

Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

The development of English and Japanese phonology
in a bilingual child aged 1 year 3 months to
1 year 8 months

A thesis presented in partial fulfilment of the
requirements for the degree of Master of Arts in
Social Science at Massey University

Barry Antony Natusch

1978

Abstract

Language used by a child between the ages of 1;3 and 1;8 was recorded while she was being brought up in a bilingual English-Japanese home environment. The words used by the child were phonologically analysed to determine whether there was any evidence for a structural theory or a frequency theory of phonological development. Evidence was found to support and to contradict each of these types of theory. It was found that either a) the child chose to attempt only words which contained a high proportion of phonemes she knew she could utter or b) the frequency of the parents' phonemes was modified from the frequency of standard adult speech when the parent was talking to the child. Little evidence of phonological interference between the two languages was observed during the course of this study.

Acknowledgements

Numerous people have contributed, sometimes wittingly, often unwittingly, to this study. Members of the Education Department at Massey University, Professor C.G.N. Hill and Dr John Kirkland especially, guided the research, raised relevant questions and supplied answers along the way. Dr Geraldine McDonald and Dr Richard Benton of the New Zealand Council for Educational Research provided encouragement and insight to enable the study to proceed. Thanks must also go to Mr Akira Matsuo of the Japanese Department at Massey University for help in researching Japanese background material. Thanks are also due to Dr Noel Watts of the Modern Languages Department at Massey University for frequently answering my questions about processes of language learning. And most thanks of all must go to the child, Chihaya, without whom this study could never have begun and who made the whole exercise so enjoyable. Finally I would like to thank my wife for providing the Japanese component of the language input and compiling vocabulary lists in Japanese and for being a constant source of encouragement throughout the study.

Contents

Acknowledgements	iii
Contents	iv
List of tables	vi
Part One Review of literature	1
Introduction	1
Language input	2
Phonological development	5
Bilingualism	9
Part Two Purposes and procedures of study	13
Purposes of study	13
Problems	13
Procedure and plan of study	14
Definition of terms	18
Transcription symbols	19

Part Three	Results	22
Vocabulary development		22
Word classes		26
Semantic groups		27
Word mortality		28
Phonemic shapes of words		29
Phonological interference		33
Development of phonemes		34
Frequency of phoneme occurrence		41
Part Four	Discussion and conclusions	45
References		50
Appendices		54
Bibliography		73

List of tables

Table 1	Vocabulary development of child 1;3 to 1;8	22
Table 2	English word development in child from 1;3 to 1;8	23
Table 3	Japanese word development in child from 1;3 to 1;8	24
Table 4	Common word development in child from 1;3 to 1;8	25
Table 5	Word class analysis of child's English, Japanese and common lexical items from 1;3 to 1;8	26
Table 6	Semantic analysis of child's English, Japanese and common lexical items from 1;3 to 1;8	27
Table 7	Comparison between adult word shapes and child word shapes when child was aged from 1;3 to 1;8	30
Table 8	Common word shapes of child 1;3 to 1;8	31
Table 9	Percentage of CV and CVCV syllables in English, Japanese and common vocabulary of child 1;3 to 1;8	32
Table 10	Analysis of child's English and Japanese vowel development from 1;3 to 1;8	34
Table 11	Place of English and Japanese vowel articulation compared in adult speech and child from 1;3 to 1;8	35
Table 12	Analysis of child's English and Japanese consonant development from 1;3 to 1;8	37
Table 13	Manner of English and Japanese consonant articulation compared in adult speech and child from 1;3 to 1;8	38
Table 14	Place of English and Japanese consonant articulation compared in adult speech and child from 1;3 to 1;8	39
Table 15	Frequency of occurrence of English vowels in "ordinary" speech measured by D.B.Fry compared with frequency of occurrence of English vowels in adult words attempted by child from 1;3 to 1;8	42
Table 16	Frequency of occurrence of English consonants in "ordinary" speech measured by D.B.Fry compared with frequency of occurrence of English consonants in adult words attempted by child from 1;3 to 1;8	43