDEFINITE PRONOUNS OR NOUN MODIFIERS	PERSONAL PRONOUNS	MAIN VERBS	SECONDARY VERBS	NEGATIVES	CONJUNCTIONS	INTERROGATIVE REVERSALS	WH-QUESTIONS
1	it, this, that	1st and 2nd person: I, me, my, mine, you, your(s)	A. Uninflected verb: I see you. B. copula, is or 's: It's red. C. is + verb + ing: He is coming.		it, this, that + copula or auxiliary is, 's, + not: It's not mine. This is not a dog. That is not moving.		Reversal of copula: Isn't it red? Were they there?	
2		3rd person: he, him, his, she, her, hers	A. -s and -ed: plays, played B. irregular past: ate, saw C. Copula: am, are, was, were D. Auxiliary am, are, was, were	Five early-developing infinitives: I wanna see (want to see) I'm gonna see (going to see) I gotta see (got to see) Lemme [to] see (let me [to] see) Let's [to] play (let [us to] play)				A. who, what, what + noun: Who am I? What is he eating? What book are you reading? B. where, how many, how much, what . . . do, what . . . for Where did it go? How much do you want? What is he doing? What is a hammer for?
3	A. no, some, more, all, lot(s), one(s), two (etc.), other(s), another B. something, somebody, someone	A. Plurals: we, us, our(s), they, them, their B. these, those		Non-complementing infinitives: I stopped to play. I'm afraid to look. It's hard to do that.		and		
4	nothing, nobody, none, no one		A. can, will, may + verb: may go B. Obligatory do + verb: don't go C. Emphatic do + verb: I do see.	Participle, present or past: I see a boy running. I found the toy broken.	can't, don't		Reversal of auxiliary be: Is he coming? Isn't he coming? Was he going? Wasn't he going?	
5		Reflexives: myself, yourself, himself, herself, itself, themselves		A. Early infinitival complements with differing subjects in kernels: I want you to come. Let him [to] see. B. Later infinitival complements: I had to go. I told him to go. I tried to go. He ought to go. C. Obligatory deletions: Make it [to] go. I'd better [to] go. D. Infinitive with wh-word: I know what to get. I know how to do it.	isn't, won't	A. but B. so, and so, so hat C. or, if		when, how, how + adjective When shall I come? How do you do it? How big is it?
6		A. Wh-pronouns: who, which, whose, whom, what, that, how many, how much I know who came. That's what I said. B. Wh-word + infinitive: I know what to do. I know who(m) to take.	A. could, would, should, might + verb: might come, could be B. Obligatory does, did + verb C. Emphatic does, did + verb			because	A. Obligatory do, does, did: Do they run? Does it bite? Didn't it hurt? B. Reversal of modal: Can you play? Won't it hurt? Shall I sit down? C. Tag question: It's fun, isn't it? It isn't fun, is it?	
7	A. any, anything, anybody, anyone B. every, everything, everybody, everyone C. both, few, many, each, several, most, least, much, next, first, last, second (etc.)	(his) own, one, oneself, whichever, whoever, whatever. Take whatever you like.	A. Passive with get, any tense Passive with be, any tense B. must, shall + verb: must come C. have + verb + en: I've eaten D. have got: I've got it.	Passive infinitival complement: With get: I have to get dressed. I don't want to get hurt. With be: I want to be pulled. It's going to be locked.	All other negatives: A. Uncontracted negatives: I can not go. He has not gone. B. Pronoun-auxiliary or pronoun-copula contraction: I'm not coming. He's not here. C. Auxiliary-negative or copula-negative contraction: He wasn't going. He hasn't been seen. It couldn't be mine. They aren't big.			why, what if, how come how about + gerund Why are you crying? What if I won't do it? How come he is crying? How about coming with me?
8			A. have been + verb + ing had been + verb + ing B. modal + have + verb + en: may have eaten modal + be + verb + ing: could be playing D. Other auxiliary combinations: should have been sleeping	Gerund: Swinging is fun. I like fishing. He started laughing.		A. where, when, how, while, whether (or not), till, until, unless, since, before, after, for, as, as if, like, that, than I know where you are. Don't come till I call. B. Obligatory deletions: I run faster than you [run]. I'm as big as a man [is big]. It looks like a dog [looks]. C. Elliptical deletions (score 0): That's why [I took it]. I know how [I can do it]. D. Wh-words + Infinitive: I know how to do it.	A. Reversal of auxiliary have: Has he seen you? B. Reversal with two or three auxiliaries: Has he been eating? Couldn't he have waited? Could he have been crying? Wouldn't he have been going?	whose, which, which + noun Whose car is that? Which book do you want?

APPENDIX I

I.3 Additions and alterations to DSS Chart\*

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(i) Indefinite Pronoun/Noun Modifier category:

LEVEL 3: couple: a couple of things

LEVEL 4: no more + NOUN: no more money

(ii) Personal Pronoun category:

LEVEL 5: ourselves, yourselves

(iii) Main Verb category:

LEVEL 7: (Redefinition of Passive with be)

Full passive (agent/instrument expressed)

with be, any tense: the window was broken  
by that boy.

Passive with elaborated be: the window  
has been broken

(iv) Secondary Verb category:

LEVEL 2: hafta, tryna do it.\*

LEVEL 3: Infinitive after adjective when same subject  
as in main clause: he is eager to please.

LEVEL 4: V-ed<sub>2</sub> after be Present/Past (Simple form):  
the window is broken.

LEVEL 5: Infinitive after adjective when subject of  
main clause is object of infinitive: he is  
easy to please.

---

\* Indicates items and Levels proposed for future work,  
but not so scored in the present study.

Verbs followed by obligatory deletion of to:

hear, see, watch, make let him go.

(help ± to: help me (to) do it)

LEVEL 8: Infinitive after noun or pronoun: I was the first one to be six.

(v) Negative category:

LEVEL 7: Negative pro-forms for predicate: it hit the boy and not the baby.

(vi) Conjunction category:

LEVEL 5: so, or, like\*

Delete: and so\*, if\*

LEVEL 6: since (meaning 'because')

LEVEL 7\*: All other simple conjunctions:

of TIME: when, while, until/till, since, before, after

of PLACE: where

of MANNER: how, as

of CONDITION/CONCESSION: if, although, unless, in case

of COMPARISON: than

in NOUN CLAUSES: that, whether/if (or not)

LEVEL 8: All compound and correlative conjunctions:

of MANNER: as if/though

of CONDITION/CONCESSION: except that

of COMPARISON: as + Aj/Av + as

---

\* Indicates items and Levels proposed for future work, but not so scored in the present study.

of PURPOSE/RESULT: so that, so + Aj/Av +  
 that, so as + Infin., and so/therefore  
 of ALTERNATIVE CHOICE: (n)either...(n)or,  
 not...nor/and neither

(vii) Interrogative Reversal category:

LEVEL 3: Reversal of copula after pro-forms

so and neither: so, neither is she

LEVEL 4: Reversal of auxiliary be after pro-forms

so and neither: he was playing and so was he

LEVEL 6: Reversal of obligatory do, does, did after

pro-forms so and neither: and neither did he

LEVEL 8: All reversals of auxiliaries at this Level

after pro-forms so and neither: he could have  
 done it and so could he, etc.

(viii)Wh-Question category: No change

APPENDIX I

I.4 Differences in DSS scores and in mean weighted developmental score in the Main Verb category resulting from the scoring of ellipted verbs<sup>1</sup> for NG and SG subjects.

NG (N = 30)		SG (N = 11)	
MEAN DIFFERENCE		MEAN DIFFERENCE	
DSS	$\bar{x}$ WDS (Main Vb)	DSS	$\bar{x}$ WDS (Main Vb)
+ 0.20	+ 0.04	+ 0.09	+ 0.01

<sup>1</sup> See 1.7 for conditions

APPENDIX I

I.5: A hypothetical corpus of twenty-five sentences illustrating Developmental Sentence Scoring.

Name:												
Sex:												
Age (in years and months):												
DSS: 20.80												
		Indef.Pn. N.Mod.	Pers. Pn.	Main Verb	Sec. Verb	Neg.	Conj.	Interr. Rev.	Wh-Q	Sent. Pt.	Total	
1	The horse could turn around and go up the hill so that the Indians can't get him.		2	6,6,4		4	3,5			1	31	
2	They can't even hit the horse or the man.		3	4		4	5			1	17	
3	Why is he doing that?	1	2	1				4	7	1	16	
4	They're trying to cut the bars to get him out.		3,2	2	5,3					1	16	
5	He blows up the balloon and then he's blown up it bigger.	up it/it up	1	2,2	2,7		3			0	17	
6	I don't know where they got that from.		1	1,3	4,2	4	8			1	24	
7	He hasn't seen it and neither has she.		1	2,2	7,7	7	3	8		1	38	
8	That boy saw the ball but that one didn't.	seen/saw	1,1,3		2,inc.	7	5			1	20	
9	When we went to the zoo we seen them.		3,3,3	2,-			8			0	19	
10	Have you been to Auckland?		1	7				8		1	17	
11	It would've served him right if he'd got caught.		1	2,2	8,7		5			1	26	
12	Father Bear said, "Who's been eating my porridge?"		1	2,8					2	1	14	
13	They dug a hole and took out all the earth and stones and made a pool.		3	3	2,2,2		3,3,3			1	22	
14	He wants to make her cry.		2,2	2	2,5					1	14	
15	That window is broken.		1	1	4					1	7	
16	The window was smashed by that ball.		1	7						1	9	
17	I like fishing but not taking the hook out.		1	1	8,8	7	5			1	31	
18	I like fishing but my brother doesn't.		1,1	1,6	8	7	5			1	30	
19	(?) looks like a building or a car-park.	inc.		2			8,5			1	16	
20	They could be beams to hold up the wall because we got some like that in our house.	got/have got	3,1	3,3,3	6,-	8	6,8			0	41	
21	My sister is older than me.		1,1	1			8			1	12	
22	Couldn't they have cut it with something?		1,3	3	8			8		1	24	
23	I know how to make it go.		1	1	5,5		8			1	22	
24	I know what he said.		1,6,2	1,2						1	13	
25	That boy said that it must be that one.		1,1,1,3	2,7			8			1	24	
		WDS	30	73	142	61	40	115	28	9	22	520
		No. of Ent.	20	34	37	11	7	21	4	2		
		Mean WDS	1.50	2.15	3.84	5.54	5.71	5.48	7.00	4.50		DSS: 520÷25 = 20.80

## APPENDIX II

APPENDIX II

II.1: A comparison \*table showing percentile points on DSS measure for US subjects at 6 years 6 months<sup>1</sup> and for NG and SG subjects of mean age 7 years 5 months.

	No.	AGE Y.M.	90th	75th	50th	25th	10th
US subjects	40	6-6	13.78	12.43	10.94	9.43	8.11
NZ/NG "	40	7-5	20.49	18.20	16.16	13.59	12.25
NZ/SG "	40	7-5	18.49	16.33	12.49	9.74	6.99

\* The comparison is only a general one since there were alterations and additions to the DSS method used for the US sample. (See 1.7)

II.2: Differences in increment between NG and SG subjects, using the US scores at age 6-6 as bases.

	at 90th	at 75th	at 50th	at 25th	at 10th
NZ/NG subjects	+7.71	+6.77	+5.22	+4.16	+4.14
NZ/SG "	+4.71	+3.90	+1.55	+0.31	-1.12

Here the steep decline in increment among SG scores from 50th to 10th percentile is significant, confirming both the intra-group variance and the effect of age on performance as measured by DSS. (See 3.6)

<sup>1</sup> Lee and Koenigsnecht 1974, p.167.

APPENDIX II

II.3: Group means for weighted developmental scores in six DSS categories with rank order for US subjects aged 6-0 to 6-11<sup>1</sup> and for NG and SG subjects aged 6-10 to 8-0 years.

Subjects & Age	N.	Indef.Pn & Nn. Modif.	Personal Pronoun	Main Verb	Second Verb	Negative	Conj.	
US* (6-0 to 6-11)	40	76.20 4	109.50 2	162.95 1	36.48 5	15.83 6	100.95 3	WDS RANK
(NZ) NG (6-10 to 8)	40	85.52 4	161.50 2	241.35 1	63.70 5	33.35 6	160.85 3	WDS RANK
(NZ) SG (6-10 to 8)	40	68.23 4	131.95 3	177.82 1	56.57 5	25.59 6	133.36 2	WDS RANK

\* See II.1

<sup>1</sup> Lee and Koenigsknecht 1974, p.232

## APPENDIX II

II.4 SG subjects in DSS rank-order with DSS and P.A.T. Listening Comprehension percentiles (where available) and teachers' comments (where supplied)

DSS Rank-order	Sex	P.A.T. percentiles	DSS	Teachers' comments
1	M	-	90th	Below average. Noisy. Appears to be listening but proves not to be when questioned. <sup>1</sup>
2	F	23rd	"	-
3	F	23rd	"	-
4	M	5th	"	Below average (Principal's comment)
5	M	54th	"	-
6	F	19th	75th	-
7	M	23rd	"	Average or below. May be lazy.
8	F	17th	"	-
9	F	17th	"	Seems quite bright. Willing to talk. Reading age of 6-4 (C.A.7-9)
10	F	52nd	"	Average to bright. Doesn't concentrate. Gives one-word or short answers. <sup>2</sup>
11	F	13th	50th	Above average
12	F	N.A.*	"	Average or below
13	M	41st	"	Above average
14	F	12th	"	Below average. Grammar poor (written work)
15	M	7th	"	-
16**	F	41st	"	Average. Grammar & vocab. good. Reads well.
17	F	27th	"	-
18	M	-	"	Average
19	M	73rd	"	-
20	M	-	"	Shrewd: can 'play the system.'
21	M	17th	25th	Below average. Poor grammar. Limited vocab.
22	F	8th	"	Below average. Shy. Difficulty in following spoken instructions. Reads well. Writes well about family.
23	M	33rd	"	-
24	M	N.A.*	"	Below average. Poor concentration. Transposes letters in writing. <sup>3</sup> Well behaved.
25	M	5th	"	Below average. Willing to talk. Writes well about 'scary' things.
26	F	16th	"	-
27	F	-	"	-
28	F	6th	"	Average, except in maths (vocab. difficulty)
29	M	52nd	"	-
30	F	-	10th	-
31	M	N.A.*	"	-
32**	F	6th	"	Below average. Poor grammar. Limited vocab.

(contd)

DSS Rank-order	Sex	P.A.T. percentiles	DSS percentiles	Teachers' comments
33	M	10th	10th	-
34	F	29th	"	Average. Shy. Reads well. Good memory.
35	M	8th	"	Below average. Poor listening comprehension. Says very little. Reading better. Neat written work.
36	M	33rd	"	Hard to assess: says very little. Slow, but seems to be trying.
37	M	8th	Below 10th	Average, except in maths and listening comprehension (below av.) Diligent.
38	F	7th	"	-
39	M	N.A.*	"	Appears to have very little English - but knows 'swear words.' Noisy & disruptive.
40	F	N.A.*	"	Little or no English. Eager to learn.

\* N.A. signifies that a child was below the minimum age of 7-0 when the test was given in that school.

\*\* SG 16 and 32 are twins (attending the same school and in the same class.)

1. The subject (SG1) appeared to have a hearing problem, and was waiting for a medical test.
2. The subject (SG10) spoke fluently and well, but evidently did not do so in the classroom. (See 2.1)
3. It was interesting to note that the subject (SG24) also transposed words in speaking, for example, the shop of the window (= the window of the shop.)

NOTES -

- (a) "Average" signifies in relation to native-speaking age-mates, and as perceived by the class-teacher.
- (b) P.A.T. percentiles are based on New Zealand norms; DSS percentiles are those for the SG subjects in this study.

APPENDIX II

## II.5

DSS scores and measures for 20 New Plymouth NG subjects of mean age 7-4.

A. Group means for weighted developmental scores in the eight DSS grammatical categories and rank order of categories for New Plymouth NG subjects. (N = 20)

Indef.Pn. N. Mod.	Pers. Pn.	Main Verb	Sec. Verb	Neg.	Conj.	Interr. Rev.	Wh-Q
94.55	142.20	262.05	59.90	42.15	157.65	6.85	2.20
4	3	1	5	6	2	7	8

B. Discriminant function with rank order of categories, excluding Interrogative Reversal and Wh-Questions, based on differences between the weighted developmental scores of the top and bottom five subjects in the New Plymouth NG. (N = 20)

	Indef.Pn. N. Mod.	Personal Pronoun	Main Verb	Secondary Verb	Negative	Conj.
DIFFER- ENCE	42.60	53.00	68.40	56.00	31.20	141.20
	5	4	2	3	6	1

C. Group totals for number of entries in each of the eight DSS grammatical categories, the totals expressed as percentages of total entries together with their rank order for the New Plymouth NG. (N = 20)

CATEGORY	NO.OF ENTRIES	PERCENTAGE OF TOTAL (5118)	RANK ORDER
Indef. Pn/N. Mod.	959	18.74	3
Personal Pronoun	1339	26.16	2
Main Verb	1667	32.57	1
Secondary Verb	259	5.06	5
Negative	160	3.13	6
Conjunction	695	13.58	4
Interr. Reversal	29	0.57	7
<u>Wh</u> -Questions	10	0.19	8

D. Sentence Point Scores for New Plymouth NG. (N = 20)

Group Mean (Max. = 50): 39.80

Percentage correct (Total scored = 985): 80.81%

As in the Christchurch NG, there was a negative discrimination between the top and bottom five subjects on the mean Sentence Point score: (Christchurch scores in brackets)

	<u><math>\bar{x}</math> S.P. score</u>
Top 5 New Plymouth subjects:	37.80 (38.40)
Bottom " " " :	42.00 (41.80)
Difference :	-4.20 (-3.40)

E. Inter-group DSS scores and measurements compared

	NP/NG*	C/NG**
Mean DSS	16.36	16.04
Standard Deviation	3.16	3.22
Mean WDS (8 categories)	767.55	755.57
" No. of Entries (8 categories)	261.25	255.90
" Sentence Point Score	39.80	40.65
Percentage of Correct Sentences	80.81	81.79

\* New Plymouth Normative Group (N = 20)

\*\* Christchurch       "       "       (N = 40)

## APPENDIX III

Single words	<p>car Daddy kitty-cat truck Mommy Santa Claus cookie girl hot-dog</p> <p>Basic sentence elaborations: Plural: <i>books, cars, men</i></p> <p>Basic sentence modifications: Pronoun: <i>me, something, nobody</i> Question: <i>book? car? truck (right?)</i></p>	<p>here, there this, that it</p> <p>Basic sentence elaborations: Plural: <i>those, these</i></p> <p>Basic sentence modifications: Question: <i>this? that? here? there?</i></p>
	NOUN ELABORATION	DESIGNATIVE ELABORATION
2-word combinations	<p>Noun phrase Article: <i>a car, the truck</i> Possessive: <i>Daddy car, Billy truck</i> Quantifier: <i>more car, other truck, two boy</i> Adjective: <i>big car, dirty truck, red shoe</i> Attributive: <i>baby bear, police car</i></p> <p>Basic sentence elaborations: Plural: <i>the cars, more trucks</i> Additive: <i>car truck, Mommy Daddy</i> Adverb: <i>now car, truck too, car again</i> Subject-object: <i>doggie bone, Daddy ball</i> Subject-locative: <i>car garage, Mommy window</i></p> <p>Basic sentence modifications: Pronoun: <i>this one, my truck, her cookie</i> Negative: <i>not car, not truck, not this</i> Question: <i>a car? another truck (OK?)</i> Wh-question: <i>what car? which one?</i> Conjunction: <i>and car, and truck, and this</i></p>	<p>Designator + noun <i>here car, there truck, this car, that truck, it car, it truck</i></p> <p>Basic sentence elaborations: Plural: <i>these cars, there trucks</i> Adverb: (<i>that again = noun + adverb</i>) (<i>there now, here again = fragments</i>)</p> <p>Basic sentence modifications: Pronoun: <i>here something, there one</i> Negative: (<i>not this = noun + negative</i>) (<i>not here, not there = fragments</i>) Question: <i>that truck? this car (right?)</i> Wh-question: <i>what this? who that?</i> Conjunction: (<i>and this = noun + conj.</i>) (<i>and here, and there = fragments</i>)</p>
	Constructions	<p>Noun phrase <i>my big car, some more truck, a red box</i> Noun phrase + prepositional phrase <i>the car in front, the spot on the floor</i> Quantifier + prepositional phrase <i>all of them, some of the other cars</i></p> <p>Basic sentence elaborations: Plural: <i>some other cars</i> Adverb: <i>now the car, the other truck too</i> Additive: <i>the car the truck</i> Subject-object: <i>the doggie another bone</i> Subject-locative: <i>the car the garage</i></p> <p>Basic sentence modifications: Pronoun: <i>his other-truck, all of mine</i> Negative: <i>not the car, not that one</i> Question: <i>the other car? the boy too (huh?)</i> Wh-question: <i>what big car? which other one? how much milk? how many cookies? how about that one? what about me?</i> Conjunction: <i>and the car, car and truck</i></p>

<p><i>big, pretty, broken, fixed one, two, more on, off, up</i></p> <p>Basic sentence elaborations: None</p> <p>Basic sentence modifications: Pronoun: <i>my, his</i> Question: <i>red? big (huh?)</i></p>	<p><i>sleep, eat, walk, fall (look, lookit, wait, stop= imperative sentence)</i></p> <p>Basic sentence elaborations: Verb elaboration: <i>going, fell</i></p> <p>Basic sentence modifications: Negative: <i>can't, won't (don't=imperative sentence)</i> Question: <i>see? eat (OK?)</i></p>	<p><i>yes, no, OK, sh, hey, hi bye-bye, night-night, oh-oh</i></p> <p>Basic sentence elaborations: Adverb: <i>again, now, too</i></p> <p>Basic sentence modifications: Question: <i>huh? right? OK?</i> Wh-question: <i>what? who? where? when? how? why?</i> Conjunction: <i>because</i></p>
PREDICATIVE ELABORATION	VERBAL ELABORATION	FRAGMENTS
<p>Noun + descriptive item <i>car broken, truck dirty light off, TV on car there, truck here</i></p> <p>Basic sentence elaborations: Plural: <i>cars here, lights on</i></p> <p>Basic sentence modifications: Pronoun: <i>that pretty, it big something here, another on</i> Question: <i>car broken? it gone (right?)</i> Wh-question: <i>where car? what here? who there?</i></p>	<p>Verb + object: <i>hit ball</i> Verb + locative: <i>sit chair</i> Verb + particle: <i>fall down</i> (Noun + verb=sentence: <i>baby sleep, that go, it fall</i>)</p> <p>Basic sentence elaborations: Verb elaboration: <i>saw car</i> Plural: <i>eat cookies, see cars</i> Adverb: <i>eat now, fall too</i></p> <p>Basic sentence modifications: Pronoun: <i>see it, find one</i> Negative: <i>not fall, can't go</i> Question: <i>see it? go home?</i> Wh-question: <i>where go? what take? what find? (who go? what come?= sentence)</i> Conjunction: <i>and sleeping</i> Infinitive: <i>wanna go, gonna go</i></p>	<p>Basic sentence elaborations: Prepositional phrase: <i>for Daddy, in car</i> Plural: <i>on chairs, in cars</i> Adverb: <i>too big, all gone, up now, here again, right here, over there</i></p> <p>Basic sentence modifications: Pronoun: <i>to you, in it</i> Negative: <i>not big, not here</i> Question: <i>in here? all gone (huh?)</i> Conjunction: <i>and big, but dirty, and here</i></p>
<p>Noun phrase + descriptive item: <i>the car broken, a truck dirty, this light off, the TV on, other car there, a truck here, car in garage, hat on head, Spot a good dog, Tom bad boy</i></p> <p>Basic sentence elaborations: Plural: <i>all cars broken</i> Adverb: <i>light off now, car here too, truck too dirty</i> Double locator: <i>car over there</i></p> <p>Basic sentence modifications: Pronoun: <i>he bad boy, it off now</i> Negative: <i>this not broken</i> Question: <i>it off now? car over there (huh?)</i> Wh-question: <i>where that one? who in car? what color car? what in here?</i> Conjunction: <i>car and truck here</i></p>	<p>Verb + object: <i>eat the cookie</i> Verb + locative: <i>put the table</i> Verb + particle + noun: <i>take off hat, turn on light</i> (Noun phrase + verb=sentence: <i>the car go, a boy eat</i>)</p> <p>Basic sentence elaborations: Verb elaboration: <i>goes in barn</i> Adverb: <i>see car now, go in too</i></p> <p>Basic sentence modifications: Pronoun: <i>want it now</i> Negative: <i>not fall down</i> Question: <i>see that one? eat more cookies (OK?)</i> Wh-question: <i>where put car? what take out? what find here? what doing to car?</i> Conjunction: <i>and find car</i> Infinitive: <i>wanna see it, gonna go home, gotta find it</i></p>	<p>Words in series: <i>1, 2, 3, 4, etc. dog, cow, pig, etc.</i></p> <p>Basic sentence elaborations: Prepositional phrase: <i>in the car, for the boy</i> Plural: <i>on the chairs</i> Adverb: <i>in car too, back over there</i></p> <p>Basic sentence modifications: Pronoun: <i>on my head</i> Negative: <i>not in it</i> Question: <i>in here too? in the car (right?)</i> Conjunction: <i>and for me</i></p>

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