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I. INTRODUCTION

A. THE PROBLEM

The purpose of this investigation is threefold. First, it is a survey of the comparative progress made in the mastery of the English language on the part of young children of different racial antecedents in the Territory of Hawaii, so that we may know better what to expect of the children of different racial groups at the time of school entrance and the Americanization of each group, so far as that may be measured by the use of its national language.

Second, it is an attempt to study a number of factors that may hinder or further the children in such mastery.

Third, since the languages spoken in Hawaii are many, and many of the children are bilingual, it is an attempt to throw a little light on the problem of whether or not bilingualism is a hindrance in the mastery of speech to very young children.

Our subjects are, therefore, all children either below school age or in their first year of school. All are between 18 and 78 months of age.

The survey was made by securing samples of conversation of a thousand such children who might be considered representative of this section of the population of the Hawaiian Islands.

B. THE LANGUAGE SITUATION IN HAWAII

Owing partly to its position at the crossroads of the Pacific, but more to the need for laborers on its plantations, Hawaii has come to have a polyglot population.

Even before the annexation of the Islands to the United States, English was taught in nearly all of the schools (2, pp. 41-3). After that event, two official languages, Hawaiian and English, were recognized. Although since then, the use of English has steadily increased and that of Hawaiian has decreased, election ballots are still printed in both languages.

Since 1876, various groups of immigrants have been induced to come to Hawaii to labor on the plantations. The first of these were the Chinese (2, p. 13), who came between 1876 and 1897; next were the Portuguese, who came in two waves, the larger in 1878 to 1887 and the smaller from 1906 to 1913; then came the Japanese from 1885 to 1919; almost all the Puerto Ricans came

about 1901, and the Koreans in 1904 and 1905; then came the Spanish from 1907 to 1913; and lastly came the Filipinos, who began arriving in 1907 and have only recently ceased coming. Each group came using a different language and was at first unable to converse with the other or with the Hawaiians or the English-speaking plantation owners. To meet the demand for a means of communication between immigrants and others, a local hybrid language known as "*pidgin*" has developed. Reinecke (26) considers this hybrid tongue to be really a continuum from a creole dialect, such as readily arises in a plantation environment to meet the needs of communication between a dominant and a servile class, which is spoken by the less literate foreign-born, to a colonial dialect, that is more like standard English and that is used by the majority of the non-"haoles"¹ less than forty years of age.

Children of Hawaiian ancestry and those whose ancestors came from each of the immigrant groups mentioned above, except the Puerto Ricans and Spanish, are included in the present study. No attempt was made to include these two groups—the Spanish, because it is now a very small one in Hawaii, numbering in 1930 only 1,219 out of a total population of 368,336 (2); the Puerto Rican, because although it was in 1930 a slightly larger group than the next smallest, the Korean, there was no Puerto Rican student at the University of Hawaii to aid in the research.

The languages spoken by our subjects, then, include English and its variety, "pidgin English"; Hawaiian; several Japanese dialects; two Chinese dialects, Hakka and Cantonese; three Filipino dialects, Tagalog, Ilocano, and Visayan; Korean; and Portuguese.

It is desirable to make a few comparisons among these many languages.

As Reinecke and Tokimasa (27) picture the colonial dialect, it is composed mainly of English words and about a thousand Hawaiian words and phrases for which there is no exact English equivalent, as is the case of names for much of the native flora and fauna and of words referring to things peculiar to Hawaiian life and culture, childish technical terms, and colorful words.

As to its grammar, there is practically no inflection of verbs, all

¹"Haole" is a Hawaiian word that has come to be used to apply to almost all Caucasians except the Portuguese.

modifications to indicate mood, time, or voice being made by a few auxiliaries such as "*been*," "*stay*" (which is from the Portuguese "*esta*"), "*no can*," and "*try*," the last-named as an auxiliary with the imperative. Nouns have no possessive, and there is considerable divergence from standard English in the use of the plural. Reinecke lists peculiarities in the use of all other parts of speech which might be summed up as tending in the direction of reducing what few inflections standard English has, omission of many words considered essential, changes in word order, particularly in the case of modifiers and in interrogative sentences, and in the overuse of some favorite words due to extension of their meaning, probably as a result of a small vocabulary.

Dialects of the other languages will not be discussed; but a brief description will be given of the methods by which the tense, voice and mood, person and number, are expressed in verbs; number, gender, and case, nouns and pronouns; the way modifiers are compared; the use of articles, connectives, and the copula; and the expression of negation and interrogation in each of the six languages.

Portuguese (9) is the most like English of the languages under discussion, although it is a more highly inflected one. Some words in both languages come from the same Latin roots. Verbs have three regular conjugations, being inflected by endings. The passive voice is rarely used, but it has reflexive and periphrastic voices that English does not. Two auxiliaries, "*estar*" and "*ser*," are used in combined forms and sometimes are used like the English copula. Pronouns have the same persons, case, and genders as in English, except that there is no neuter pronoun. Nouns, adjectives, and articles all are inflected as to number and gender. There are both definite and indefinite articles, but the latter is the same as the adjective "one." Adjectives, though occasionally compared by endings, are more often, especially in spoken language, compared by separate words and at times colloquially by both.

The use of connectives is quite similar to that in English. There are several negative adverbs, but the word used where English would answer a question by "no" is also used where a different word, "not," would be required in English. Unless questions begin with interrogative words, they are distinguished from declarative sentences only by intonation. Questions seeking corroboration may be asked as in English by using a phrase meaning "is it not?"

The Filipino dialects (4) spoken in Hawaii are similar in grammatical structure, though they differ much in vocabulary. The Roman alphabet is used as in English, and they have borrowed from Spanish, especially in religious terms and some constructions, Sanskrit, and Chinese. In Tagalog (which will be used as a sample dialect), the verb has imperative, infinitive, and indicative moods, four tense forms, active and two kinds of passive voices. Auxiliaries and infixes are used to express these different forms.

There is no inflection to denote gender, person, and number of nouns or, with a few exceptions, case of pronouns. Personal pronouns are altered to express case and number but not gender. Plural is expressed by "*manga*" or "*mga*" before and by the form of the definite article. Articles are inflected, and the indefinite article is the word used as the numeral "one." Adjectives have the plural idea expressed by "*manga*" or reduplication and are compared by the use of different words. There are many negative adverbs, but there is none that answers a question in the negative that could not be used where English uses "*not*." Besides the connectives used in English, "ligatures" or particles used to connect modifiers with the word modified occur. Questions may be asked either by intonation or by the use of interrogative adverbs. Negatives come first in negative sentences and verbs first in affirmative sentences.

Hawaiians (3) had no written language when the American missionaries came, so when the latter reduced Hawaiian to writing, the Roman alphabet was used. It has no inflections, but all the varieties of tenses, moods, etc., used in Hawaiian are formed by particles. These forms are less definite than in English, and the verb is impersonal. Pronouns have three persons and three numbers, singular, dual, and plural. Case is expressed by prepositions for both nouns and pronouns; gender either by different words or by the use of adjectives meaning male and female. The plural of nouns is expressed in several ways, by a plural article, plural signs, accent, or, after proper nouns, sometimes by the syllable "*ma*." There are three articles, an indefinite and both singular and plural definite articles. The numeral "one" may be used instead as an indefinite article. Adjectives are compared by means of adverbs. There are no separate negatives for the English "no" and "not." Where English uses the copula, the arrangement of words or the affixing of a particle serves the purpose in Hawaiian. Interrogative

words are used, besides which the negative phrase "*aole anei*" begins the sentence when the answer "no" is expected; otherwise, the leading word is followed by "*anei*." Emphasis is expressed by the position of words.

The other three languages all have their own peculiar method of writing. Korean and Japanese have alphabets, but both make some use of Chinese ideographs.

Meriggi (21) and Carr (7) have both pointed out that it is erroneous to consider spoken Chinese a monosyllabic language, and the *Encyclopedia Britannica* (10) suggests that its use of couplets is so frequent that it might be considered disyllabic. There is no inflection unless the use of the same plural particle to express number of all three personal pronouns and of the same syllable to express the genitive case of each be so considered; otherwise, use is expressed by preposition or position. Although voice, tense, and mood can be expressed by particles, they are not much used, but such ideas are to be gathered from the context. In written language, no character can be used only as one part of speech, but in spoken language they are not so interchangeable.

Williams (35) classifies the parts of speech, as do Chinese grammarians, into essential words: namely, nouns and verbs, and empty words which include conjunctions, interjections, introductory words, finals, and particles. There is no difference between adjectives and adverbs, and there are no articles. A question cannot be answered by a single negative word, and the negative used in such an answer would also be used where English uses "not." Questions are asked by interrogative words and the addition of one of several syllables, corresponding to English "*eh?*", at the end of the sentence. A peculiarity is the use of classifiers before nouns after numbers; and of enclitics, syllables used only to express a grammatical function.

Japanese (20) has different styles of the verb according to the person addressed. Verbs coming from the Chinese are conjugated by auxiliaries. In the polite form of the Japanese verbs there are seven tenses. The passive is used in quite a different way than in English. There is an imperative but no infinitive, and the verbs are impersonal. The subject is often omitted, especially where in English a pronoun would have been used. Nouns rarely have number or gender. Case is expressed by post-positions. There are no articles, no relative pronouns, and but few real adverbs. Adjec-

tives are quasi-verbal and are conjugated like verbs. Interrogation is expressed by postpositions. The syllable "*ne*" at the end of the sentence has a use quite similar to "*n'est-ce pas*" in French. There are no words corresponding to the English "yes" or "no." "*Ie*" which means "no" is little used except in indignant denial. After a negative question the use of "yes" and "no" is exactly opposite to English usage. Interjections and honorifics are plentiful. Ellipses are frequent. Negation is expressed with the verb by a special conjunction.

Korean (33) has been influenced by both Chinese and Japanese. Like the latter, it has three styles according to whether an inferior, equal, or superior is addressed. The verb has three voices—active, passive, and causative; it has four simple and five compound tenses; it has different endings when expressing negative and interrogative ideas. There are imperative and volitive moods. There are participials and verbal nouns. Adjectives are quasi-verbs and are conjugated either positively or negatively. Special classifiers are used with numerals as in Chinese. Besides the interrogative conjugation, there are interrogative pronouns which may be used in asking questions. Adverbs are rare. The force of connectives is expressed by postpositions and relative participles. There are no articles.

This brief summary of languages spoken by our subjects may be of help in explaining their errors in the use of English.

II. SUBJECTS USED IN THIS STUDY

A. SOURCE

The children whose conversations were used in this study are representative of all the major racial groups found in the Hawaiian Islands. Every one of them is an American citizen, having been born in the United States; but for convenience, they will be referred to by the name of the race or nationality of their ancestry.

The majority of the children were from the city of Honolulu, but one group of 125 Filipino children was taken from plantation camps and villages in rural Oahu and Maui. The Honolulu children were selected at random from all parts of the city, but in such a manner that each major racial group consisted of 25 children at each age level from two to six years² and approximately the same number of boys and girls.

Seven such groups of 125 children were secured, representing the Chinese, Japanese, Korean, Hawaiian and part-Hawaiian combined, Portuguese, and Filipino population of Honolulu, and the one rural group of Filipinos on plantations. Besides these main groups, there were 100 children of varied racial origin, who were studied while at kindergarten instead of in their own homes as the rest were; and another mixed group of 25 children who, although observed in their own homes, were not studied in the standard situation—while at play with other children—but when alone with adults.

This total of 1,000 cases furnished the material for the main study. A few other miscellaneous records, contributed by persons who had taken them in the course of other studies, have been used for certain comparisons. These were of four rural Hawaiians studied by Miss A. Keakealani Lee, of seventeen rural Japanese observed by Mr. J. Masuoka, and one record of a seven-year-old included in the study of repeated records.

Comparisons will be made frequently to a group previously studied of Caucasian English-speaking children who knew but the one language (28, 29, 30, 31). This group, most of whom were observed in Iowa, will be referred to as Caucasians. A few of these children were of non-Portuguese ancestry living in Honolulu, to whom others were added from time to time after the previous study was com-

²Two years included all children from 18 months, 0 days, up to but not including 30 months, 0 days.

TABLE I
 PERCENTAGE OF PARENTS OF THE CHILDREN ENGAGED IN EACH OCCUPATIONAL CLASS AS COMPARED WITH PERCENTAGES OF MEN OF THE SAME RACE SO ENGAGED IN THE HAWAIIAN ISLANDS ACCORDING TO THE U. S. CENSUS OF 1930

	Num- ber	Profes- sional	Cler- ical	Public service	Trade	Trans- porta- tion	Domes- tic service	Manu- factur- ing	Extrac- tive	Forestry & Fish- ing	Agri- culture
<i>Chinese</i>											
Honolulu Parents	120	3.9 6.7	15.6 18.3	1.9 2.5	29.9 31.7	4.7 1.7	18.9 18.3	18.9 20.0	0.3 0.0	0.4 0.0	5.4 0.8
<i>Japanese</i>											
Honolulu Parents	125	4.0 4.0	4.6 0.6	0.6 0.8	16.0 17.2	10.0 4.0	17.8 18.4	34.8 40.0	0.3 0.0	3.1 2.0	8.9 3.0
<i>Korean</i>											
Honolulu Parents	104	3.6 5.0	2.7 9.6	2.0 8.7	12.4 14.4	8.8 8.7	26.6 13.5	31.5 37.5	3.0 0.0	0.0 1.0	9.3 2.0
<i>Hawaiian</i>											
Honolulu Parents	125	5.7 3.2	9.3 7.5	16.1 19.2	6.2 6.4	27.8 38.3	3.4 1.1	29.5 24.5	0.2 0.0	0.9 0.0	0.9 0.0
<i>Portuguese</i>											
Honolulu Parents	100	2.5 3.0	8.5 5.0	8.5 6.0	12.3 11.0	20.1 31.0	4.8 1.0	40.1 35.0	0.2 2.0	0.4 0.0	2.8 6.0
<i>Filipino</i>											
Honolulu Parents	96	3.2 2.1	1.3 0.0	5.6 14.7	8.9 9.5	13.2 17.9	21.5 22.1	36.4 28.4	0.2 0.0	1.0 2.1	8.9 2.1
<i>Plantation Filipino</i>											
All Hawaii Parents	125	0.6 0.0	0.2 0.8	0.8 0.8	1.3 4.0	2.2 0.8	2.0 0.8	8.4 6.4	0.0 0.0	0.5 0.0	84.0 86.4

pleted. This Honolulu group, which is used a few times for comparison, will be referred to as "haoles," an Hawaiian term now frequently used to designate people of such antecedents.

Each of the seven main groups studied was composed almost entirely of children of pure racial ancestry, except for the Hawaiian, which consisted of children of all degrees of Hawaiian blood who were from one-fourth to entirely Hawaiian ancestry. There are also three exceptions in the Chinese group, where the fathers were Japanese or Caucasian—but the children heard only English and Chinese in their homes and had practically no contact with their non-Chinese relatives. The Caucasian father had left his half-Chinese offspring.

B. AGE AND SEX OF SUBJECTS

The mean age of each of the seven main groups is approximately 48 months, and the standard deviation between 16 and 17 months (see Table 2). The greatest difference in age between the groups is 1.1 months, between Hawaiian or Portuguese and the plantation Filipinos. This is not a significant difference.

An attempt was made to have nearly the same number of boys and girls in each group. The difference is greatest for the Chinese, where there are 13 more boys than girls. There are 23 more boys than girls in the 875 children included in the seven main groups. The boys average 1.3 months older than the girls, but for no race is the sex difference in age significant.

C. REPRESENTATIVENESS OF SAMPLES AS TO SOCIO-ECONOMIC STATUS, BIRTHPLACE, OCCUPATION, AND EDUCATION OF PARENTS

A comparison of the per cent of the parents of the children engaged in different occupations with the per cent of the respective race engaged in such occupations according to the United States census data for 1930 (34) shows fair correspondence, which indicates that our cases are reasonably representative of their respective racial groups so far as sampling of different occupations is concerned. These data are shown in Table 1.

The basis on which the percentage of parents in each occupation was calculated was the number of those for whom accurate information was available. As the material for certain groups was gathered

TABLE 2
COMPOSITION OF THE GROUPS STUDIED

	Hawaiian	Chinese	Portu- guese	Japan- ese	Korean	Honolulu	Filipino Plantation	Av. all
<i>Parents of children</i>								
Per cent born in U. S.	96	75	94	41	63	18	2	56
No. of years of English schooling	7.1	6.1	5.9	2.7	4.9	4.1	3.2	4.9
Average scores on Barr Rating Scale	6.54	9.62	6.9	8.62	7.39	6.23	5.50	7.26
English Language rating	3.0	2.5	3.0	2.0	2.5	2.2	1.9	2.3
Favorable home environment rank	1	2	3	5	4	6	7	
Racial efficiency index (Porteus)	51	83	60	86				33†
Socio-economic status (Masuoka)*	4.2	3.5	6.5	4.5	8.5			10.0†
<i>Children</i>								
Average age in months	48.4	47.8	48.4	47.7	47.6	47.7	47.3	47.8
σ of distribution	16.7	16.9	16.8	16.1	16.7	16.5	16.6	16.6
σ of mean	1.4	1.5	1.5	1.4	1.5	1.5	1.5	1.5
No. of boys	60	69	64	66	62	63	65	Total all 449
No. of girls	65	56	61	59	63	62	60	426
Number of children attending kindergarten or school	8	42	6	38	25	18	2	139
Av. no. of mins. required per record	41	51	55	44	45	45	37	Av. all 45

TABLE 2 (continued)

	Hawaiian	Chinese	Portu- guese	Javan- ese	Korean	Honolulu	Filipino Plantation	Av. all
Average age	49.7	48.7	49.1	48.3	48.9	48.1	46.2	48.4
of boys	47.1	46.9	47.6	46.8	46.4	46.3	48.0	47.1
of girls								
σ dist. of age	17.2	16.7	16.6	15.4	15.9	16.2	17.0	
for boys	16.0	17.1	17.0	16.7	17.8	16.8	16.0	
for girls								
σ mean	2.2	2.0	2.1	1.9	2.0	2.0	2.1	
for boys	2.0	2.3	2.2	2.2	2.3	2.2	2.1	
for girls	2.6	1.8	1.5	1.5	2.5	0.8	1.8	1.3
Mos. diff. in age	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
σ of diff.	0.9	0.6	0.5	0.5	0.8	0.3	0.6	
Diff. $\div \sigma$								
Per cent of race that speak English (1930 census)	96.7	77.5	94.8	70.1	70.4		46.0†	

†All Filipinos.

*Average of Chinese and Haole rated, Hawaiian and part Hawaiian ranks averaged.

during the depression, the only occupation named was in 56 instances *F. E. R. A.* Even excluding these, the higher percentage of parents engaged in transportation in several cases is probably due to the large number engaged as road laborers under the *F. E. R. A.* who did not specify that this was not their ordinary occupation. There were eight deceased parents for whom it was not possible to learn their former occupations. The remaining omissions are due to the fact that in several cases only a large firm that employs many types of labor was named as the source of employment, and the interviewer could not obtain sufficient details as to the nature of the work to classify the occupation.

In most groups, there are fewer parents engaged in agriculture than is true for their racial group in Honolulu. This is due to the fact that the area for census data includes quite an extensive rural district from which very few of our cases were drawn.

Our Korean group seems to be somewhat highly selected, but otherwise the differences are not excessive.

Where the information was sufficient, the parental occupations were rated on the Barr Scale (32, pp. 63-69), which was constructed in such a manner as to give an index of the intellectual level characteristic of the occupation. The average for all seven racial groups is 7.26 (see Table 2) or somewhat below that of 7.92, estimated by Barr as the average for all men in the United States. It is probably true that the occupational level of the entire population in Hawaii, when the Other-Caucasian group is excluded, would be lower than in other parts of the United States, for as Lind (17) has pointed out, the Other-Caucasians hold a superior position in the professions and administrative lines.

The relative standing on the Barr scale of the different groups of parents is Chinese, Japanese, Korean, Portuguese, Hawaiian, and Filipino (see Figure 1). As both Adams (2) and Lind (17) have pointed out, the earlier comers to the territory found superior opportunities more easily. Therefore, the Barr rating as an indication of intelligence is not a valid measure for comparison between racial groups but only within groups.

The five races to whom Porteus and Babcock (25, pp. 108-112) assigned "social efficiency indices" in their book, *Temperament and Race*, follow the same order according to this index as they do in this study on the Barr Scale, except that the Japanese and Chinese change places.

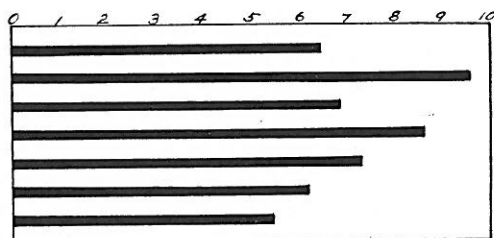


FIGURE 1

AVERAGE BARR RATINGS OF OCCUPATIONS OF FATHERS OF CHILDREN STUDIED

Column	Average rating of	
1.	Hawaiian	6.54
2.	Chinese	9.62
3.	Portuguese	6.90
4.	Japanese	8.62
5.	Korean	7.39
6.	City Filipino	6.23
7.	Rural Filipino	5.50

The racial groups follow the same order as to the percentage of parents born in the United States as they do as to percentage of instances of both parents native in Adams' (1) study of parentage of infants born in Hawaii in 1930, except that the Korean and Japanese change places. Our percentages are much higher than his,

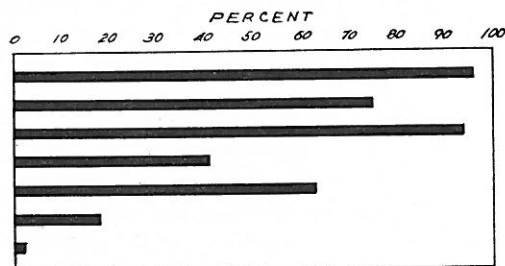


FIGURE 2

PER CENT OF PARENTS BORN IN THE UNITED STATES

Bar	
1.	Hawaiian 96%
2.	Chinese 75
3.	Portuguese 94
4.	Japanese 41
5.	Korean 63
6.	City Filipino 18
7.	Rural Filipino 2

but they include those cases where but one parent was native-born. Moreover, his data are for all Hawaii, while ours for six of the seven groups are for Honolulu; and nearly all the foreign-born population of the Islands came as field laborers, so that Honolulu has a higher percentage of native-born than do the rural areas (Figure 2).

Masuoka (18, p. 51) had 50 Chinese and 42 Caucasians rate the racial groups represented in the Islands according to socio-economic status. The average of the ranks received from each of the two sets of raters given to the six racial groups in our present study is shown in Table 1. To get the Hawaiian rating, the average ranks received by the three sub-groups of Hawaiian and part-Hawaiian he studied (all of whom are represented in our Hawaiian group) were averaged together. Comparison with our ranks on the Barr rating scale show that our Hawaiian group is a little low, the Korean too high. The Hawaiian group studied seemed to be more affected by the depression than the others, and the occupational rating was less complete.

The average education of the parents of the different racial groups follows very much the order of arrival of the respective races in the Islands. The Japanese average less English education than do the Filipinos, who are later arrivals in Hawaii, but as the language of the public schools in the Philippines is English, that is an exception to be expected. The Koreans have had more English education than the Japanese, although they arrived in the Islands a little later. This is another indication that they are a selected group.

D. LANGUAGE OF HOME AND OTHER ENVIRONMENTAL FACTORS STUDIED

The language spoken in the home was rated for each child according to information supplied by the interviewers. If correct English only was used in the home, the rating was five; if good English and another language were spoken, four; if, besides a foreign language, both correct and pidgin English were heard by the child, as in the case where one parent only spoke correctly, the rating was three; if only pidgin English, two; if only a foreign language, one (Figure 3). The rating is, of course, crude and subject to error, as the interviewer did not often hear all members of the family speak. But there is a close correspondence in the ranks of racial-group averages by this rating and the ranks of similar groups of university students,

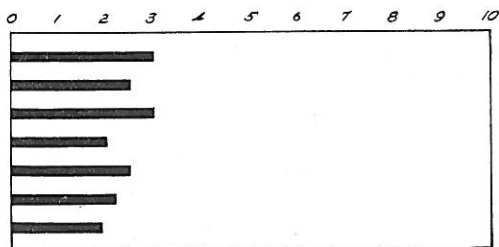


FIGURE 3
AVERAGE LANGUAGE RATINGS OF HOMES OF CHILDREN STUDIED

Bar	Rating
1. Hawaiian	3.0
2. Chinese	2.5
3. Portuguese	3.0
4. Japanese	2.0
5. Korean	2.5
6. City Filipino	2.2
7. Rural Filipino	1.9

according to averages found on the Hofmann *Bilingual Inventory* (Table 3). Correlations of $+0.58$ to $+0.74$ were found between

TABLE 3
LANGUAGE RATINGS OF RACIAL GROUPS COMPARED WITH SCORES OF UNIVERSITY STUDENTS ON THE HOFFMANN BILINGUAL INVENTORY

	Chinese	Japanese	Korean	Hawaiian	Portuguese	Filipino
Language ratings of children's homes	2.5	2.0	2.5	3.0	3.0	2.0
Scores on Hoffman Bilingual Inventory	12.6	21.4	17.0	5.3	†	

†The Portuguese were grouped with the other Caucasians in the University study. This group scored 1.4 on the Hoffman Inventory. There were no Filipinos rated in the University study.

English education of parents and language rating for those groups where the ratings differed enough to make the calculation of the correlation of any value. Almost all the Filipino homes were rated "2," that is, the child heard only pidgin English. The slightly lower average of plantation Filipinos is due to a few more homes where a Filipino dialect only was spoken. The Japanese average is the same as that for both Filipino groups taken together, but the

variability was much larger. There were many homes where Japanese was preferred and a corresponding number where at least one member of the family spoke reasonably correct English.

Although the Koreans came much later to Hawaii than the Chinese, the average rating of their homes is the same. Since the average education of parents is lower, the Hofmann score of the university students is higher and the correlation between language and education lower, it would appear that the Korean interviewers were too lenient in recording the home language. Yet the study shows the proportion of English used by the young Koreans is greater than that used by the Chinese and the amount of error in its use not much greater. So the conclusion is that the Korean interviewers were only slightly more lenient than the Chinese (who were master's candidates) in marking as pidgin less often the English used in the home. These two groups both showed wide variability, but the child in the average home hears some correct but more pidgin English and some foreign language.

The typical Hawaiian or Portuguese child of the groups studied hears both correct and pidgin English. These groups may, therefore, be considered not as truly bilingual groups, for in very few homes was either Hawaiian or Portuguese used to any considerable extent, but rather as samples of children whose English is decidedly contaminated by pidgin so that it is possible to use these groups in estimating whether the retardation in speech noted is due to bilingualism or to the incorrect English current in Hawaii.

Adams (2, p. 43) gives the percentage of people in Hawaii over 10 years of age who, in 1930, could speak English as 96.7 (average of Hawaiian and part-Hawaiian) for Hawaiian, 94.8 for Portuguese, 77.5 for Chinese, 70.4 for Korean, 70.1 for Japanese, and 46.0 for Filipino. The groups over 90 per cent of whom spoke English are rated three in this study: that group about three-fourths of whom spoke English was rated 2.5; the two groups speaking least English received the lowest ratings. The Koreans are rated higher, 2.5, although in 1930 only less than one per cent more of them spoke English than did the Japanese. Two reasons for this are suggested: the Koreans are a select sample; they are a relatively small group, do not live in districts where most of the residents are of the same race as do the Japanese, and are not concerned about their children speaking the parental language (for much less often are they sent to foreign language school); therefore, if they can speak English at all, it is more often used.

In order to determine which group had the more advantageous home background for learning English, the sum of the ranks from most to least fortunate as to English language background on the four factors of parental birthplace, occupational level of father, language rating of home, and extent of English education was found. According to this method, the order for favorable home environment in learning to use English is as follows: Hawaiian, Chinese, Portuguese, Korean, Japanese, and Filipino. But if the groups are ranked also as to number in attendance at kindergarten or school (either at nursery school or just entered the first grade), the Chinese would change places with the Hawaiian and rise to first place.

In order to determine if the various factors considered in the study of the children's parents were related, and also as a check on the validity of language ratings of the home, correlations between Barr ratings of father's occupation, years of English education of mid-parent, and language rating of home were calculated. Language rating of home and English education of mid-parent gave the highest correlations, ranging from .58 to .74, or with parental occupation partialled out, from .55 to .68, the lowest relation being in the case of the Hawaiian group (see Table 4). As that group used so little but English in the home, the rating resulted in very coarse categories. Except for the Hawaiian and Portuguese, the correlations between occupation and education which range from .20 to .64 almost vanishes when language is partialled out, while for the groups using more English, the resulting correlations are .47 and .53.

For the Chinese and Japanese, facility in the use of the English language seems to be more closely related to a higher occupational status than does extent of English education; for the Korean, Portuguese, and Hawaiian, the relation between education and occupation is more important, probably because the groups as a whole are reasonably facile in the use of English.

Data were secured as to the attendance of the child at kindergarten or school, and his order of birth, so that these factors might be studied. Addresses of the children were also recorded and comparison made with a study of the sociology department at the university by which the city of Honolulu had been mapped according to the racial origin of residents in each locality. It is thus possible to compare the effect on a child's language of his living in a section surrounded predominantly by people speaking his parental language or by those speaking a diversity of languages.

TABLE 4
CORRELATIONS BETWEEN OCCUPATION, LANGUAGE RATING AND ENGLISH EDUCATION OF CERTAIN PARENTAL GROUPS

	Chinese <i>r</i>	Japanese <i>r</i>	Korean <i>r</i>	Hawaiian <i>r</i>	Portuguese <i>r</i>	Filipino <i>r</i>
<i>First order correlations</i>						
Occupation and education	.45±.048	.20±.058	.34±.059	.56±.041	.64±.041	.51±.046
Occupation and language	.55±.042	.23±.057	.30±.062	.35±.053	.43±.065	
Language and education	.74±.027	.63±.036	.71±.034	.58±.040	.74±.036	
<i>Second order correlations</i>						
Occupation and education (language out)	.08±.060	.07±.060	.19±.063	.47±.047	.53±.057	
Occupation and language (education out)	.36±.052	.14±.059	.09±.066	.03±.063	-.08±.080	
Language and education (occupation out)	.66±.034	.61±.038	.68±.036	.55±.041	.66±.045	

III. THE METHODS

A. MEANS OF SECURING DATA

The method of study used was similar to that used by D. McCarthy (19) and in my previous studies of monolingual children (30, 31), the results of which may, therefore, serve as norms for comparison.

For each case studied, there were recorded 50 consecutive remarks of the child, spontaneous insofar as he was never addressed by the observer. Except for two special series, the records were taken in his own home or in its vicinity and, except for the two-year-olds, when he was playing with other children. As the birth rate is still comparatively high in Hawaii except for the Caucasians, there were few homes where the child did not have brothers or sisters; in fact, there were several cases where the child had 9 to 11 older siblings. Where he had none, it was not difficult to follow him out into the yard or sidewalk where he met his playmates or to induce a neighbor's child to come over to join him. It was thought that this familiar home setting would be the best in which to study the home language of the child. The presence of other children would make a group as large as that in which most children of that age participate in free play at kindergarten or nursery school, and, therefore, records so taken would be comparable to my studies of monoglots. The more formal procedure used by McCarthy (19) was considered, but it was felt that the language used by the observer would influence too much that used by the child, and the purpose was to learn what was the most natural manner of speech for the children in their own homes. As it has been shown (31) that there is very little, if any, difference in the language of two-year-olds when with adults only and when with children also, it was not considered necessary to require the presence of other children when recording the speech of the youngest children. Even if the two-year-olds had brothers and sisters, if they were younger they were unable to talk, and if older they often considered the baby too small a companion; and, if the two-year-olds had no siblings, they usually had not yet acquired playmates in the neighborhood.

Twenty-five records were taken for comparative purposes when a child of three to six years was alone with adults, which series will be referred to hereafter as those taken in Situation *A*; and 100 records were taken at Castle or Moiliili kindergartens.

As the children to be studied spoke several different languages, it was obvious that no one person could secure all the records. The recorders for each racial group were, therefore, university students of the same racial ancestry as the child observed. The Chinese material was gathered in the course of work done on masters' theses by Misses Chun and Yee and on a special research project by Mrs. Motoyama. A few records were taken by students in child psychology classes, but almost all of the records other than those of Chinese children were taken by carefully selected students working under the *F. E. R. A.* or *N. Y. A.* during the school years 1934 to 1937.

Children were contacted through friends or neighbors and by calling at homes in communities where there was known to be a concentration of children of the desired race. Care was taken not to secure too many through friends, lest the sample be too select. This was rather difficult in the case of the Koreans, since their population is small. The observers met with few rebuffs, although a few cases had to be turned in anonymously and required data were occasionally refused, particularly when one parent was illegally resident in the United States.

The greatest difficulty was met with by every interviewer in securing two-year-olds. When the mothers were asked to let the recorder listen to the child talk, they sometimes refused because "baby does not talk yet," so that many of the less proficient children of that age were not observed. Our two-year-olds are, therefore, probably a somewhat select group, although some in each group were using very few comprehensible words.

The most enthusiastic coöperation was obtained by the Hawaiian observer, who was even invited to meals with the families of strangers she visited. Her records indicate a greater influence of her presence than that of any other, for many more of her cases asked her questions and appeared to be trying to be sociable with the visitor. She had no complaints to make of children too shy to talk, and next to the plantation Filipinos, the time needed to secure 50 sentences from each child averaged least of all groups. Whether this difference is due to the personality of the observer or to a greater friendliness generally believed to be found in the Hawaiian race is not known.

The time required to secure 50 sentence samples is shown in Table 5. The average for the different racial groups is fairly uni-

TABLE 5
AVERAGE TIME IN MINUTES NEEDED TO RECORD 50-SENTENCE SAMPLES
ACCORDING TO AGE AND RACE

	Chinese	Japanese	Korean	Filipino		Hawaiian	Portuguese
				city	rural		
<i>At</i>							
2	74	61	60	55	50	50	58
3	58	41	47	44	36	37	49
4	46	46	42	48†	35	37	49
5	44	38	37	44	33	42	60*
6	35	32	37	35	29	37	52*
<i>For</i>							
Boys	52	40	42	47	36	45	53
Girls	49	47	48	43	37	38	53
All	51	44	45	45	37	41	53

†1 boy took two hours.

*Most of these records taken by the same person; the earlier ages by others. She was careless in time-keeping for she turned in many even hour records.

form. The Portuguese and Chinese needed the most time, due, probably, in the former case to the careless timekeeping of one observer and in the latter case to an unusual number of shy children at the two lower age levels. The rural Filipinos required the least time. Were it not that the city Filipinos were slower talkers, a race difference might be suspected. As it is, a more probable explanation is that the rural children were better acquainted with the examiner. All these records were taken by the same young man, the majority during his holidays on Maui, which was his home. He returned to the same camps each vacation period, so the children came to recognize him and hence talked more freely in his presence. He was accustomed to treat his young subjects to candy, which news was probably spread about.

There are no consistent sex differences. The averages found for each sex are invariably larger for that which included the largest number of two-year-olds, whose records took the longest time to secure; but there was only one more two-year-old girl among the Japanese, the group which shows the greatest sex difference. As there was a marked difference between the sexes at four to six years old, it is possible that the greater repression of Japanese girls has resulted in slightly reducing the fluency of their chatter.

There is a steady reduction in amount of time spent in securing

the samples of speech at each age level; the one exception (Portuguese) is again probably not real but due to the same careless timekeeping.

Each observer was directed to record every word and unintelligible effort at speech used by the child until 50 such attempts had been recorded. They were to address the child at no time and to remain as inconspicuous as possible but to answer briefly if the child questioned them in order that he might not think the situation unusual. They were also to discourage the mother's attempts to urge the child to talk and to wait until the child had accepted the arrival of the visitor as a natural situation and had turned to his own affairs before beginning the record. This was usually possible by utilizing the first minutes of the interview in obtaining the necessary data from the mother.

For each child studied, the interviewer recorded the date, place, and length of time used in taking the record; attendance, if any, at school or kindergarten; and the age, sex, order of birth, address, the members of the family, the languages used by each, and the racial descent, occupation, and English education of the parents. The form used is shown in Appendix A.

All the recorders, except some of the Japanese, used English letters in writing and in transliterating from the other languages if necessary. The Japanese words were usually recorded by the Japanese recorders in *katakana*. For each sentence spoken by the child where the situation was not obvious from his remark, a note was made describing the circumstances under which he spoke. All non-English words were translated by the recorder if possible. In the case of sounds unintelligible to the observer but which appeared to have a definite meaning to the child, the mother was consulted to determine if such sounds were consistently used with the same meaning and were, therefore, to be considered as neologisms, regular baby words, or non-verbal expressions. When the recorder could not translate any words or syllables, they were examined by the staff of observers who spoke other languages, in the light of the interpretation placed upon them by the child's mother or as evident in the context or situation in which they were used, to determine whether they were words found in the other languages spoken in the territory, either as regular or baby words, or were merely neologisms composed by the particular child whose conversation was under examination.

More than once did recorders count as English words which had come from another language, especially the Hawaiian. In trying to trace the origin of the word "ka" used by some Chinese children who were jumping rope, a Caucasian stenographer born in the Islands but who spoke little but English was consulted. She averred that the word was English. She and her English-speaking playmates had always used it when jumping rope. Our Hawaiian consultant identified it as an Hawaiian word meaning "revolve" or "roll."

B. METHODS USED IN THE ANALYSIS OF DATA

It was decided to analyze all data as nearly as possible as had been done in my previous study of monoglots (30), so that comparison with that study would be possible.

One exception was made in investigating the egocentricity of speech, in which case it was decided to use the more objective method used by Fisher (11).

The first type of analysis made was according to language used. First, the number of words in each language used by each child was counted and the per cent of words from each determined. Neologisms were counted separately, and unintelligible phrases or syllables for which no meaning was ascertainable were not included in the word count.

Although there are two or three distinct dialects of Japanese, Chinese, and Filipino spoken in the Islands, it was not found feasible to classify words according to dialect of the language spoken.

Next, each sentence was examined and classified as entirely English, entirely Japanese, or Hawaiian, or any of the other languages used, or as mixed. The mixed sentences included many combinations, usually being composed of English and the parents' mother tongue; but there were all possible double combinations of the six languages spoken. There were even several sentences composed of three and a few of four languages recorded. In this classification, a sentence was not counted as mixed when it was entirely in one language, except for a proper noun or a word for which there was no equivalent in the other language or which had become sufficiently anglicized to appear in Webster's latest dictionary. For example, "poi" and "lei" were counted as Hawaiian words, but if the sentences in which they occurred were otherwise entirely in English, the sentences were not counted as mixed, since both these words are to be found in English dictionaries. If the sentence contained neologisms or baby words,

they were traced to the language of origin, if ascertainable, and the sentence counted as mixed or entirely of one language accordingly. If the origin of such words could not be determined, they were considered to be corrupted forms of the language of the sentence in which they were found, and the sentence was not classified as mixed.

The count of words and classification of sentences in other languages were made by our staff of foreign-speaking students. Miss A. Keakealani Lee (16) had studied the frequency of Hawaiian words in all records, and Misses Chun (8) and Yee (36) had analyzed the Chinese words and sentences for their theses; and this material was made accessible to us. These three and all the other students who helped in the analysis conformed to the same rules. When difficulties arose, as occurred especially in classification of words by parts of speech, authorities were consulted.

Words were also classified as to the nine parts of speech, articles and adjectives being considered separately in English; but in classifying words in other languages, all types of modifiers were considered together, since a finer classification was not possible for all languages used. This classification has not been made for the Japanese words, as no one has yet been found who felt capable of the task.

Whenever it was not possible to determine the use the child made of the word, it was classified according to most common grammatical usage. The frequency of occurrence of each word, the total number of different words, and the percentage each part of speech composed of the total words of the language involved were found.

Copulas, relatives, inflected forms of words were also tabulated, and the percentages of these were found for the English portions of the records.

In determining the length of response, the rules previously used for counting words were followed. All contractions of two words into one, of whatever nature, were scored as one word. They were later arbitrarily classified under that part of speech to which the predominant part of the word belonged, but record was kept also as to the nature of the contracted element so that the frequency of use of copulas, auxiliaries, and the negative "not" could be ascertained. Hyphenated words were counted as single words, but all words written as separate words, even when combined into one verbal phrase or a double name such as "Betty Lou," were scored as separate words. The length of sentences was calculated separately

for those in each language and also for mixed sentences, as well as for all types of sentences together.

Sentences were classified as was done by Fisher (11) to determine the degree of egocentricity in different categories, according to whether the subject of the sentence was the child speaking, things, or people, or whether it was non-verbal. Another category was added for those sentences which were answers to questions where the subject could not be inferred from the context. As the Japanese language infers the subject from the situation, as English does in imperative sentences, it was necessary in that language, and therefore in the other languages, to classify the sentences for this analysis according to "subject understood," wherever possible, and not as to subject stated. With these exceptions, Fisher's rules were followed.

Sentences were also classified as to form as questions, statements, imperative, and declarative, with subheads according to function as criticism, answers, naming only, social phrases, threats, and variety of imperative (which included questions such as, "*May I have it?*" and statements such as, "*I want that.*") Negative sentences were also tabulated and counted.

Another classification of the sentences was also made according to structure as simple, complex, and compound.

A special study was made of all the questions, using the adaptation of Isaacs' (15) analysis that had been used before (29).

Finally, all English sentences and mixed sentences that were at least half English were studied to determine the amount of error. Only every other mixed sentence that was exactly half English was retained for this study, so that when it should be possible to examine the sentences for error from the standpoint of the other language, such analysis could be made on an equal basis. The classification of errors was made according to usual grammatical usages. Although made in great detail at first, the headings were later grouped for convenience under such larger heads as were found to include best the errors found.

Two error indices were calculated for each child by dividing the number of errors by the number of English words used. In one case, each use of a non-English word in a sentence predominantly English was counted as an error; in the other case, these instances of mixture were not counted as errors. The introduction of a foreign proper

noun or word for which there was no English equivalent or which had become sufficiently anglicized to appear in the latest edition of Webster's dictionary was considered in neither case to constitute an error.

From previous studies, certain measures of language development had been found to show less variability between individuals and more regular increase with age. When the Chinese data (the first to be completed) had been analyzed, three of these measures with the addition of per cent of English words were correlated with each other and with age to determine if they showed sufficient correlations with age to be useful in the evaluation of the various factors to be studied. The results are shown in Table 6. As the correlation of

TABLE 6
CORRELATIONS OF DIFFERENT MEASURES CALCULATED FROM CHINESE DATA ONLY

	Age	Sentence length	English	Conjugated verbs
<i>First order correlations</i>				
1. Age				
2. Sentence length	.714±.030			
3. Per cent English	.324±.054	.225±.057		
4. Per cent of verbs conjugated	.281±.056	.340±.053	.337±.054	
5. Errors	-.726±.029	.810±.021	-.327±.054	-.264±.056
<i>Second order correlations with Age held constant</i>				
3. Per cent English		.081±.060		
4. Verbs conjugated		.207±.058	.271±.056	
5. Errors		-.605±.038	.142±.059	-.090±.060
<i>With sentence length held constant</i>				
3. Per cent English	.240±.057			
4. Verbs conjugated	.060±.039		.283±.055	
5. Errors	-.357±.053		-.252±.057	.020±.060
<i>With amount of English constant</i>				
2. Sentence length	.684±.032			
4. Verbs conjugated	.196±.058	.453±.048		
5. Errors	-.694±.031	-.800±.022		-.173±.059

per cent of verbs conjugated with age was very low when other factors were held constant, this measure was omitted in all but the main comparisons afterward. The measures of sentence length and errors in use of English correlate $+.684$ and $-.694$ with age, when amount of English is held constant and are retained. Although they correlate quite highly with each other when amount of English

or age is held constant, as sentence length is based on the child's use of both languages and error index on English only, it seemed desirable to continue the use of both measures. That the use of longer sentences is independent of the language spoken and, therefore, can be considered a useful measure of the progress in mastery of a verbal means of communication, irrespective of which language is used, is indicated by the correlation of only $+0.081$ between per cent of English words and sentence length when age is held constant.

The per cent of mixed sentences, a measure also retained for all comparisons, does not have a linear correlation with age. Their absence, however, serves as a measure of the child's ability to differentiate between the two languages he is learning, except that, in the earliest stages of speech, they are lacking simply because in the stage of one-word sentences, words from two different languages could not be combined in a single sentence.

IV. RESULTS

A. THE PROPORTION OF ENGLISH USED

1. *Per Cent of Words From Each Language*

The total number of words in the material gathered from all sources amounted to 181,561 words (see Table 7), of which 88.4 per cent were English, 5.9 per cent Japanese, 2.4 per cent Filipino, 1.9 per cent Chinese, and 1.1 Hawaiian. The number of Korean and Portuguese words together amounted to less than one-half of one per cent. The seven main groups averaged 86.7 per cent English words and only 12.4 per cent of the language of their ancestors other than English. Evidently English is penetrating all groups of the Islands extensively. The only other language that is used by others than those for whose parents it is the native tongue is Hawaiian; but its contribution is only 0.8 per cent. The few words from Filipino, Portuguese, and Korean used by children of other races are all proper nouns, with the exception of "*no sabe*" used once. The only Chinese word not a proper noun used by more than one non-Chinese child was the interjection "*ai-yah,*" expressive of surprise or dismay.

The use of Japanese proper nouns was sometimes accompanied by two honorifics, "*san*" and "*chan.*" Besides these and the anglicized word "*kimono,*" there were only nine Japanese words used by more than one non-Japanese child. There were "*bakitale*" or crazy; "*buta*" or pig; "*daikon*" and "*saimin,*" two common Japanese foods; "*itai,*" hurts or sore; "*oppa,*" carry; "*obake,*" ghost; "*okasan,*" mother; and the most common of all, a phrase "*jun ken po,*" used in counting out in games. The syllables stand for the articles which are represented by the player's hands—"paper," "scissors," and "stone."

The Hawaiian words were counted and tabulated by Miss Lee (16). She found quite a list of words used by more than one non-Hawaiian. Only words used by at least five non-Hawaiians are listed in Table 8. They are arranged in order of decreasing numbers of different children using them.

The number of non-English words used by children whose parents did not speak the languages of origin is, then, so small that it appears that there is very little infiltration of any other language except Hawaiian, and even that is by no means extensive.

TABLE 7 (continued)

	English	Hawaiian	Japanese	Chinese	Filipino or Spanish	Portu- guese	Korean	Total
Kindergarten	17662	147	229	39	4			18081
In Situation A	5130	35	168	3	8	21	13	5378
Haoles	17644	21*	20**	10‡				17695
Total	160218	1971	10694	3586	4410	179	503	181561
% of words from each language	88.4	1.1	5.9	1.9	2.4	0.1	0.3	
Words used by others than (Seven Main Groups Only) those whose home lan- guage it is		1062	142	78	37	3	5	Home lan- guage other than English
Per cent of lan- guage spoken in home that is	86.7	0.8	0.1	.06	.03	.003	.004	12.4

*4 proper nouns 12 pau 5 misc.

**Mostly proper nouns.

‡Spanish 83 mostly proper nouns.

‡All proper nouns except 1 Chinese exclamation.

TABLE 8
HAWAIIAN WORDS USED BY NON-HAWAIIAN CHILDREN

<i>pau</i>	finished	<i>lei</i>	garland
<i>pilau</i>	filthy	<i>ka</i>	the
<i>hemo</i>	open, unfasten	<i>liilii</i>	small
<i>make</i>	dead	<i>ka</i>	twirl a rope
<i>kaukau</i>	eat	<i>hula</i>	dance
<i>puka</i>	hole	<i>poi</i>	food usually made from taro
<i>hana</i>	work	<i>haole</i>	person of Anglo- Saxon stock
<i>hapai</i>	lift, carry	<i>kanaka</i>	a man, usually Hawaiian
<i>moemoe</i>	sleep	<i>kapu</i>	forbidden
<i>pupule</i>	crazy	<i>hanapaa</i>	fasten
<i>maikai</i>	good	<i>poho</i>	lose
<i>ono</i>	tasty	<i>huhu</i>	angry
<i>auwe</i>	alas	<i>'olo</i>	lazy, awkward
<i>kukae</i>	filth	<i>makau</i>	fear
		<i>mea</i>	thing

Table 9 shows the per cent of words from each language used by each group. It will be noticed that each rural group uses words from one more language than does the city group of the same race. The kindergarten and Situation *A* groups are both mixed groups, and so naturally several languages are represented among them. Every group uses English, its own language, and Hawaiian. The Hawaiian group, being of mixed ancestry, uses words from the languages of all the other peoples represented in their ancestry except non-English European languages. The Filipinos use the greatest variety of languages.

2. *Per cent of English Words and Sentences and of Mixed Sentences Used by Each Racial Group*

Tables 10 and 11 show the per cent of English words and sentences used by each of the seven main groups. These per cents were calculated by averaging the per cents each child used, whereas those in Table 7 were calculated from the total number of words used by the group as a whole.

Whether it be words or sentences entirely English that are considered, the order is the same: Portuguese, Hawaiian, Korean, city Filipino, Chinese, rural Filipino, and Japanese.

Only the last three groups contain any large number of really

TABLE 9
PER CENT OF WORDS USED BY EACH GROUP THAT BELONG TO EACH LANGUAGE

	English	Hawaiian	Japanese	Chinese	Filipino Spanish	Portuguese	Korean
<i>Japanese</i>							
Boys	52.4	1.0	46.6				
Girls	57.6	0.9	41.5				
	46.5	1.1	52.5				
<i>Chinese</i>							
Boys	82.2	0.4		17.3			
Girls	79.0	0.4		20.5			
	86.0	0.4		13.5			
<i>Filipino</i>							
City	93.0	1.4	0.2		5.4		
Boys	93.4	1.6	0.1		4.9		
Girls	92.6	1.3	0.2		5.8		
Rural	80.7	1.6	0.3	0.3	17.2		
Boys	79.8	1.8	0.3	0.4	17.7		
Girls	81.5	1.4	0.2	0.2	16.8		
<i>Korean</i>							
Boys	96.9	0.6					2.5
Girls	96.9	0.7					2.4
	96.9	0.5					2.5
<i>Hawaiian</i>							
Boys	96.7	3.1	0.1		0.1		
Girls	96.2	3.6	0.1		0.1		
	97.0	2.7	0.1		0.1		
<i>Portuguese</i>							
Boys	98.6	0.5	0.1			0.8	
Girls	98.8	0.5	0.1			0.6	
	98.5	0.5	0.1			0.9	
<i>Kindergarten</i>	97.7	0.9	1.2	0.2			
<i>Rural</i>							
Japanese	33.1	1.3	65.4	0	0.1		
Hawaiian	90.0	9.1	0.1	0.5	0.1		
<i>In Situation A</i>	95.4	0.7	3.1			0.4	0.2
<i>Haole</i>	99.7	0.11	0.12	0.06			

TABLE 10
 AVERAGE PER CENT OF ENGLISH WORDS AND SENTENCES USED PER CHILD AND EXTENT OF CONFUSION OF TWO
 LANGUAGES AS MEASURED BY THE AVERAGE PER CENT OF SENTENCES COMPOSED OF MORE THAN ONE
 LANGUAGE

	Average per cent					boys			girls			All			σ 's of proportion at				
	2	3	4	5	6 yrs.	6 yrs.	6 yrs.	6 yrs.	6 yrs.	6 yrs.	6 yrs.	6 yrs.	6 yrs.	6 yrs.	6 yrs.	6 yrs.	6 yrs.	6 yrs.	
<i>Used by Japanese</i>																			
English words	48	45	45	53	61	55	45	50	10.0								9.6	4.5	
English sentences	40	36	36	41	53	46	37	41	9.8								10.0	4.4	
Mixed sentences	1.6	29	27	31	24	24	27	25	7.3								9.2	8.5	3.9
<i>Used by Chinese</i>																			
English words	72	73	79	85	93	77	85	80	9.0								5.1	3.6	
English sentences	64	69	75	82	91	73	80	76	9.6								5.7	3.8	
Mixed sentences	5.1	13.2	9.8	7.6	3.8	8.7	7.3	7.9	4.4								6.7	3.8	2.4
<i>Used by rural Filipinos</i>																			
English words	78	82	72	79	85	78	81	79	8.3								7.1	3.6	
English sentences	70	64	58	62	73	63	68	65	9.2								8.9	4.3	
Mixed sentences	8.9	18.5	21.9	25.2	19.4	19.4	18.1	18.8	5.7								8.9	7.9	3.7
<i>Used by city Filipinos</i>																			
English words	84	91	94	94	96	93	91	92	7.1								3.9	2.4	
English sentences	72	80	85	85	89	83	81	82	9.0								6.3	3.4	
Mixed sentences	1.5	16	13	13	10	13.8	14.8	14.3	7.1								7.3	6.0	3.1
<i>Used by Koreans</i>																			
English words	90	97	96	97	98	96	95	96	6.0								2.8	1.8	
English sentences	78	94	91	94	95	91	90	91	8.3								4.4	2.6	
Mixed sentences	3.2	2.6	6.8	4.6	3.8	4.9	3.6	4.2	3.5								5.0	3.8	1.8

TABLE 10 (continued)
 AVERAGE PER CENT OF ENGLISH WORDS AND SENTENCES USED PER CHILD AND EXTENT OF CONFUSION OF TWO
 LANGUAGES AS MEASURED BY THE AVERAGE PER CENT OF SENTENCES COMPOSED OF MORE THAN ONE
 LANGUAGE

	Average per cent						σ 's of proportion at					
	2	3	4	5	6 yrs.	All	2	3, 4 or 5†	6 yrs.	All		
<i>Used by Hawaiians</i>												
English words	93	96	97	97	96	96	95	97	96	5.1	3.1	1.8
English sentences	85	93	94	94	94	92	91	93	92	7.1	4.8	2.4
Mixed sentences	6.8	5.4	4.4	5.2	4.2	4.8	5.2	4.6	4.8	5.0	4.0	1.9
<i>Used by Portuguese</i>												
English words	99	99	99	98	98	99	98.6	98.5	99	2.0	2.8	1.0
English sentences	98	97	98	96	96	97	97.2	96.5	97	2.9	4.1	1.6
Mixed sentences	1.4	2.7	2.3	3.0	3.6	2.6	2.0	2.9	2.6	2.4	3.7	1.4

†This column shows σ 's for the highest per cent of mixed sentences which was reached at different ages by different groups.

TABLE 10a
INCREASES IN THE PER CENT OF ENGLISH AND USE OF MIXED SENTENCES

	In per cent of English		In use of mixed sentences	
	Differences from 2-6	σ 's of differences	Differences	σ 's of differences
		Critical ratio		Critical ratio
<i>For Japanese</i>				
in use of English words	13	14.0	from 2 to 5 yrs.	15
in use of English sentences	13	14.0	" 5 to 6 "	7
		.93		12.5
		.93		11.7
				1.2
				0.5
<i>For Chinese</i>				
in use of English words	21	10.3	" 2 to 3 "	8.1
in use of English sentences	27	11.2	" 3 to 6 "	9.4
		2.0		8.0
		2.4		7.7
				1.0
				1.2
<i>For rural Filipino</i>				
in use of English words	7	10.9	" 2 to 5 "	16.3
in use of English sentences	3	12.8	" 5 to 6 "	5.8
		0.6		10.4
		0.2		11.7
				1.6
				0.5
<i>For city Filipino</i>				
in use of English words	12	8.3	" 2 to 3 "	1
in use of English sentences	17	10.9	" 3 to 6 "	6
		1.4		10.2
		1.6		9.3
				0.1
				0.6
<i>For Koreans</i>				
in use of English words	8	6.6	" 2 to 4 "	3.6
in use of English sentences	17	9.4	" 4 to 6 "	3.0
		1.2		6.3
		1.8		6.1
				0.6
				0.5
<i>For Hawaiians</i>				
in use of English words	3	6.4	" 2 to 6 "	2.6
in use of English sentences	9	8.6		6.4
		0.5		
		1.0		
				0.4
<i>For Portuguese</i>				
in use of English words	0.8	3.4	" 2 to 6 "	2.2
in use of English sentences	2.3	5.1		4.4
		0.2		
		0.4		
				0.5

TABLE 11
DIFFERENCES BETWEEN RACIAL GROUPS AS TO PER CENT OF ENGLISH USED AND EXTENT OF CONFUSION OF LANGUAGES AS MEASURED BY THE PER CENT OF SENTENCES IN WHICH MORE THAN ONE LANGUAGE OCCURS

	Portuguese			Hawaiian			Korean		
	Diff.	σ diff.	Critical ratio	Diff.	σ diff.	Critical ratio	Diff.	σ diff.	Critical ratio
<i>Minus Hawaiian</i>									
English words	3	2.0	1.5						
English sentences	5	2.9	1.7						
Mixed sentences	— 2.2	2.4	0.9						
<i>Minus Korean</i>									
English words	3	2.0	1.5	0					
English sentences	6	3.0	2.0	1	3.5	0.3			
Mixed sentences	— 1.6	2.3	0.7	0.6	2.6	0.2			
<i>Minus city Filipino</i>									
English words	7	2.6	2.7	4	3.0	1.3	4	3.0	1.3
English sentences	15	3.8	3.9	10	4.2	2.4	9	4.3	2.1
Mixed sentences	— 11.7	3.4	3.4	— 9.5	3.6	2.6	— 10.1	3.6	2.8
<i>Minus Chinese</i>									
English words	19	3.7	5.1	16	4.0	4.0	16	4.0	4.0
English sentences	21	4.1	5.1	16	4.5	3.6	15	4.6	3.3
Mixed sentences	— 5.3	2.8	1.9	— 3.1	3.1	1.0	— 3.7	3.0	1.2
<i>Minus rural Filipino</i>									
English words	20	3.8	5.3	17	4.0	4.2	17	4.0	4.2
English sentences	32	4.5	7.1	27	4.9	5.5	26	5.0	5.2
Mixed sentences	— 16.2	4.0	4.0	— 14.2	4.2	3.4	— 14.6	4.1	3.6
<i>Minus Japanese</i>									
English words	49	4.6	10.6	46	4.8	9.6	46	4.8	9.6
English sentences	56	4.7	11.9	51	5.0	10.2	50	5.1	9.8
Mixed sentences	— 22	4.1	5.4	— 20	4.3	4.6	— 21	4.3	4.9

TABLE 11 (continued)
 DIFFERENCES BETWEEN RACIAL GROUPS AS TO PER CENT OF ENGLISH USED AND EXTENT OF CONFUSION OF LANGUAGES AS MEASURED BY THE PER CENT OF SENTENCES IN WHICH MORE THAN ONE LANGUAGE OCCURS

	City Filipino		Chinese		Rural Filipino	
	Diff.	σ diff. ratio	Diff.	σ diff. ratio	Diff.	σ diff. ratio
<i>Minus Chinese</i>						
English words	12	4.3				
English sentences	6	5.1				
Mixed sentences	6.4	4.0				
<i>Minus rural Filipino</i>						
English words	13	4.4	1	5.1		0.2
English sentences	17	5.5	11	5.7		1.9
Mixed sentences	-4.5	4.8	-10.9	4.4		2.5
<i>Minus Japanese</i>						
English words	42	5.1	30	4.6	29	5.8
English sentences	41	5.6	35	5.8	24	6.1
Mixed sentences	-11	5.0	-17	4.6	-6	5.4

bilingual children, for the per cent of English words used is above 90 for the other four. All groups, except the Portuguese, show an increase in the use of English from two to six years. The curve of increase is shown in Figure 4.

The Portuguese curve is almost perfectly horizontal. Their slight decrease of 0.8 in English usage is due to a very slight increase in

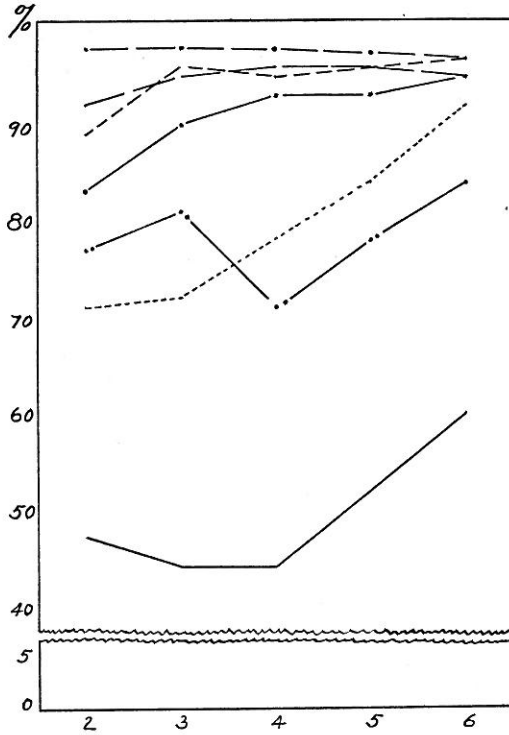


FIGURE 4

PER CENT OF ENGLISH WORDS USED BY CHILDREN OF DIFFERENT ANCESTRY AT DIFFERENT AGES

Portuguese	—————
Hawaiian	—————
Korean	—————
City Filipino	—————
Rural Filipino
Chinese	-----
Japanese	—————

Hawaiian and, on the part of the girls, to an increase in Portuguese. Probably their parents use English almost entirely when speaking to their children who, as they grow older and are more often away from home, pick up a few Hawaiian words from their playmates and a few Portuguese words from their grandparents. They do not learn enough of any other language to frame complete sentences, so that their use of non-English words occurs almost entirely in combination with English words in mixed sentences.

Although our raters usually marked English as the preferred language in Hawaiian homes and Korean preferred in Korean homes, the per cent of English words used by the groups is the same and that of sentences differs by but one per cent for these groups; but the Korean children use less English at two years and more at six than do the Hawaiian. Evidently, their parents do use Korean more, but the children, from their older brothers and sisters and through their contacts with playmates of different linguistic background, quickly add English to their vocabularies and spurn the use of Korean. Even in their preschool years, these children and their parents must find difficulty in understanding each other, for many conversations, where it was recorded that the parents spoke very little English, are, nevertheless, mainly in English.

The per cent of mixed sentences used by these children shows the rise between two and six years typical of bilingual groups, but by six years, the per cent is not much more than half that found at four years and is almost the same as for the six-year-old Portuguese (see Figure 5). At that age, only one per cent of Korean sentences occur. The Korean words used are mainly the words for members of the family and household articles which they do not often use except at home and for which their opportunity of learning English names is slight. So they must continue to use these few words for which they know no English. But not all of their mixed sentences are thus composed. They have also picked up a few Hawaiian words; and, as all the groups studied, do at times insert them in English sentences. Quite probably many of the children who do so are under the same impression as the *haole* woman mentioned above, who thought "*ka*" was an English word, and do not know that they are mixing two languages in one sentence.

The Hawaiian children show a steady decline in mixed sentences,

TABLE 24
COMPARATIVE SUMMARY OF QUESTIONS CLASSIFIED ACCORDING TO FORM AND
FUNCTION AS USED AT DIFFERENT AGES

	At	Average at each age level and by sexes						
		2	3	4	5	6 years	Boys	Girls
I Causal		0.4	3.5	3.5	4.5	6.7	4.4	3.5
II Reality								
a. Place		20.0	18.3	16.0	14.4	14.5	16.1	15.9
b. Others		9.3	10.6	14.7	14.1	13.3	14.6	12.3
III Actions								
a. Imperatives		3.3	5.0	6.1	5.3	3.1	4.1	5.3
b. What say		20.1	9.9	7.6	6.7	6.4	9.0	8.6
c. Others		30.3	36.1	38.4	43.1	41.4	37.7	39.9
IV Name		10.6	8.7	4.9	4.4	5.1	6.3	6.1
V Classification and Evaluation		4.9	7.7	7.4	6.0	6.9	6.7	7.0
VI Rules		0	0.1	0	0.4	0.8	0.2	0.5
VII Calculation		0.2	0	1.2	0.8	2.1	0.8	1.1
Corroboration and Approbation		10.9	11.6	9.6	11.0	12.1	10.6	11.8
Asked of adults		72	49	44	32	30	41	43
Interrogative words		36	43	45	46	48	46	44
What		13.0	17.1	17.7	15.1	15.7	15.6	16.4
Where		18.1	15.7	13.1	12.7	12.7	14.6	14.0
Who, which, whose		2.8	4.4	6.3	9.1	7.8	7.2	6.1
How		1.5	1.5	2.0	3.0	4.4	2.5	3.0
When		0.8	1.0	2.1	1.4	1.1	1.3	1.1
What for		0.1	0.4	0.9	0.6	0.9	0.9	0.4
Why		0.1	2.4	2.5	3.9	5.0	4.0	2.7
With { you know yeah, no, eh etc. }		6.4	10.0	9.4	8.4	10.3	9.0	10.0
Total no. of questions		538	882	960	1045	1109	2286	2252
Per cent of children asking questions		69	95	98	97	98	94.1	93.4
Per cent of sentences that were questions		6.1	10.0	10.0	11.9	12.7	10.2	10.6

They are imperative, "*May I have one?*"; and regarding reality other than place. The latter includes several sub-types: time, "*George Washington born tomorrow?*"; "*When he went born?*"; "*Inang (mother) what time pau?*"; facts and events, "*As (is that) all the food?*"; "*Mama no more one penny?*"; "*Whose chance for deal (turn to deal)?*"; "*Tomorrow get (will there be) church?*"

Questions of classification and evaluation rise in proportion from two to three years, after which there is decrease to five and then again

an increase. Such questions are, "You Korean, no?" "Dry kind, eh?" "My fingernail big, no?" "Dis asin (salt)?" But the more mature types of questions are rarer than they are with the Caucasians. Questions regarding number and rules are almost nil until four and five years, and even at six they are very infrequent. As to causal questions, the average for all is less at five years than for the Caucasians, and only the Portuguese group as a whole exceed the Caucasians, due to a high average (nine per cent) of such questions at six years. Of the question types that, for the Caucasian children, increased with age up to five years, only on those dealing with other actions do the Island groups excel; on the other three types they average lower.

On the three question types that decrease in proportion as age increases, most groups average higher than do the Caucasians. The four most bilingual groups ask to have statements repeated much more often than do the Caucasians and the more nearly monolingual Island groups. This is probably due to greater difficulty in understanding when they are learning two languages. Only the Chinese and Hawaiian, a nearly monoglot group, fail despite their advantage in age to equal or exceed the Caucasians in asking for the names of things. Only the Hawaiians ask fewer questions of place.

In general, so far as question types go, the preschool children in Hawaii show less maturity than did the Caucasians previously studied, and the more bilingual groups show more often a need to inquire as to names of objects or to have statements repeated to them. All groups except the monolingual Portuguese show less maturity in the use of questions of causality.

3. *Analysis According to Form*

Questions of corroboration in their form show the effect of pidgin English and maternal languages. The Chinese and Japanese children make considerable use of their home languages' method of turning declarative sentences into interrogative by the addition of a syllable that is commonly used for that purpose. Sometimes such particles are attached to sentences otherwise entirely in English. All groups make use of "yeah," "no" (for "isn't it so?"), which is also very similar to the Japanese interrogative), "eh," "ha," (also a Chinese interrogative), and the Japanese and Honolulu Filipinos use "you know" to turn declarative sentences into interrogative. Not one

makes use of "isn't it" or "don't you" and similar standard English phrases when seeking approval or corroboration of remarks.

The use of English interrogative words when asking English questions was also studied. In the previous study, the use of such words was found to decline with age.

In these groups, the use of such words increases slowly but steadily with age, at five years being used in exactly the same proportion as by the Caucasians at three years, and at six years in 48 per cent of English sentences as against 49 per cent for two-year-old Caucasians. "What" and "who" are more often used by each group except the Hawaiian, and "where" except by the Japanese, than these words were by the Caucasians. Although so many more interrogative words are used by the polyglot groups, in the case of those interrogatives previously found to increase with age and which (except for "when") do in this study also, the proportions of "how" questions are larger only for the Chinese, of "when" only for the two most nearly monoglot groups, and "what for" only for the Hawaiian. "Why" is used more by most groups, even though their causal questions are fewer.

F. ANALYSIS OF CONVERSATIONS BY PARTS OF SPEECH

1. *Parts of Speech Used in English*

The conversations were next analyzed, as had been done in previous studies, as to parts of speech. In Table 25 are shown the results of analysis into the different parts of speech of the English words as used by the seven main groups studied with the results of the same analysis previously made on the Caucasian group (31).

Under the head of connectives are included conjunctions, prepositions, and relative pronouns, adverbs, and adjectives. As the latter are counted also under the other heads, the sum of the per cents may exceed one hundred. Parts of speech which at some ages fell below one per cent were calculated to tenths, as were the interjections, so that the trends might be clearer. In other cases, the calculation was made only to the nearest round number.

The Caucasian monoglots at each age used approximately 40 per cent of substantives, but whereas the nouns were over twice as many as the pronouns at two years, the proportion of such words decreased

very rapidly the next year and continued to decrease very slowly after that, while the pronouns increased. The proportion of substantives for all the groups in Hawaii approximates two-fifths of all words except that for the Hawaiians the average for all ages is 45 per cent, a little higher. All groups except rural Filipinos show a trend toward a decrease in the proportion of nouns and an increase in that of pronouns with age; but if the per cent of Filipino nouns and pronouns used at each age is averaged with the per cent of English nouns and pronouns weighted according to the amount of each language used at that age, the same trend is found to exist up until six years of age. The average number of nouns then decreases from 29 per cent at two years to 20 at five, while the pronouns increase from 17 to 20 per cent during the same interval.

As the per cent of nouns used in the non-English language is much higher and that of pronouns used much lower in all languages analyzed (see Tables 8 and 26), it would appear that on the whole all the bilingual groups (despite their advantage in age) are retarded in the age at which the shift from nouns to pronouns is completely made. The Japanese, who show one of the larger averages in per cent of English pronouns, would show a much lower average were it not that in very many of their mixed sentences the only English word was a pronoun, usually "me."

The per cent of verbs remains nearly constant from three to five for the Caucasian group; the two-year-olds, however, use three per cent less than the average. The same trend is found in all seven groups, except that the lower per cent of verbs continues until four years of age for the Japanese, which is the only group to use fewer verbs than the Caucasian. The latter used 26 per cent of such words, the groups in Hawaii from 26 to 31 per cent. The larger proportion of verbs used by the bilingual groups might be due to the lower proportion of other parts of speech used in English. They comprise a lower per cent of the words used in the other languages.

The Island children, except the Japanese, tend to use a larger proportion of adjectives and a lower proportion of adverbs with increase in age, just as the Caucasians do. Even for the Japanese there is a suggestion of this trend. Most groups use a larger proportion of these modifiers than do the Caucasians, but the difference is not great. The excess of adjectives found for some groups is probably

due in part to the very low per cent of articles, for a common error is to substitute the adjective "one" for the indefinite article. There are no articles in Japanese, Chinese, and Korean. The children who speak the first two languages make least use of articles and the Koreans tie for third place from the bottom in frequency of use of these words. None of the other four groups, however, uses at any age as high a proportion of articles as do the Caucasian four-year-olds. For every group, the definite article comprises over 90 per cent of the articles used but less than half as many as used by the Caucasians. So except for the Japanese and Chinese, the discrepancy is due not to failure to use the definite article but rather to the substitution of "one" for "a" or the omission of the indefinite article. The few times an indefinite article was used by the younger children, it was in a learned phrase.

Connectives are also much less used by the Island children. Only the Portuguese at any age use as high a proportion as the other Caucasians did at three years. A comparatively high proportion of connectives and articles is associated with greater correctness and facility in the use of English [Zyve's (37) third-graders used seven per cent each of articles and connectives] which the groups studied lack.

Interjections, on the contrary, are associated with inability to express one's self adequately in more exact words. Such words are used with greater frequency by the more bilingual groups (except for the rural Filipinos) and the two-year-olds than by the Caucasians of the same age levels. The less bilingual groups either approximate the same proportion or use fewer interjections than do the Caucasians.

2. *Inflection of Words*

Considering the use of verbal forms, we find the Island children to be much retarded. Copulas are rarely used, but only in Portuguese is there a truly comparable word. The Portuguese children use this form most; at five and six years they use it as often as the Caucasians do at two years. Pidgin English ignores the copula. There is little change of the verb to express tense in pidgin English, tense being expressed only by auxiliaries or more frequently ignored. All languages represented are more or less unlike English in their conjugations. Perhaps Portuguese is most like, and we find the Portuguese to be the only group which, whether by auxiliaries or otherwise, conjugates verbs at any age (and then not until six) as

much as the three-year-old Caucasians. The Japanese and Filipino groups do not even reach the Caucasian two-year-old norm. The difference is greatest in the use of the sign of the infinitive, auxiliaries, futures, passives (used by only three or four children in all), and past participles. The past tense would also rank very low were it not for the fact that the verb "break" is usually used in pidgin only in its past form, and as it was one of the very few English verbs used by the younger children who did not use a large proportion of English, this one use of the past distorts the picture, particularly in the case of the Japanese. Present participles were used more often by the Island children than by the Caucasians.

Only the Portuguese children inflect nouns to the same degree as the Caucasians, but theirs is the only language represented that forms plurals as does English. Some of the other languages, including pidgin English, have no number for nouns.

The one classification according to meaning is that of adverbs, for which the previous study (30) had found a decreasing proportion of modal and place adverbs as the child became able to use the other types. The per cent of such adverbs for the Caucasians is 74, for the other groups the range is from 66 to 74. In general, the trend is in the same direction as previously found.

Some study was made of the use of comparison of adjectives and adverbs. Except for the use of the word "more" usually incorrectly, there were few cases of comparison found, and these almost all were made incorrect by the addition of a superfluous "more."

In general in the use of the different parts of speech and of inflected forms of words, the Island children are retarded.

3. *Partial Study of Parts of Speech Used in Other Languages*

It was desired to discover if any of this apparent retardation was compensated for in the other language spoken. Miss Yee (36) had analyzed the Chinese words into parts of speech for her thesis. The records of the rural Filipinos were similarly analyzed by Mr. Luis, and the results, recalculated to correspond more closely to the English analysis and to each other, are presented in Table 26. It has not yet been possible to complete the corresponding Japanese analysis. None of the other languages was used by a sufficient number of children to make a comparison meaningful. Miss Lee

TABLE 26
AVERAGE PER CENT OF THE DIFFERENT PARTS OF SPEECH USED

	In Chinese	Filipino By rural group	Per cent of interjections used in	Per cent of interjections used in both languages when weighted according to proportion of each language used	
Nouns	49.8	59.3	Japanese	6.5	8.3
Pronouns	7.8	4.8	Koreans	1.2	3.1
Verbs	19.2	17.7	Portuguese	0.7	2.1
Modifiers	11.3	10.9	Hawaiians	3.8	3.3
Connectives	1.2	0.6	City Filipino	6.5	4.9
Interjections	6.2	4.7	Rural Filipino		4.2
Enclitics	3.8	Articles 2.0	Chinese		6.7

(16) had analyzed the Hawaiian words in a somewhat different manner, and the few Korean and Portuguese words were translated by *N. Y. A.* assistants.

Most of the words in the three last-named languages were nouns, as is true of the Chinese and Filipino words. It would appear that the less a child uses of a second language, the higher the per cent of nouns. This high per cent of nouns is partly due to proper nouns and objects for which there is no name in English, partly to a lack of opportunity to learn an English word for some family relationship or article about the home. So overwhelming is the proportion of nouns in the non-English language that no other part of speech in it can compete in percentage with the corresponding one in English, except for the interjections. The parts of speech, except for nouns, do follow the same order of frequency in the non-English language as in English where a corresponding part occurs.

The superior maturity of the Caucasian monoglots' speech would be even more marked were the other languages to be considered for the use of nouns instead of pronouns, and scarcity of connectives and articles would be greater. Interjections would be slightly less frequent for some groups, the only criterion of maturity of which that would be true.

Although there is such scarcity of words in some linguistic groups,

it seemed worthwhile to see what the proportion of interjections would have been had the child used only English. So the per cent in each language was weighted according to the proportion of each language used. The per cent is still higher than that found for English alone for the most bilingual groups than it is for the Caucasians or for the less bilingual groups.

G. SEX DIFFERENCES IN THE MASTERY OF ENGLISH

Throughout the study, averages were calculated for boys and girls separately, but no significant differences were found, even on those measures that show maturity of speech in general rather than progress in English only.

In the proportion of English, whether of words or of sentences used, the Chinese and rural Filipino girls use a little more and the Japanese a little less than the boys, the averages of the two sexes in the other four groups being within two per cent of each other.

In error in English usage, the girls in six groups are very slightly better than the boys, but the Japanese girls do not do so well as the boys, the difference being almost significant.

In sentence length, the Japanese girls use slightly shorter sentences, the Chinese boys and girls tie, the girls in the other five groups have the advantage. The girls of all groups combined use about 10 per cent more complex sentences.

None of the above differences are statistically significant, although the girls do appear to be slightly more accelerated in speech. The difference, however, does not seem to be as great as that found in previous studies. Since in many cases, especially among the Japanese, the ancestral language is learned more from the home and English outside the home, the fact that even little boys are allowed more freedom from home may be responsible in part for the lower acceleration in the English language found among the girls in Hawaii.

Re-examination of our data showed that although the average age of the sexes in each group was nearly the same, yet in the case of the two-year-olds in every group but one, the boys averaged a little older, the difference being from a third of a month to three months older. Although in each group at some of the latter age levels, girls were a little older, so that the difference in ages between the sexes was at least almost eliminated, yet it is only at a very

early age that a month's increase in age will produce an easily measurable improvement in speech.

Therefore, the two-year-olds were carefully paired by age so that in no case was the difference greater than one month. It was possible to match from seven to twelve pairs of boys and girls in

TABLE 27
COMPARISON OF TWO-YEAR-OLD BOYS AND GIRLS AS TO PROGRESS IN SPEECH

	Japanese	Chinese	Rural Filipino	City Filipino	Korean	Hawai- ian	Portu- guese	Average of the 7 groups
								Total
Number of pairs	12	9	10	7	9	12	10	69
Age in months								
boys	25.5	22.7	24.9	25.3	25.1	26.2	24.9	24.9
girls	25.4	22.7	24.9	25.3	25.1	26.2	25.0	24.9
Average number of sentences in English								
boys	18.2	29.4	31.0	34.9	40.9	40.2	48.9	34.8
girls	22.6	36.0	40.5	34.1	41.3	45.0	49.1	38.4
mixed								
boys	7.5	2.2	5.3	6.1	1.4	3.7	0.4	3.8
girls	8.3	1.6	2.1	7.1	1.2	3.2	0.8	3.5
incompre- hensible								
boys	2.8	6.7	2.7	3.4	4.6	1.8	0.1	3.2
girls	0.0	1.7	0.4	1.4	1.2	1.2	0.0	1.2
Average error index								
boys	748	799	741	672	595	722	486	680
girls	722	676	825	705	599	586	454	652
Average per cent of English words								
boys	46.8	74.1	75.4	82.4	93.2	89.5	98.5	80.0
girls	49.8	76.2	85.7	82.7	91.5	95.5	99.2	82.9
Average sentence length								
boys	1.48	1.51	1.50	1.69	2.00	1.78	2.43	1.77
girls	1.83	1.56	1.38	2.03	2.18	2.38	2.66	2.00

each group, making a total of 69 pairs. The average per cent of English words, number of English and mixed sentences, error index, and sentence length were calculated for each racial group, and the results are shown in Table 27.

The girls show a distinct superiority on most measures. With the exception of the Koreans, they use more English words and, excepting city Filipinos, more sentences entirely in English—the average difference for all groups being, however, only 2.9 per cent more English words and 3.6 more English sentences.

There is no exception for any groups in the girls' superiority as shown by fewness of incomprehensible remarks—the average number being two less than for the boys. As the number of such remarks recorded is few, this difference means that the boys use almost three times as many incomprehensible sentences as do the girls. In sentence length, too, the other measure, not only of English but of both languages, the girls are in advance of the boys, with the exception of the rural Filipinos. The average difference between the sexes is .23 of a word, or the girls' average is 13 per cent greater than the boys'.

In correct use of English, the girls have but a small advantage; in both groups of Filipinos, the girls make more errors, and the Korean girls are practically tied with the boys. In mixed sentences there is no consistent difference: Japanese, city Filipino, and Portuguese girls; Chinese, rural Filipino, and Hawaiian boys, use the most mixed sentences, while the difference between sexes in the case of Koreans is negligible. The percentage of mixed sentences, however, was found to increase and then decrease in number, so it is probably not an appropriate measure of progress at two years.

This analysis of two-year-olds when the sexes are equated exactly as to age suggests that the difference found in other studies as to early precocity of girls as to speech does exist to some extent in the groups studied.

H. HOME INFLUENCE REFLECTED IN THE CHILDREN'S SPEECH

1. *Effect of Parental Birthplace*

It seemed probable that the amount and correctness of English used by the child might be greater in the case of those whose parents were native born than of those whose parents were immigrants.

Almost all the Filipino parents had been born in the Philippines,

TABLE 28
 COMPARISON OF THE PROGRESS IN MASTERY OF THE ENGLISH LANGUAGE OF THREE DIFFERENT GROUPS ACCORDING
 TO BIRTHPLACE OF PARENTS

Parents born in Hawaii	Lan- guage rating of home	Yrs. of English education	No.		Age	Sentence length words	Eng- lish words	Per cent of sentences that are		Error index
			boys	girls				English	Mixed Japanese	
Japanese	0	1.5	33	24	50.4	2.9	46.2	37.2	29.5	54
1	2.0	4.6	16	15	44.5	2.5	44.2	33.9	23.2	566
2	2.5	9.0	17	20	46.1	2.7	60.5	52.0	21.6	558
Chinese	0	1.6	12	8	54.8	2.9	72.8	72.8	5.4	458
1	2.0	4.3	16	7	42.7	3.1	73.2	64.0	4.5	424
2	3.0	10.0	41	41	46.4	3.3	84.2	83.2	3.0	388
Korean	0	2.1	43	28	48.0	3.1	94.7	88.4	4.8	463
1	2.9	7.0	11	15	48.8	3.2	97.8	94.8	2.2	444
2	2.8	10.1	8	18	46.0	3.1	97.1	92.2	3.4	389

practically all the Hawaiian and Portuguese in Hawaii; but in the case of three groups, there was a considerable difference among the parents as to birthplace.

The children of these three groups were separated into three subgroups according to whether both, one, or none of their parents had been born in Hawaii.

In order to avoid the influence of an uneven distribution of ages in the subgroups, averages were found separately for each of the five age levels, and then these five averages were added together and their average taken. Otherwise, in the smaller groups, the presence of a higher per cent of two-year-olds would have unduly affected the average of that particular subgroup (see Table 28). As was to be expected, the children, both of whose parents were born in America, use more English words and sentences than those, neither of whose parents was so born. Those, one of whose parents had been born in the Islands, hold a different rank in each group as to amount of English used.

The Chinese children also use longer sentences, fewer mixed sentences, with fewer errors, exactly in accord with the number of their parents born in the United States. Differences for the other two racial groups are not so consistent. The only criterion on which the Korean children of native-born parents excel is in amount of error. On the other criteria, those with one parent born in Korea rank first. The apparent superiority of the children whose parents were born in Japan on some criteria is probably accounted for by the advantage of about five months in age that this group has over the other two groups.

2. *Effect of Parental Occupation*

Previous studies have considered the relation of parental occupation or socio-economic status to the child's progress in speech (19, 30, 31). An attempt was made to do the same in this study. As most of the fathers' occupations had been rated on the Barr Scale, the children were divided into three groups: those whose fathers' ratings were 11 and above, small shop-owners, clerical and professional; those whose fathers' occupations were rated from 9:00 to 10:99, mainly skilled trades, sales clerks, etc.; and those whose fathers rated below 9.

As almost all rural Filipinos were plantation laborers, it was not

worth while to study this factor in their case; but the average error index, sentence length, and per cent of English words for each of the other six groups were calculated for each of the three occupational groups described above, and the results are shown in Table 29.

Despite the fact that occupational rating and years of English education correlated so low for the Asiatic groups (see Table 4), there is some difference in the amount of English used among the

TABLE 29
AVERAGE PROGRESS IN ENGLISH OF CHILDREN GROUPED ACCORDING TO
PARENTAL OCCUPATION

	<i>Japanese</i>		Age	Parental education	Lan- guage rating	Per cent English words	Error index	Sen- tence length
	<i>M</i>	<i>F</i>						
Barr								
Ratings								
11:00 up	10	12	47.6	6	2.4	61.5	438	3.17
9:00-10:99	21	27	47.4	4	1.8	46.0	582	2.62
below 9:00	35	20	47.6	2	1.8	50.9	552	2.76
Chinese								
	<i>M</i>	<i>F</i>						
11:00 up	30	27	47.7	9	3.0	81.0	404	3.15
9:00-10:99	20	12	48.2	6	2.4	81.8	420	3.03
below 9:00	19	17	48.7	2	1.7	70.0	436	3.10
City Filipino								
	<i>M</i>	<i>F</i>						
11:00 up	4	4	48.8	10.9	3.0	92.3	343	3.75
9:00-10:99	0	5	47.8	6.8	2.3	93.2	405	3.75
below 9:00	35	27	47.8	3.9	2.1	90.9	449	3.52
Korean								
	<i>M</i>	<i>F</i>						
11:00 up	4	13	47.7	9.6	3.0	95.9	412	3.66
9:00-10:99	11	15	48.4	3.7	2.6	95.6	449	3.20
below 9:00	43	32	47.8	3.5	2.3	95.8	482	3.06
Hawaiian								
	<i>M</i>	<i>F</i>						
11:00 up	5	10	48.7	10.8	4.1	97.5	343	3.13
9:00-10:99	4	7	49.1	11.5	3.8	94.6	471	3.19
below 9:00	46	45	48.4	7.4	3.0	95.4	447	3.06
Portuguese								
	<i>M</i>	<i>F</i>						
11:00 up	8	4	48.3	8.9	3.3	98.3	353	3.25
9:00-10:99	6	10	49.3	7.4	3.9	98.7	306	3.75
below 9:00	40	38	48.2	5.5	3.0	97.6	397	3.23

children of different occupational levels, except in the case of the Koreans. The difference, however, is very slight in the Hawaiian (many of whom were on relief) and Portuguese groups. In four of the six groups, the amount of error increases as the rating of fathers' occupation decreases. The Japanese children whose fathers have the highest Barr rating rank first both in making fewer errors when speaking English and in length of sentences; but the children whose fathers' rating is lowest on the Barr Scale are second in every one of the three measures. The language rating of their homes is as high as that of the middle group. Perhaps this is due to the fact that with so large a Japanese population as is found in the Islands, it is not necessary for a man to speak English so well in order to hold a good position as is true in the case of some other races.

The Portuguese children also do not show an increase in amount of error with decrease in average Barr rating of fathers' occupation. The first place on all three measures is held by the children of the middle occupational group and second place by those of the highest. But the average age of the children and language rating of the home is highest for the middle occupational group.

In sentence length, the longest sentences are used by the children of either the highest or next highest occupational level, and the shortest by one of the two lower levels, the averages of all the six groups taken together following the occupational ranks; but the differences are slight. Evidently other factors are more important in Hawaii in determining the child's progress in speech than the intelligence of the father as measured by the Barr rating. Probably this measure is not of so much value in the Islands, where the occupations open to men are to some extent determined by their race and the recency of immigration of their racial group (2, 17, 25).

3. *The Effect of Degree of Hawaiian Blood*

The Hawaiian group is quite heterogenous, not quite one-fourth being as much as seven-eighths Hawaiian. Therefore, the Hawaiians were sub-divided into five categories, as shown in Table 30, to see what difference in language development might be found among the different strains. The Caucasian-Hawaiian homes had the advantage in English education and language rating. Nevertheless, in amount of English, scarcity of mixed sentences, and sentence length, the group

TABLE 30
COMPARISON OF CHILDREN OF DIFFERENT MIXTURES OF HAWAIIAN BLOOD
AS TO PROGRESS IN SPEECH

	7/8 & 8/8 Hawaiian	Caucasian- Hawaiian	Filipino- Hawaiian	Asiatic- Hawaiian	Of more than two racial stocks
<i>Parents</i>					
Per cent born in U. S.	100	98	58	100	100
Years of English education	7.0	8.6	5.1	7.9	7.9
Language rating	2.5	3.6	2.1	2.6	3.2
<i>Children</i>					
Number boys	19	21	6	5	9
girls	10	28	4	5	18
Age	48.4	48.5	46.4	47.2	49.1
Per cent of English words	94.3	96.2	96.1	95.6	97.2
Per cent of English sentences	88.6	92.8	87.2	88.8	95.0
Per cent of mixed sentences	7.3	4.3	9.0	2.5	2.7
Sentence length	2.9	3.3	3.7	3.2	3.6
Error index	476	402	420	458	418
Sum of ranks on five criteria	23	11	17	16	8

of more than two racial stocks excels them. Only in fewness of errors are the Caucasian-Hawaiians first.

The few Filipino-Hawaiians, despite their disadvantage in home language rating, parental education, and two months' lower age average, use the longest sentences of all and make almost as few errors as does the group of more than two racial stocks. Did they not confuse their three languages so badly, they would have held a higher place.

The nearly full-blooded Hawaiians make the poorest showing of all. All the other groups have come from parents or grandparents of from two to five linguistic stocks. Probably their parents, desiring to be understood by each other and not so desirous of maintaining a non-English language as those people who have mated within their own racial groups are likely to be, have not used much of a non-English language. This would seem to be particularly true of cases where more than two racial stocks have been united in one marriage.

Of course, our cases are very few in number and the differences are not large. It would be interesting to extend this study further.

4. *Effect of Parental Education*

More clearly marked differences are found when the children are grouped according to the English education of the mid-parent. In interpreting Table 31, high school means graduation from high school and above; grade school, completion of eight to eleven years of school; primary, completion of four to seven years; and *L*, one to three years of English schooling. With the higher degrees of education are found quite consistently higher language ratings of home, more parents born in the United States, and higher Barr ratings. Average scores are found as before by averaging the average scores found at each age level. In some racial groups where at one or more age levels no children were found to represent one educational category, those whose parents had completed high school were grouped with those who had completed only eight grades. Data as to education were not complete for all groups. No Hawaiian parents had completed less than four years of English school, and in only six rural Filipino families had the parents completed more than a primary education. Therefore, certain categories are omitted for these groups.

With the exception of the Portuguese and Koreans, the proportion of English words increases for all, and of English sentences, for all but the Chinese, with the increase of parental English education. Mixed sentences show almost an opposite trend. Error index decreases with increasing parental education, except in the case of the Koreans and rural Filipinos. But the Korean children of high school parents average much younger than those in other categories, and the differences in amount of English used for Portuguese and of errors made by rural Filipinos are very small. In length of sentences, a tendency, but not so consistent a one, is found toward the use of longer sentences by children whose parents had more education.

In general, we find considerable correspondence between English education of mid-parent and the child's progress in speech, more especially in those measures used on English speech alone.

5. *Effect of Language Used in the Home*

Although the correlations between parental education, occupation,

TABLE 31
COMPARISON OF THE PROGRESS IN ENGLISH MADE BY THE DIFFERENT GROUPS WHEN DIVIDED ACCORDING TO NUMBER OF YEARS OF ENGLISH EDUCATION OF PARENTS

Parental	Lowest grade type of school finished	Lan- guage of home	% born U. S.	Barr rating	Children		Age in mos.	Length of sentence words	Eng- lish words	Average per cent of sentences that were		Error index
					No. of boys	No. of girls				English	Mixed Japanese	
<i>Japanese</i>												
H	3.7	100	9.82	4	2	41.3	3.41	83.51	79.61	11.0	8.0	314
G	2.7	100	8.51	7	12	48.5	2.63	63.42	52.42	25.0	22.6	564
P	2.1	67	8.65	13	11	48.6	2.72	46.43	37.23	34.4	27.6	543
L	1.7	14	8.24	42	34	47.4	2.63	44.84	36.44	36.0	27.2	574
<i>Chinese</i>												
H	3.9	98	11.41	11	13	48.2	3.51	88.61	85.42	9.0		317
G	2.9	96	10.32	17	18	46.9	3.03	88.42	86.71	4.2		400
P	2.3	83	8.87	14	9	47.2	3.22	80.33	76.73	6.4		408
L	1.6	39	8.67	26	18	48.7	2.94	71.54	67.84	9.6		440
<i>Filipino</i>												
Rural												
P	2.0	3	5.05	18	13	46.7	2.92	83.31	71.21	21.2		586
L	1.9	0	6.03	45	43	47.6	3.01	78.62	63.22	19.5		576
City												
G&H	3.0	16	8.51	8	11	48.9	3.71	95.21	89.01	8.9		420
P	2.0	5	6.50	19	22	45.5	3.52	93.02	80.02	11.8		482
L	2.0	0	5.89	36	29	47.1	3.33	90.13	79.53	15.5		479

TABLE 31 (continued)

	Parental		Bar- ring	Children		Length of sentence words	Eng- lish words	Average per cent of sentences that were		Error index	
	Lowest type of school finished	Lan- guage of home		% born in U. S.	No. of boys girls			Age in mos.	Eng- lish words		English
<i>Korean</i>											
H	3.9	83	10.50	5	10	43.0	3.21	95.73	94.42	2.8	434
G	2.9	74	9.07	11	16	47.6	3.21	98.21	96.01	1.8	427
P	2.4	38	7.07	9	12	46.9	3.13	96.42	92.63	4.0	425
L	2.0	4	6.99	36	25	48.4	3.04	94.84	88.04	4.6	471
<i>Hawaiian</i>											
H	4.7	100		2	10	49.9	3.41	97.51	94.41	3.3	319
G	2.9	96		40	31	48.7	3.12	97.02	94.22	4.2	413
P	2.9	90		18	21	47.6	2.93	92.73	86.43	8.0	509
<i>Portuguese</i>											
G&H	3.7	100	8.87	16	14	48.9	3.51	98.33	96.23	3.0	352
P	2.9	82	6.35	33	34	48.0	3.32	98.71	97.02	2.6	387
L	2.5	97	4.68	10	6	48.0	3.33	99.81	97.61	2.2	374

H—High school.
G—Grade school.
P—Primary.
L—Less than 4 years.

TABLE 32
 COMPARISON OF THE PROGRESS IN ENGLISH MADE BY THE DIFFERENT GROUPS WHEN DIVIDED ACCORDING TO LANGUAGE
 RATING OF HOMES

Home language rating	Parental		Barr rating of fathers' occupation	% born in U. S.	No. of children		Av. age in mos.	S.L.	% English words	English sentences	Mixed sentences	Error index
	Extent of English education	English education			boys	girls						
<i>Japanese</i>												
1	89%	L	8.66	9	23	14	48.8	2.6	44.8	33.4	26.6	597
2	58%	P	8.17	46	29	35	46.2	2.6	43.4	34.0	25.7	577
3	41%	G	8.90	52	10	7	51.2	2.9	72.8	50.4	18.1	467
4&5	100%	H	11.74	79	4	3	46.7	3.9	87.5	85.8	11.6	266
<i>Chinese</i>												
1	81%	L	8.85	52	13	8	50.4	3.15	45.8	45.4	12.2	428
2	56%	P	10.31	61	26	17	45.4	3.03	79.7	76.5	9.0	453
3	77%	G	10.26	87	18	17	45.8	3.05	91.5	86.8	6.3	377
4&5	65%	H	11.30	98	13	13	48.6	3.48	92.6	88.0	7.9	305
<i>Filipino</i>												
years												
Rural												
1	1.4		5.27	00	9	5	46.6	2.98	47.3	23.2	23.1	641
2	3.4		5.58	02	56	54	47.4	3.00	83.3	70.2	17.6	582
City												
2	4.0		5.89	07	58	55	47.6	3.34	90.9	81.2	14.4	493
3&4	10.3		8.96	12	5	7	48.9	3.91	94.4	91.3	10.0	392
<i>Korean</i>												
2	1.8		6.84	13	39	36	52.0	3.01	95.2	89.4	4.9	468
3	9.2		7.86	71	15	21	47.4	2.74	96.2	91.6	3.5	420
5	11.4		10.47	43	3	4	47.2	2.99	99.4	94.4	0.8	306

TABLE 32 (continued)

Home language rating	Extent of English education	Parental		Av. age in mos.	S.L.	% English words	English sentences	Mixed sentences	Error index
		Barr rating of fathers' occupation	% born in U. S.						
<i>Portuguese</i>									
2	4.6	5.32	83	48.6	3.30	98.4	96.4	3.2	423
3	6.3	6.75	98	48.1	3.30	98.6	97.4	2.4	395
4&5	8.4	8.86	100	49.2	3.46	98.6	97.0	2.4	311
<i>Hawaiian</i>									
			% Haw. blood						
2	7.0	70	92	48.7	3.08	95.8	91.0	6.1	450
3	8.1	59	95	48.3	3.20	97.8	95.3	6.4	411
4	8.0	72	100	48.5	3.16	97.2	92.4	4.5	459†
5	10.0	42	100	49.0	3.24	97.2	95.6	2.8	319

L—Little or no English education.

P—Primary but not grade school.

G—Grade school, but not completed high school.

H—High school graduate or more.

†Excessively high score at 2 years.

and the language rating of homes are not high, yet when the different groups were separated into sub-groups on the basis of the homes' language rating, the amount of English education and of per cent born in the United States of parents, and, in most cases, the Barr rating of the fathers' occupation, increased with higher language rating for each group. Sub-groups for which any age-level did not have at least one representative were either omitted or were combined with another group. The averages of each age-level were found, and then the mean of the five averages was calculated as before in order to discount the effect of an uneven scattering throughout the age levels of children in different sub-groups. The results of this classification are shown in Table 32.

The most marked differences are in the more bilingual groups in amount of English used, whether measured by words or sentences. The less bilingual groups show very little difference in this respect. In every racial group, however, there is, with two exceptions, a steady decline in the number of errors with increase in the home's language rating. The exceptions are from rating one to two for the Chinese children (probably due to five months' advantage in age for the former); and a higher score for the group rated four than for those rated lower among the Hawaiian children, probably due to the excessively high average found for the few two-year-olds at that level.

The number of mixed sentences decreases with higher language rating. There is no decrease after level three for Portuguese and a slight gain after that point for the Chinese; and the percentages at levels two and three are almost identical for the Hawaiian. In sentence length, the only clear difference is that, at levels four and five taken together, the longest sentences are found; and, when a comparison is possible, sentences at level five average a bit higher than at level four. Levels one and two show either no difference or, in the case of the Chinese, slight loss from level one to two, which might be on account of the age advantage at level one again.

The average language rating of homes is reflected in the use of English names for the children. Many families here, as is evident in the birth columns of the vital statistics in the newspapers, give their babies an English name as well as another name in the language of their racial ancestry; but almost no families supplied the observers with more than one name. English or Anglicized names only were

given for all the Portuguese children, 94 per cent of the Hawaiian, 79 per cent of the Korean, 68 per cent of the Chinese, 36 and 32 per cent respectively for city and rural Filipino, and 30 per cent of the Japanese. Except for the Filipinos, the per cent of English names in each group correlates perfectly in rank with the proportion of English spoken and is in quite close agreement with the rank of the homes according to language rating.

6. *Effect When Parents Speak Different Dialects*

Two children for whom records were taken but not used both had parents of different racial ancestry. These children used more English than the average children of their age in either parental stock. As it seemed probable that in such homes the parents would be more likely to need to use English as a medium of conversation, the Filipino records for which data as to parental dialect were available were analyzed to discover if there were any difference between children whose parents spoke the same and those whose parents spoke different dialects. The results are shown in Table 33. The 21 pairs of children were matched exactly as to sex and age. The average advantage for the group whose parents spoke different dialects was, in English education, about three months and 0.27 of a point on the Barr Scale. As both groups were rated two or more as to language rating, both sets of parents used some English in the home, although it was highly "pidgin." The difference in rating was in favor of the different dialect group, but that was only two-tenths of a point. However, only 93 per cent of this group were born in Hawaii, 98 per cent of the other; so it otherwise would not have been expected that the parents using different dialects would have had even a slight advantage in the language rating. Their children do not use as long sentences, but do use a little more and slightly more correct English than do the Filipinos whose parents use the same dialect.

7. *Effect of Order of Birth*

In order to study the effect of birth order on mastery of English, two methods were used. By the first method (Table 34), as many as possible of the children of each racial group were paired, a first- or second-born child with a later-born child of the same sex and of approximately the same age and home background.

TABLE 33
 A COMPARISON OF THE PROGRESS IN MASTERY OF THE ENGLISH LANGUAGE BY FILIPINO CHILDREN WHOSE PARENTS SPEAK DIFFERENT FILIPINO DIALECTS WITH THOSE WHOSE PARENTS SPEAK THE SAME DIALECT

	Parental English education	Home language rating	Barr rating	% born in Hawaii	No.	Age in mos.	Sentence length	English words	Per cent of sentences that were English	Error index
Parents speak Different dialects	5.3	2.2	7.07	93	21	38.7	2.68	91.3	83.7	559
The same dialect	5.0	2.0	6.80	98	21	38.7	2.90	90.5	80.5	597

TABLE 34
COMPARISON OF PROGRESS IN THE ENGLISH LANGUAGE MADE BY CHILDREN WHO WERE EITHER THE ELDEST OR NEXT ELDEST IN THEIR FAMILIES WITH CHILDREN WHO WERE THIRD OR LATER BORN

	Chinese		Japanese		rural		Filipino		city		Korean		Hawaiian		Portuguese	
	O	Y	O	Y	O	Y	O	Y	O	Y	O	Y	O	Y	O	Y
Number	26	26	27	27	40	40	39	39	39	39	25	25	37	37	37	37
Boys	15	15	10	10	21	21	20	20	20	20	12	12	20	20	19	19
Girls	11	11	17	17	19	19	19	19	19	19	13	13	17	17	18	18
Parental education	7.0	6.8	4.6	4.5	3.2	2.8	3.7	3.5	3.5	3.5	5.3	4.9	7.5	7.5	6.5	5.9
Language rating	2.4	2.7	2.0	2.0	1.9	1.9	2.1	2.1	2.1	2.4	2.4	2.4	3.0	3.0	—	—
Barr rating	9.63	9.85	8.86	8.64	5.27	5.32	5.97	6.22	6.22	6.65	7.38	—	—	—	7.05	6.81
Per cent born in Hawaii	79	79	54	54	3	0	3	0	0	52	20	100	100	100	100	100
Per cent of English words	73.2	85.1	37.1	49.8	78.0	79.4	91.9	92.6	92.6	96.6	94.7	95.4	95.9	96.6	94.7	94.7
English sentences	69.4	83.8	32.7	40.5	59.8	66.4	79.4	80.7	80.7	93.9	88.6	91.3	92.3	93.9	88.6	88.6
Mixed sentences	8.6	5.4	31.4	23.3	22.0	17.5	15.4	14.3	14.3	4.6	3.7	4.9	5.4	4.6	3.7	3.7
Sentence length	3.1	3.2	2.80	2.74	2.90	3.06	3.5	3.4	3.4	3.3	3.2	3.2	3.0	3.3	3.3	3.2
Error index	408	382	558	569	608	597	472	474	474	470	428	433	432	470	428	428
Average age of children	49.5	49.5	51.8	51.9	46.4	46.3	48.3	48.3	48.3	48.4	48.5	49.1	49.1	53.4	53.4	53.5

O—Two oldest children in families.

Y—Younger members of families.

The families of our samples were rather large, so the birth-order of the later-born children ranged from three to thirteen. The second-born children had either not had the advantage of an elder sibling in school or, in a very few cases, for only a few months' time.

In matching children, the average age of each paired group differed by not more than one-tenth of a month, parental education by not more than six-tenths of a year, in Barr rating in only one case by more than three-tenths of a point. Only in the case of the Chinese was there any difference in language ratings, and only in the case of the Koreans was there any difference greater than three per cent as to parental birthplace. Data were lacking in too many cases of otherwise usable pairs as to language rating for the Portuguese and satisfactory Barr rating for the Hawaiians (too many of whom were on *F. E. R. A.* projects).

In the case of those groups who, as a whole, use a considerable proportion of language other than English, the younger children have the advantage as to amount of English used and fewness of mixed sentences, and two of these groups use slightly longer sentences. On the contrary, among the younger children for the four groups using very little but English, there is very little difference on these measures, but the larger of the differences that do occur are in favor of the elder children. As to errors, in four cases the elder children make an average of 30 more per thousand words; while in the other three cases, the younger average five more errors per thousand words.

The second method was to compare the progress of older and younger members of the same family by finding the percent of the racial average for his age attained by each child (see Table 35). According to this method, the younger children use more English words in the three most bilingual groups, the next two use about the same, and in the case of the Portuguese and Hawaiian they use less. The same is true as to English sentences except for the Chinese. As mixed sentences do not follow a straight-line curve, this comparison as to their use for children whose average age differs is not practicable. Except in the case of the Filipinos, the older children use longer sentences. The elder children for their age make fewer errors in the case of the Portuguese and Hawaiian and very slightly less in the case of the Japanese and Korean, the reverse being true for the other groups.

TABLE 35
 OLDER AND YOUNGER BROTHERS AND SISTERS COMPARED AS TO PER CENT ATTAINED OF AGE-NORM FOR OWN RACIAL
 GROUP ON FIVE CRITERIA OF LANGUAGE DEVELOPMENT

	Number of sibling pairs of						
	Japanese 16	Chinese 28	Rural 28	Filipino Honolulu 25	Korean 38	Portuguese Hawaiian 24	Hawaiian 7
<i>Older</i>							
Average age in months	64.4	60.8	61.1	60.0	61.5	60.2	71.6
Average per cent of norm reached in error index	106.1	106.4	103.5	105.7	96.0	99.8	84.0
Sentence length	112.8	101.5	95.6	103.0	100.4	103.1	115.6
Mixed sentences	98.2	99.2	106.4	118.2	39.1	46.8	113.0
Mixed sentences*	112.3	112.3	—	—	63.7	91.3	—
English sentences	100.5	101.3	90.4	97.0	102.0	99.2	97.6
English words	99.0	93.1	99.0	99.2	100.8	99.9	101.0
<i>Younger</i>							
Average age in months	38.1	36.6	40.9	36.9	37.1	39.0	50.9
Average per cent of norm reached in error index	111.8	103.8	103.5	103.7	99.3	111.2	109.1
Sentence length	111.1	95.3	103.3	112.4	95.9	97.6	98.6
Mixed sentences*	91.8	91.0	137.4	137.8	37.3	54.5	94.7
English sentences	93.4	110.8	—	—	67.6	100.3	—
English sentences	116.1	100.6	96.4	98.8	101.4	98.5	101.3
English words	111.1	100.3	101.5	101.6	100.0	96.6	100.3

*The figures in this column are the averages found when all children who use no mixed sentences are excluded.

In general, it would seem that the elder children have a similar advantage in mastering language to that which has been found in studies of monoglots, due to greater adult attention, in those groups where little but English is used; but where another language is much used, the younger children in their preschool years learn to use more English from their elder siblings and are able to separate the two languages a little better. On other measures, however, they appear to have no advantage in speech.

I. OTHER ENVIRONMENTAL FACTORS

1. *Effect of Place of Residence*

a. In city or country. In the preceding chapters, two Filipino groups have been constantly compared. By every criterion used, the city children have the advantage in mastery of English. They use more English at each age, make fewer errors, are ahead in the elimination of mixed sentences, and use longer sentences. In the foregoing chapter, it was shown that this is true when groups equal in amount of parental education are compared.

Our rural cases were found on sugar plantations. In Hawaii, the plantation laborers live in camps or small villages rather than in scattered farmhouses. Oftentimes those assigned to a particular camp are all of the same racial ancestry. Sixty-six per cent of our rural subjects lived in Filipino camps. The children in such camps did not have to learn English or any other than a Filipino dialect in order to be understood by their playmates.

Mr. Masuoka, in the course of his study of the Americanization of Japanese in the Islands, recorded the conversations of 17 rural Japanese children according to our method. These were matched according to age, sex, parental education, and Barr rating of fathers' education with 17 of our Japanese subjects from Honolulu. These rural children use 21 per cent less of English words, average almost 14 fewer English sentences and 10 more mixed sentences, and make 78 more errors per thousand English words than do the city children (see Table 36); but, although their complex and compound English sentences are fewer, their sentences average longer when all 50 sentences are considered. They ask only a little more than half as many questions, and the egocentric indices of the two groups are almost the same. Many more of their English words are conjugated,

TABLE 36
COMPARISON OF RURAL JAPANESE CHILDREN WITH JAPANESE CHILDREN LIVING
IN HONOLULU

	Rural Japanese children	Japanese children in Honolulu	Difference
Number of children	17	17	
Barr rating of fathers' occupation	8.33	8.38	— .05
Years of parents' schooling	6.6	6.4	0.2
Age in months	51.2	51.2	0.0
Average number of words spoken			
in English	67.4	88.3	—20.9
in home language	133.0	60.4	72.6
in Hawaiian	2.8	1.3	1.5
in another language	0.2	0.0	0.2
Average number of sentences entirely in			
English	10.1	23.9	—13.8
entirely in home language	15.7	11.7	4.0
in another language	0.4	0.4	0.0
a mixture of languages	23.8	14.1	9.7
Error index	600.9	522.6	78.3
Sentence length	3.5	2.9	0.6
Number of complex and compound			
sentences	3.0	3.4	— .4
Number of questions	3.9	6.9	— 3.0
Egocentric index	334.2	348.2	—14.0
Per cent of verbs conjugated	207.7	81.1	126.6
Per cent of English words that were			
copulas	0.3	0.7	— 0.4
connectives	1.1	2.6	— 1.5
articles	0.8	2.0	— 1.2
nouns	17.5	23.2	— 5.7
pronouns	23.2	20.8	2.4
interjections	6.6	9.7	— 3.1
verbs	18.3	19.3	— 1.0
modifiers	31.8	22.4	9.4
Per cent of English words	38.1	59.1	—21.0

mainly due to their overuse of the past form of the single verb "broke." They use fewer copulas, connectives, articles, and nouns, and less frequently use an English word when resorting to interjections. Altogether they, like the rural Filipinos, show much less mastery of English than do the city children.

Miss Lee (16) studied a few rural Hawaiian children in the course of her investigation of the use of Hawaiian words in the Islands. Although she observed all the children in one rural community on Oahu, where most of the inhabitants were Hawaiian, only four of them were of the age of our subjects. They use more

Hawaiian words and make more errors in the use of English than do comparable cases among our subjects.

b. In areas of mixed population or in those where one racial group was concentrated. As the failure to meet children who cannot speak the non-English home language seems to be the most probable potent factor in the rural children's backwardness in English when compared with city children, a comparison was made of Honolulu children residing in sections of the city populated almost entirely by persons of the same racial ancestry and therefore situated somewhat as the rural children are, with children residing in areas where the population is of diverse racial antecedents (see Table 37). Residential areas of the first type will be referred to hereafter as concentrated and of the second type as mixed. The classification of these areas in Honolulu had been made by the Sociology Department at the University, and Dr. Andrew Lind, head of the department, kindly permitted us access to these data. The Portuguese and Koreans, especially the latter because of the small proportion it composes of the total population, are not found in concentrated areas of any size. For the other four groups, children from the two types of residential areas were matched with each other on the basis of age, sex, parental education, and, except in the case of the Hawaiians for whom the occupational rating was not obtained in too many cases, by the Barr rating of the father's occupation also. The language rating of the home was also considered, no child being matched with another child if the rating differed by more than one point on the scale; but the homes in mixed areas averaged so much higher than those in concentrated areas in this respect that the difference between the pairs was the largest in this criterion of any. To the Honolulu pairs were added 17 rural Filipinos matched by the same criteria, one member of each pair of which lived in a Filipino camp, the other in a mixed camp.

There were only 105 pairs which could be found among the 875 cases. Most of the Hawaiians and city Filipinos lived in mixed areas, most of the Japanese and rural Filipinos in concentrated areas. The Chinese showed the most diversity as to residence in this respect, and it was possible to match half as many pairs of them as for all other four groups taken together.

The average of the five groups from mixed areas was 9.3 per cent more English words and 7.9 per cent more entirely English sentences

TABLE 37
 COMPARISON OF PROGRESS IN THE ENGLISH LANGUAGE MADE BY CHILDREN RESIDING IN COMMUNITIES COMPOSED MAINLY
 OF PEOPLE OF THE SAME ANCESTRY WITH THOSE CHILDREN RESIDING IN COMMUNITIES OF
 MIXED RACIAL ANTECEDENTS

	C*	M†	Chinese		Japanese		City		Filipino		Av. of 5 groups		Total
			C	M	C	M	C	M	C	M	C	M	
No.	35	35	13	13	18	18	22	22	17	17	17	105	105
Boys	21	21	10	10	13	13	12	12	9	9	9	65	65
Girls	14	14	3	3	5	5	10	10	8	8	8	40	40
Parental education	6.6	7.0	6.6	6.3	6.9	6.9	5.2	5.3	3.3	3.2	3.2	5.7	5.7
Language rating	2.1	2.4	2.2	2.7	2.5	2.5	2.1	2.1	1.8	1.9	1.9	2.1	2.3
Barr rating	9.54	9.63	9.04	9.19	—	—	6.46	7.50	5.59	5.58	5.58	7.66	7.98
Age	47.9	47.6	51.6	51.5	50.1	49.9	55.9	55.9	42.9	42.9	42.9	49.7	49.6
Per cent of English words	70.8	85.1	54.2	69.6	93.5	95.8	92.1	94.6	74.9	84.5	84.5	76.7	86.0
English sentences	70.9	80.9	39.8	60.8	88.0	94.3	82.5	84.7	59.2	62.4	62.4	68.1	76.7
Mixed sentences	9.6	7.7	35.9	21.4	7.8	3.8	13.6	13.4	19.8	22.2	22.2	10.9	13.7
Sentence length	3.0	3.1	3.1	3.2	2.7	3.0	3.6	3.6	3.1	2.8	2.8	3.1	3.1
Error index	444	408	553	446	480	463	448	455	632	643	643	511	483

*The scores of children residing in areas where their own racial group is concentrated.

†The scores of children residing in areas of mixed population.

than for those from concentrated areas. The difference was in the same direction for all groups on both criteria. Two groups show more mixed sentences used by those residing in mixed areas; three show less. This difference depends on the amount of English used, the groups using fewer mixed sentences when residing in concentrated areas being those who use least English. Sentence length does not appear to be affected by this factor. Error in use of English is less, excepting for Filipinos, for those residing in mixed areas.

It would appear to be a decided advantage, if a child is to learn a second language besides his mother tongue, for him to reside in a neighborhood where few of the children speak the language spoken in his own home. As that is true of our Korean group as a whole, it is not surprising that they surpass the other bilingual groups in their use of English.

2. *Effect of Kindergarten or Nursery School Attendance on Progress in the Mastery of English*

In order to study the effect of kindergarten or nursery school attendance on mastery of English, two methods were followed: one hundred records were taken at kindergarten, and the records taken at home of children who attended kindergarten or school were compared with those of children who did not.

The records taken at kindergarten were all taken in Honolulu kindergartens and were taken during free play or other periods when the child's conversation was not directed by his teachers. One of the kindergartens used includes a nursery school department, so the age range of these subjects is similar to that of our main groups.

As the home records numbered about 900, it was possible to find among them conversations to match each of the kindergarten records.

The children were paired exactly on the basis of sex and race, were within three months of the same age, their parents had had approximately the same amount of English education, and their fathers averaged within a few points on the Barr Scale for rating occupations on which the average for the kindergarteners' fathers was 10.04 against 9.76 for the other children. Only 62 per cent of the former's parents were born in the United States and 70 per cent of the latter's; but the former's parents averaged 7.9 years of English education against 7.3 for the latter's. As the age difference is but 0.1 month, the two groups are quite well matched (see Table 38).

TABLE 38
COMPOSITION OF GROUP WHOSE RECORDS WERE TAKEN AT KINDERGARTEN AND
THAT OF CHILDREN PAIRED WITH THEM WHOSE RECORDS
WERE TAKEN AT HOME

Records taken at	Children				Parents		
	Number Boys	Girls	Age in months	$\sigma_{dist.}$	Born in U. S. A.	Years of English schooling	Barr rating of fathers' occu- pations
Kindergarten	49	51	52.4	14.8	62%	7.9	10.04
Home	49	51	52.3	15.2	70%	7.6	9.76

When the conversations of the two groups were compared, it was found, as summarized in Table 39, that the children at kindergarten used almost 30 per cent more sentences in which English was exclusively used. They mixed words of more than one language less than one-fifth as much and made about 15 per cent fewer errors when speaking English. They used a slightly higher number of complex and compound sentences, and their sentences were about 10 per cent longer. As other parts of the study have shown, our bilingual children conjugate very few verbs, use very few copulas, articles, and connectives, and use many more interjections than do monoglots of the same age who speak more perfectly. On every one of these criteria, the children at kindergarten show a much better use of the English language.

Our kindergarten records were taken at Castle and Moiliili. The former kindergarten charges tuition and enrolls a large number of children from homes where English is the only language spoken, but the latter does not. The advantage that a bilingual child has in learning to master English in a school where there is a nucleus of monoglots can be seen by comparing the averages of Japanese children of about the same age in the two kindergartens. In all measures except length of sentence, the children at Castle excel the others, although they average two months younger: but as the children at Moiliili averaged higher in the use of English than did their corresponding mates observed at home, it is evident that attendance at kindergartens where English is spoken, even if none of the children speaks it exclusively, is an advantage to a child's mastery of the language.

To study the amount of carry-over of the use of English to the

TABLE 39
A COMPARISON OF 100 RECORDS OF CHILDREN'S CONVERSATIONS RECORDED AT
KINDERGARTEN WITH THE SAME NUMBER RECORDED AT HOME

	Kindergarten attendants	Non-Kin- dergarten	Japanese pairs at	
			Castle	Moilili Kindergarten
Average age in months	52	52	60	60
Number of Japanese children	61	61	16	16
Number of Chinese children	33	33		
Number of Korean children	1	1		
Number of Filipino children	1	1		
Number of Part-Hawaiian children	4	4		
Per cent of English words	97.4	70.8	97.8	95.3
Number of English sentences	47.2	31.6	48.1	44.1
Number of mixed sentences	1.7	9.4	1.4	4.4
Errors per 1,000 words	387	451	329	466
Number of words per sentence	3.4	3.1	3.7	3.8
Per cent of verbs conjugated	18.6	15.9	20.6	8.5
Per cent of English words used that were:				
copulas	3.0	0.7		
articles	2.9	1.7		
connectives	3.9	2.6		
interjections	4.2	6.6		
Number of complex and compound sentences	3.0	2.9		
Number of questions	4.5	6.2		
σ of dist. for error index	142	167		
sentence length	0.87	0.87		
σ_p for English words	1.7	4.5		
Number of				
Chinese sentences	0.1	1.0		
Hawaiian sentences	0.8	0.2		
Japanese sentences	0.3	7.6		
Filipino sentences	0.0	0.2		
Incomprehensible sentences	0.5	0.2		
Differences between kindergarten and other children				
		Per cent		
		English words	Sentence length	Error index
Difference		26.6	0.3	64
σ of difference		4.8	0.135	23.4
Critical ratio		5.5	2.2	2.7
Chances in a 1,000 of a true difference		1,000	986	997

TABLE 40
COMPOSITION OF GROUPS WHO ATTEND KINDERGARTEN AND OF CHILDREN
PAIRED WITH THOSE WHO DO NOT

	Number of		Age in months	Parents		Barr rating	Language rating of home
	Boys	Girls		Born in U. S.	Years of English schooling		
<i>Kindergarten</i>							
Chinese	8	8	58.6	75%	6.3	9.01	2.6
Japanese	4	1	60.6	30%	2.0	8.35	1.6
Korean	7	8	62.9	20%	3.9	7.32	2.7
Filipino	7	7	59.0	0	4.5	6.08	2.1
Total	26	24	60.3	33%	4.6	7.41	2.4
Hawaiians	4	4	68.8	100%	8.3		2.4
<i>Non-Kindergarten</i>							
Chinese	8	8	58.6	81%	7.6	8.96	2.6
Japanese	4	1	60.6	30%	2.2	8.19	1.6
Korean	7	8	62.9	17%	3.9	7.79	2.3
Filipino	7	7	59.6	0	3.5	6.55	2.1
Total	26	24	60.3	34%	4.7	7.54	2.3
Hawaiians	4	4	68.8	100%	8.4		2.4

home situation, the home records were scrutinized, and all those of children who were reported to be in attendance at kindergarten or had started to school were selected. It was possible to find for most of these children mates paired on the same basis as described above (see Tables 40 and 41). Fifty pairs were of children of the bilingual groups and eight of part-Hawaiian ancestry, a group which has been shown above to use, even at two years, over 90 per cent English words.

Considering the 50 bilingual pairs first, it is found that the differences between the groups, although much less, favor the group that attends kindergarten in most cases, whether the racial groups are considered separately or together. Per cent of mixed sentences is the only criterion in which the non-kindergarteners in the combined group excel the others. This exception is found to be due entirely to the Japanese group, who are much less fluent in English than are the others and whose improvement in its use involves a transition from the use of Japanese to mixed sentences before attaining the use of sentences entirely English. The kindergarten children of this group used an average of less than six Japanese sentences when playing with other children about their own homes, while the non-kindergarten Japanese in the same situation averaged about 15 such sentences.

TABLE 41
A COMPARISON OF THE ENGLISH USAGE OF PRESCHOOL CHILDREN OF DIFFERENT RACES WHO ATTEND KINDERGARTEN WITH
THOSE WHO DO NOT

	Chinese		Japanese		Korean		Filipino		All Non-Hawaiian		Hawaiian	
	K*	N	K	N	K	N	K	N	K	N	K	N
Number of children	16	16	5	5	15	15	14	14	50	50	8	8
Boys	8	8	4	4	7	7	7	7	26	26	4	4
Girls	8	8	1	1	8	8	7	7	24	24	4	4
Average age in mos.	59	59	61	61	63	63	60	60	60	60	69	69
Per cent of English words	91.6	85.1	59.4	55.2	97.9	96.5	95.1	94.0	91.2	88.2	95.4	96.3
Number of English sentences	43.9	42.2	21.8	23.0	47.2	46.6	44.4	42.5	42.8	41.7	46.8	46.6
Number of mixed sentences	4.1	3.8	19.6	11.6	2.2	3.0	5.2	6.8	5.4†	5.3	2.8	2.5
Errors per 1,000 words	314	332	493	486	337	395	410	402	336	386	348	386
Per cent of words per sentence	3.8	3.6	3.5	2.8	3.7	3.6	4.0	4.0	3.8	3.7	3.6	3.9
English words that were:												
copulas	1.2	1.0	0.2	0.2	1.4	1.0	1.5	0.8	1.2	0.8		
articles	3.1	2.2	2.2	0.9	2.9	3.1	2.2	2.3	2.7	2.7		
connectives	4.9	4.0	1.0	1.2	4.5	4.2	3.7	2.3	4.0	3.3		
Number of complex and compound sentences	4.2	3.5	4.8	2.8	3.6	3.1	6.9	5.3	4.8	3.7		

*K—Kindergarten attendants.

N—Non-kindergarten attendants.

†Excluding Japanese the averages are K = 7.6, N = 9.6.

The few Hawaiian pairs show very little difference in amount of English spoken, but there is 10 per cent less error on the part of the kindergarten attendants.

In some cases of children not attending kindergarten, they are probably hearing as good English at home as they would at kindergarten. This tends to reduce the difference between the two groups. So, also, does the fact that the time at kindergarten had been very short, averaging less than four months in the case of these 58 pairs, whereas the children whose records were taken at kindergarten had been in attendance in every case, except for a few two-year-olds, for at least six months.

It appears, then, that even a few months' attendance at kindergarten results in so much greater practice in speaking a more nearly correct English on the part of bilingual preschool children in Honolulu, that English is used more and spoken more correctly by children of such attendance not only while they are at kindergarten but also when they are at home.

J. THE EFFECT OF THE PRESENCE OF ADULTS ONLY AS CONTRASTED TO THE SITUATION IN WHICH OTHER CHILDREN ALSO ARE PRESENT ON THE CHILD'S SPEECH

When it was discovered that, through a misunderstanding of directions, one of the Portuguese recorders had taken a number of records of children over two years of age when the child observed had been playing alone with only adults present, it was decided to add a few more records taken under the same conditions to see if a comparison of these records with those taken in the desired situation would show the same contrast as had been found before when comparing monolingual children in the two situations (31).

Twenty-five records were secured under Situation *A*, or that in which the child was alone with adults. Children observed in this situation were paired by race, age, sex, parental occupation, and education, with children observed in Situation *C*, that in which the child studied was playing with other children. The results of this comparison are shown in Table 42. In general, the children use more English, longer sentences, make fewer errors, and use fewer mixed sentences, conjugate more verbs, use more complex and compound sentences, connectives, articles, and fewer interjections in Situation *A*. All these differences are in the same direction as they were in the previous study. Although different methods had been used in the two studies to determine indices of egocentricity, both

TABLE 42
 COMPARISON OF CHILDREN WHOSE CONVERSATIONS WERE RECORDED IN SITUATION A WITH THOSE WHOSE CONVERSATIONS WERE RECORDED
 IN SITUATION C

	All cases Situations			Portuguese and Hawaiian situations			Filipino, Japanese and Korean situations		
	A	C	Difference	A	C	Difference	A	C	Difference
Number of children	25	25		18	18		7	7	
Average Barr rating of fathers' occupation	9.08	8.19	0.89	9.38	8.35	1.03	8.50	7.78	.72
Years of parents' English schooling	8.5	7.9	0.6	9.4	8.9	0.5	7.9	6.6	1.3
Age in months	47.8	47.8	0.0	46.3	46.2	0.1	51.9	51.7	0.2
Average Number of words spoken: in English	302	156	146	228	170	58	152	120	32
in home language	9.0	3.0	6.0	1.2	1.6	— 0.4	26.6	39.6	— 13.0
Hawaiian				1.2	1.8	— 0.6	2.0	0.4	1.6
Portuguese				0.1	0.3	— 0.2	0.6	0	0.6
in another language	0.9	0.7	0.2						
Average Number of sentences: entirely in English	44.9	42.4	2.5	48.4	47.1	1.3	36.0	30.1	5.9
entirely in home language	1.3	3.8	— 2.5	0.3	0.8	— 0.5	4.0	11.6	— 7.6
in another language	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0
a mixture of languages	3.7	3.8	— 0.1	1.3	2.1	— 0.8	9.9	8.1	1.8

TABLE 42 (continued)

	All cases Situations		Portuguese and Hawaiian situations		Filipino, Japanese and Koreans situations	
	A	C	A	C	A	C
Error index	239.5	432.2	145.1	362.2	482.4	612.0
Sentence length	4.3	3.5	4.6	3.5	3.6	3.4
Number of complex and compound sentences	3.6	2.9	3.7	2.7	3.6	3.4
Number of questions	5.2	5.5	4.7	5.7	7.1	4.9
Egocentric index	539.1	527.1	560.4	594.5	484.3	353.4
Per cent of verbs conjugated	311.8	191.5	355.7	218.9	199.0	120.9
			Difference		Difference	
			-192.7		-217.1	
			0.8		1.1	
			0.7		1.0	
			- 0.3		1.0	
			12.0		- 34.1	
			120.3		136.8	
Per cent of English words that were:						
copulas	1.6	1.0	2.0	1.3	0.7	0.2
connectives	7.6	3.3	9.3	3.8	3.3	2.0
articles	4.9	2.7	5.9	3.4	2.2	1.1
nouns	22.3	18.9	21.4	19.2	24.6	17.9
pronouns	20.8	20.8	20.2	22.1	22.3	17.7
interjections	1.9	3.1	1.7	1.5	2.3	7.0
verbs	25.5	28.2	25.6	28.8	25.4	26.6
modifiers	17.9	23.2	17.1	21.0	19.9	28.9
Per cent of English words	94.2	88.9	98.9	97.5	81.9	69.0
			Difference		Difference	
			.6		0.7	
			4.3		5.5	
			2.2		2.5	
			3.4		2.2	
			0		- 1.9	
			1.2		0.2	
			- 2.7		- 3.2	
			- 5.3		- 3.9	
			5.3		1.4	
						0.5
						1.3
						1.1
						6.7
						4.6
						4.7
						- 1.2
						- 9.0
						12.9

agreed in finding a slightly higher index in Situation *A*. Only in one comparison do the studies differ: slightly more questions were asked in Situation *C* by the children in Hawaii, whereas many more were asked in Situation *A* by the group previously studied.

That more English was used in Situation *A* seems surprising; but since 18 of the children studied in this situation were Portuguese and Hawaiian, whose parents speak English almost entirely, its greater use when alone with adults by these children is only in line with the tendency to a more perfect speech when in that situation.

Separating the children observed into two groups, 18 Portuguese and Hawaiian, in whose homes little but English is used, and the 7 Filipino, Japanese, and Korean in whose homes another language is often if not usually heard, it is found that although the difference in the two situations remains in the same direction for both groups on almost all criteria, in respect to number of questions asked it does not.

The former group is found to be the one responsible for the exception in results to the previous study, for the latter group do ask more questions in Situation *A*. As the Hawaiian children in Situation *C* did not ignore the adult observer but talked to her, it is probably due to this fact that the present study does not confirm the previous results.

As to the choice of language, the few cases of Japanese, Korean, and Filipino also used more English when alone with adults. Examination of their records reveals comparatively few remarks addressed to their parents, for in five cases, visitors or relatives who used mostly English were present as well as the observer, and these people were addressed often when the child was not jabbering to himself.

K. RESULTS FROM REPEATED STUDY OF FORTY-FOUR CASES

Forty-four of our subjects were observed twice, the second record being taken about nine months after the first. A comparison of their two records shows the same trend with age found for the groups as a whole (see Table 43). There is an increase with age in the length of sentence, the amount of which is less at each age level. The amount of error is not reduced to any marked extent except from the first and last age levels, while proportion of English, whether measured by words or sentences, increases with age up to six years. At this age level, there are but four cases, so that even one exception to the rule may swing the average. There was one child whose first record, taken at six years, was the best of all our thousand cases.

TABLE 43
 AVERAGE YEARLY GAIN IN USE OF THE ENGLISH LANGUAGE MADE BY 44 CHILDREN FOR WHOM TWO OR THREE RECORDS WERE TAKEN

First record	Number of cases	Average interval between records	Gain in sentence length	Reduction errors per 1,000 words	Increase in per cent of		Attending school or kindergarten
					English sentences	Mixed words	
At 2 yrs.	12	10 mos.	1.73 words	-.232	17.4	-2.4	4
At 3 yrs.	15	10 mos.	.72 words	-.098	9.6	-11.5	3
At 4 yrs.	5	11 mos.	.31 words	-.014	0.6	0.0	2*
At 5 yrs.	8	8 mos.	.18 words	-.027	5.7	-9.9	4*
At 6 yrs.	4	6 mos.	.10 words	-.212	1.2	4.0	4*

*Both children at 4 years and 1 of each of the four at 5 and 6 had just entered when the second record was taken.

It was entirely in English, with an error index of only .040. When the second record was taken, his Chinese grandmother was present, and he tried to talk to her in Chinese. His knowledge of that language was much less than his knowledge of English: so his per cent of English words and sentences decreased and that of mixed sentences increased markedly.

This case illustrates the inadequacy of a single sample as a measure of an individual's proficiency. Such brief samples can be used only when collected in large numbers, whether for group or individual comparison.

The mixed sentences show a very erratic progress due to the heterogeneity of the subjects, 13 of whom were Chinese, 9 Korean, 14 Filipino, 6 Japanese, and 2 Hawaiian. At the time of the first record, they varied all the way from using 100 per cent English words to only 29 per cent.

L. IS THE HANDICAP DUE ONLY TO PIDGIN ENGLISH OR ALSO TO BILINGUALISM?

From the previous discussion, it is apparent that the non-haole children in Hawaii are retarded in language development. Not a single racial group studied has attained at six years the use of sentences as long on the average as those that the five-year-old Caucasian monoglots use. When they speak English, the number of errors per thousand words averages for every group higher than the number which the monoglots make at three years of age.

The question arises as to whether this retardation is sufficiently explained by the pidgin English current in the territory or whether the bilingualism of the majority is also a handicap.

Since many of the groups use very little but English, it would seem that the pidgin English is the main handicap; but when we compare the groups according to degree of bilingualism, the picture is different.

The homes of the Portuguese and Hawaiians both received language ratings of 3.0, which means that most of the children hear little but English in their homes, although that English is mostly pidgin. The Chinese and Korean homes both received ratings of 2.5. Some of them heard only English, but almost all heard a great deal of Chinese or Korean. The Filipinos and Japanese had the lowest ratings. The Filipinos heard much pidgin English and some Filipino, the Japanese some pidgin English and more Japanese.

Throwing the racial groups into three categories according to home language rating and comparing their average scores on the most significant criteria, we find, as shown in Table 44, that the

TABLE 44
COMPARISON OF GROUPS ACCORDING TO THE AVERAGE LANGUAGE RATINGS OF
THE GROUPS AS A WHOLE

Groups the language rating of whose homes is	3.0	2.5	2.2 or less
Average error index including errors of mixture	402	442	520
Average error index excluding errors of mixture	390	410	472
Average sentence length	3.20	3.15	3.03
Average per cent of English words that were interjections	2.6	5.0	9.7
Average per cent of English words that were connectives	3.8	3.4	2.9
Average per cent of verbs inflected	19.2	16.2	11.3
Average per cent of non-English words that were interjections	1.9	3.0	5.6

groups whose homes' language rating is highest not only make fewest errors, inflect more verbs, and use more connectives than do those rating lower, as would be expected when English only is considered, but that they also use longer sentences and fewer interjections even when other languages are considered.

To eliminate the factor of a possible race difference, the two Filipino groups may be compared. The rural is more bilingual than the city group, whether the proportion of the different languages used, the language rating of the homes, or the number of children using more than one language is used as the criterion. The city Filipinos excel the rural on every measure of language development.

There are very few children observed from homes where pidgin English was not spoken. Homes where only good English was used by members of the household received a rating of 5.0; those where the English used was good but where another language was also used received a rating of 4.0.

It was possible to find 14 pairs—one member of each from a home rated five, the other from a home rated four—who differed not more than three months in age, or not more than one month in the cases of pairs less than three years of age; whose parents had received on the average within a half-year of the same amount of English education; and whose fathers' occupations on the Barr rating scale averaged less than one point. The pairs were of the same sex except for two pairs of four and six years, at which age the sex differences are very slight, and the boys are in the group which the differences in parental education and occupation favor.

TABLE 45
 COMPARISON OF CHILDREN FROM HOMES WHERE GOOD ENGLISH ONLY IS SPOKEN WITH THOSE FROM HOMES WHERE GOOD ENGLISH AND
 ONE OTHER LANGUAGE IS SPOKEN

	Home language rating	Parental education	No. of children		Age in months	Sentence length	Words	Per cent of		Error index
			Boys	Girls				English sentences	Mixed sentences	
<i>Japanese</i>	4	12.0	1	0	46.0	3.6	96.0	90.0	8	175
	5	12.0	1	0	45.0	4.7	99.0	100.0	0	138
<i>Hawaiian</i>	4	8.0	11	13	48.5	3.16	97.2	92.4	4.5	459†
	5	10.1	8	14	49.0	3.24	97.2	95.6	2.8	319
<i>Portuguese</i>	4	7.1	5	5	45.3	3.36	98.3	95.1	2.0	291
	5	10.1	3	1	47.5	3.37	100.0	100.0	0.0	303†
<i>Chinese</i>	4	12.0	3	0	43.0	3.13	84.7	80.0	16.7	385
	5	12.0	3	0	44.3	4.20	95.7	89.3	6.7	297
<i>Matched pairs*</i>	4	8.9	6	8	44.0	2.6	93.6	89.9	5.2	499
	5	9.4	8	6	44.1	3.8	97.5	94.0	1.7	296

*In the case of 2 pairs the other language was Portuguese; of two other Chinese, of one pair Japanese and of the rest Hawaiian.

†One excessively high two-year-old score.

Table 45 (see line labelled "matched pairs") shows that the children from the homes using English have a marked advantage not only in the measures of facility in English usage but also in sentence length. Their sentences average 1.2 words longer, and they make only about 60 per cent as many errors, use only one-third as many mixed sentences, and use about four per cent more English.

If all cases from homes rated four and five are included in the comparison except those from an age level at which there is no child of the same sex from homes of the other category to match those represented, the results are as shown in Table 45. For this comparison, the means of age-level averages are used, and in no other way was an attempt at matching made. For each racial group except the Portuguese, the average of mixed sentences and amount of error is less and of English and sentence length, greater, for the group from homes speaking only one language. The Portuguese from homes rated five do use more English, fewer mixed sentences; but their sentences are almost the same length and the amount of error is a very little greater than for those from homes rated four.

Children from homes rated one and two were also compared, since in homes rated one practically no English was reported spoken; and in those rated two, pidgin English as well as a foreign language was spoken (see Table 46). Our measures, being mostly of facility in English usage, are not so adequate for this comparison. Although it was reported that no English was spoken in the homes rated one, this was true only in the case of the adult members, since the children used quite a little English learned, probably, from their playmates.

It was difficult to pair the children in the groups on factors other than race, sex, and age. Many were eliminated until only 37 pairs were left. The other criteria used were Barr rating, parental education, and birthplace. For many of the Japanese, data were available as to education in Japanese schools, and for their children, Japanese education was the educational factor on which they were matched. As to parental birthplace, the children paired must have both parents born in the United States or members of the same pair might have one or none born abroad. The home advantage lies with the children of homes rated two in all respects where a difference exists, except for the Japanese, on the Barr rating.

Nevertheless, the children from the monolingual homes in each racial group used longer sentences, the difference, however, being

TABLE 46
COMPARISONS OF MATCHED PAIRS OF CHILDREN FROM HOMES RATED 1 OR 2 ON LANGUAGE AS TO PROGRESS IN SPEECH

	Parents' years of education in Japanese English	Per cent born in U. S.	Bar rating	Number of		Age in mos.	Sentence length	Per cent of sentences in		Error index	
				Boys	Girls			English	Mixed		
<i>Language rating 1</i>											
Japanese	7.0	0.8	20	8.38	6	9	40.8	2.33	34.5	28.3	660
Chinese			46	8.19	8	6	47.1	3.26	42.8	6.6	417
Rural Filipino			0	4.91	5	3	47.8	3.16	20.0	27.0	607
All children:											
below 36 mos. in age				7.34	7	5	27.3	1.79	32.2	16.3	793
from 36 mos. to 60 mos. in age				7.66	9	7	47.0	3.21	25.3	23.5	430
from 61 mos. up				7.77	3	6	65.3	3.67	56.7	28.0	386
<i>Language rating 2</i>											
					Years of education						
					Japanese	English					
Japanese				6.9	2.3	30					
Chinese				7.98			6	9	40.7	1.99	642
Rural				8.21			8	5	47.1	3.21	399
Filipino							5	3	47.8	2.88	560
All children:											
below 36 mos. in age				7.55			7	5	27.2	1.59	687
from 36 mos. to 60 mos. in age				7.51			9	7	46.9	3.03	462
from 61 mos. up				7.96			3	6	65.4	3.34	465

very slight in the case of the Chinese. They also did not make many more errors in the English they did use, although, as was to be expected, they used less. The Japanese children from monolingual homes, however, even used a trifle more English.

In order to discover at what age the child from non-English speaking homes had the advantage, the children of all racial antecedents were thrown together and then separated in three groups according to age: children who had not attained their third birthdays, those from three to five years, and those who had passed their fifth birthdays.

The children from homes rated one in each age group used longer sentences and fewer English sentences, although the oldest group used almost as much English as those from homes rated two. They used more mixed sentences also. For both groups of children, the number of these sentences increased with age, so it is presumed that they had not reached the point of descent in the curve. As to errors, the youngest children from non-English speaking homes made more, the middle group a little less, and the oldest group about four-fifths as many as the homes where pidgin English is spoken.

The groups are too small to draw any conclusions, but two points are suggested:

It would appear that a more correct English would be used by young children if those parents whose English is inadequate would use only their mother tongue when talking to their children and let them learn English from other sources, preferably kindergarten.

The advantage in sentence length found where only one language is used by the adults in the home suggests that the bilingual handicap is lessened when the sources of the two languages are different.

These comparisons point rather strongly to attempted bilingualism, as well as the use of pidgin English, as a source of retardation in speech; but these comparisons are according to home language used by the child himself.

The order of the groups as to amount of English used (see Table 10) is Portuguese, Hawaiian, Korean, city Filipino, all of whom use over 90 per cent of English words; Chinese and rural Filipino, who use 80 and 79 per cent respectively; and Japanese who use 50 per cent. The extent of English used indicates the degree of bilingualism, as in no case is the other language used more than half the time. The number of children in each group who use sentences entirely of a non-English language is another criterion of

extent of bilingualism, and, as seen in Table 17, the order of groups is very nearly the same on this criterion as it is for proportion of English.

In fewness of errors, there are only two changes of rank. The

TABLE 47
COMPARISON OF CHINESE, JAPANESE AND FILIPINO CHILDREN WHO USED ENGLISH ALMOST ENTIRELY PAIRED WITH THOSE WHO USED TWO LANGUAGES DURING THE PERIOD OF OBSERVATION

	Number of pairs			All cases
	Chinese	Japanese	Filipino	
All	21	9	10	40
Boys	13	6	7	26
Girls	8	3	3	14
Children using 95 to 100% English				
Parental education	7.2	8.1	3.0	6.4
Barr rating	9.97	9.57	5.24	8.70
Age in months	49.1	47.0	45.8	47.8
Per cent English words	98.6	98.2	96.2	97.9
Sentence length	3.64	3.03	3.45	3.46
Error index	288	360	469	350
Children using 27 to 89% English				
Parental education	6.8	7.7	3.0	6.0
Barr rating	9.91	9.69	5.32	8.47
Age in months	49.1	46.6	45.7	47.7
Per cent English words	58.0	51.4	59.2	56.8
Sentence length	3.26	2.88	2.86	3.07
Error index	386	577	616	486

Chinese move up to second place and the Japanese to sixth. These two groups have been found in several investigations (25) to make higher scores on intelligence tests of different types than do the Hawaiians and Filipinos, whom they supplant by the criterion of errors. In length of sentence, the city Filipinos use only seven per cent fewer English words than do the Portuguese, so that this displacement of rank is not very significant.

To compare individuals rather than groups, children using over 95 per cent English while under observation were paired with those using from 27 to 89 per cent English, according to race, sex, age, parental education, and occupation of fathers. The results indicate, as shown in Table 47, that the group confining itself mainly to English makes many fewer errors in English and uses longer sentences than does that attempting to speak two languages.

There were no cases using less than 10 per cent English, so a comparison with those using only another language could not be made.

Although this evidence is insufficient to prove anything, still it all suggests that an important factor in the retardation in speech found in the preschool population of Hawaii is the attempt to make use of two languages.

M. TYPE OF WORDS IN MOTHER TONGUE THAT LINGER LONGEST WHEN IT IS SUPPLANTED BY ANOTHER LANGUAGE

Three of the groups studied used very small amounts of their ancestral languages. This gave an opportunity to study the types of words that linger longest when one language is being supplanted by another.

Miss Lee (16) had made such a study of Hawaiian, and her results, reworked for comparison with the Portuguese and Korean groups, are included. The results of this classification of words by interests are shown in comparison with that of Boyd's (5) on total words used by his child at four years, and the classification by different words by Brandenburg (6) of his child at four years and by Nice (23) of her eldest daughter. In the last case, the results found at different ages from eighteen months to four years were averaged (see Table 48).

The classifications of words are, to some extent, overlapping. Proper nouns are not included in our comparisons, but they were by Boyd. Some reclassifications and recalculations were necessary to make the different lists comparable.

Nouns referring to people were subdivided into two classes: those naming members of the family by common nouns such as "mother" or "aunt"; and those referring to other people. The average per cent of total words constituted by such words for the three groups is almost 30, and they compose about 11 per cent of the different words of the three languages used. These are much higher percentages than those found for the English words. The percentage of such words is highest in the case of the two languages spoken only by descendants of that linguistic stock. Hawaiian, it will be remembered, has come to be used to a small extent by all the groups.

Only 106 Portuguese words that were not proper nouns were used. Over two-fifths of these referred to people, three baby words, "*vo vo*," "*vôvô*," and "*titi*," referring to "*grandmother*," "*grandfather*," and "*aunt*," respectively, comprising almost all such words.

Another group of words which compose a larger proportion of the mother-tongue vocabulary is that referring to food and eating.

TABLE 48
 WORDS OF ANCESTRAL LANGUAGE RETAINED CLASSIFIED ACCORDING TO INTERESTS AND COMPARED WITH SUCH CLASSIFICATIONS AS
 MADE BY NICE, BRANDENBURG AND BOYD

	Hawaiian		Portuguese		Korean		Average per cent of different words	Boyd's per cent of total words at 4 years	Brandenburg's		
	Per cent of 111 different words	Per cent of 562 total words	Per cent of 58 different words	Per cent of 106 total words	Per cent of 104 different words	Per cent of 338 total words			Nice's per cent of different words at ages 1½-6	per cent of different words at 3 and 4 years	
Family	1.8	9.1	5.2	35.8	7.9	27.3	4.9	24.1	3.0*	2.5	6.5
People	7.2	11.4	8.6	4.5	3.0	0.9	6.2	5.6	}	4.8	7.0
Food	17.2	16.4	13.8	10.4	13.5	21.0	14.8	15.9		0.9	3.0
Body, parts of	4.5	0.9	3.4	3.8	5.9	2.4	4.6	2.3	1.0	—	—
Religion	2.7	0.6	1.7	0.9	0	0	1.5	0.5	—	—	—
Health	1.8	2.1	3.4	1.9	3.9	2.4	3.0	2.1	—	0.8	2.1
Clothing	2.7	0.5	3.4	1.9	5.9	5.3	4.0	2.6	1.0	3.1	3.1
Play and occupation	5.4	5.2	3.4	1.9	3.9	2.5	4.2	3.2	1.0	4.5	7.7
Work	4.5	1.8	0	0	0	0					
House and furnishing	5.4	1.3	3.4	1.9	6.8	2.8	5.2	2.0	0.7	6.8	9.5
Other's belongings	0	0	0	0	3.9	1.5†	—	—	—	1.2	—
Topography	3.6	0.9‡	0	0	0	0	—	—	11.5	2.5	3.1

TABLE 48 (continued)

	Hawaiian		Portuguese		Korean		Average		Boyd's		Brandenburg's	
	Per cent of 111 different words	562 total words	Per cent of 58 different words	106 total words	Per cent of 104 different words	338 total words	per cent of different words	total words	per cent of total words at 4 years	per cent of different words 1 1/2-6	per cent of different words at 3 and 4 years	
Abstract time												
quantity and indefinite	1.3	2.9	1.7	0.9	0	0	1.2	1.3	14.6	0.9	8.4	
Vulgarity	7.2	8.9	5.2	3.8	1.0	3.8	4.5	5.5				
Bodily needs	7.2	15.5	0	0	3.0	0.9	3.4	5.5	21.1	—	23.2	
Other verbs**	2.7	5.5	10.3	5.7	20.4	10.9	11.1	22.1				
Animals	0.9	0.2	5.2	3.8	3.9	2.3	3.3	2.1	0.9	8.4	3.8	
Flowers and trees	3.6	3.4	3.4	1.9	1.0	0.3	2.7	1.9	0.5	3.2	1.3	
Pronouns	0.9	0.4	1.7	0.9	0	0	1.2	0.7	18.1	1.5	1.6	
Adjectives of quality	6.3	1.7	2.6	1.9	1.0	0.6	3.3	1.4	4.4			
others	0	0	4.5	1.9	1.9	4.1	3.1	2.0	10.2	12.1	11.0	
Adverbs yes and no	0	0	5.2	8.5	4.1	4.4	3.3	4.3				
others	2.7	0.6	6.9	3.8	4.9	2.3	4.6	2.2	11.6	5.5	4.8	
Interrogative words	1.8	0.9	3.4	1.9	1.0	1.5	2.1	1.4	—	—	—	
Interjections	2.7	3.9	1.7	0.9	1.0	1.5	1.8	2.1	0.3	1.2	0.7	
Prepositions	0	0	1.7	0.9	1.0	0.6	0.9	0.5	5.7	1.1	0.9	
"Pau"	0.9	17.4										

*Includes proper nouns.

†All referred to purse or money.

‡All referred to sea and ships.

**Mostly verbs of motion-slap, switch and spank among them for last two groups.

This is not surprising, as most of the eating of young children is done at home, and foods of other lands often have no English name. In the case of Hawaiian, some of the native Hawaiian foods have come to be used by non-Hawaiians, with a resulting Anglicization of words such as "*poi*."

Other types of nouns comprising a somewhat higher percentage in the mother tongue than would have been the case had it been the only language used are words referring to clothing, parts of the body, health; and of the total, but not different words, those concerning the house and its furnishings or equipment.

Nouns expressing religious ideas composed most of the abstract nouns in the vanishing languages. All abstract and indefinite nouns and those expressing quantity and time were much less frequent in these languages than in the English vocabularies of the three monoglot children. The only nouns classified under "topography" or "civilization" used in Hawaiian refer to the sea and boats.

More words in proportion referring to play and occupation are used in Hawaiian than in the other two non-English languages. In Hawaiian, they form a higher per cent of total words than such words did in Boyd's list; but they comprise a much lower per cent of different words than in the Brandenburg and Nice lists.

Animals were very few in Hawaii before the white man came. Not only do almost no animal names occur in the Hawaiian list, but such words are less frequent than nouns referring to flowers and trees in that language, whereas the opposite is true in Korean and Portuguese. Both these classes of words, however, occur less often in the last two lists named above than in the English lists.

In all three languages, interjections comprise a higher proportion, while verbs, pronouns, modifiers, and connectives comprise a lower proportion than in the English lists.

One word, "*pau*," comprises over a sixth of the total Hawaiian words. "*Pau*" may serve as several parts of speech and as used did not fit any one class, so it was listed separately. It may be translated by "*finish*," "*done*," "*enough*," and similar words.

Miss Lee (16) had considered the frequency of vulgar and impolite words. She found such Hawaiian words used relatively more commonly by the non-Hawaiians than by the Hawaiians, but at least the Portuguese and Koreans use such words in their own languages too, as is shown in the table.

To summarize: the parts of speech that linger longest in compe-

tition with a new language seem to be nouns and interjections. Among the nouns, those referring to the more intimate aspects of the home are last to disappear. Among the very last are words expressive of family relationships and names of foods.

N. COMMONEST ENGLISH WORDS

An important part of the present study is the comparison of the English vocabularies of the children observed with those of normal mainland children. Such a comparison should be useful to the schools in the Territory in determining where emphasis must be placed or explanation most needed in the early stages of reading and oral language. It is planned to expand this part of the study in considerable detail; but in this monograph, only the commonest words are studied.

For this comparison three previous studies are used: Smith's (30, p. 26) list of all words occurring over 100 times in a study of English-speaking monoglots in Iowa in which the same technique was used as in the present study; the International Kindergarten Union's study (14) directed by Madeline Horn of words used by American children at kindergarten and at home; and the study of reading vocabulary suitable for the first three grades as made by Gates (12).

The three lists differ as to their methods of recording. Rank of words in the Gates' list is determined not only by their frequency of occurrence in the spoken vocabulary of children and in children's literature but also on experts' judgment as to their interest, utility, and difficulty. Derivatives were not often rated separately and the words were classified under parts of speech so that the same word form might occur in different places with different ranks. The International Kindergarten Union's list (14) listed all inflections and contractions of a word separately but not the different meanings of the same word forms. It included children's words, slang and colloquialisms. The Smith (30, p. 26) list included no derivatives unless they had a different meaning than the original word; e.g., "*going*" in the phrase "*going to*" differs from "*go*" in that it is used as a form of the future tense rather than expressing the idea of motion. Word forms, the same in sound and appearance but different in meaning were separately classified.

It had been planned to list separately both derivatives and word forms of different meanings but with the variety of help used in

TABLE 49
 ONE HUNDRED COMMONEST ENGLISH WORDS COMPARED WITH THE COMMONEST
 ENGLISH WORDS ACCORDING TO THE INTERNATIONAL KINDERGARTEN
 UNION, GATES AND SMITH STUDIES

Common English words	According to Hawaiian study		Rank of word in Smith list	International** Kindergarten Union's list of words spoken at		Rank of words in Gates study
	Frequency	Rank of* word		Kindergarten	Home	
a	270	86	7	-/	-/	30
ah	1,049	22		—	—	—
all	628	35	43	-/	-/	17
am	71			-/	-/	54
an	11			-/	—	63
and	575	39	26	-/	-/	174
are	55			-/	-/	34
at	112		56	-/	-/	20
away	332	78		—	—	107
baby	465	52	49	—	-/	84
be	95			-/	-/	16
because	40			-/	-/	393
bed	18			—	—	78
big	397	64	45	-/	-/	39
book	160			—	—	83
boy	516	46		—	—	26
broke	369	68		—	—	—
but	78			—	-/	206
buy	297	82		—	—	177
by	156			—	—	71
by-and-by	348	75				
can	870	27	23	-/	-/	130
candy	273	84		—	—	386
can't	177			-/	-/	—
car	357	71		—	—	228
catch	252	93		—	—	—
come	1,487	15	38	-/	-/	29
daddy	555	44		—	-/	256
day	29			—	—	37
did	35			-/	-/	65
didn't	22			—	-/	—
do	146		6	-/	-/	14
does	3			—	-/	151
dog	97			—	—	75
don't	427	58	—	-/	-/	415
down	890	26	35	-/	-/	—
eat	445	53		—	—	50
eh	474	51				
eye	100					87
fall	253	92		—	—	153
father	69			—	—	68
fire	73			—	—	99
for	497	49	64	-/	-/	15
four	58			—	—	58

**If word is checked -/, it is included in the first hundred most frequent words; if checked — in the second to fifth hundred, if not checked, it occurs lower than the fifth hundred.

*Ranks of first hundred only given.

38-1445

TABLE 49 (continued)

Common English words	According to Hawaiian study		Rank of word in Smith list	International** Kindergarten Union's list of words spoken at Kindergarten Home		Rank of words in Gates study
	Frequency	Rank of* word				
from	93			—	—	66
get	1,381	17	22	—/	—/	31
girl	172			—	—	57
give	1,330	18		—	—/	43
go	4,554	3	15	—/	—/	19
going	2,369	8	36	—/	—/	309
good	336	37		—	—/	187
got	179		24	—/	—/	192
had	51			—/	—/	42
hand	173			—	—	82
has	134			—/	—	56
have	186		16	—/	—/	38
he	1,217	20	47	—/	—/	7
her	94		57	—/	—/	35
here	1,489	14	11	—/	—/	184
hey	574	40		—		
him	395	65		—/	—	55
his	142			—/	—	33
home	400	63		—/	—	47
house	354	73		—/	—	73
how	312	81		—/	—/	425
I	7,928	1	1	—/	—/	2
if	110			—/	—/	344
I'll	23			—/	—/	411
I'm	197			—/	—/	488
in	501	48	31	—/	—/	5
inside	325	79				
is	360	70	2	—/	—/	3
isn't	2			—	—/	
it	263	88	3	—/	—/	22
it's	16			—/	—/	470
just	51			—/	—/	325
kind n)	696	33		—	—	311
know	761	31	61	—/	—/	499
let	202		—34	—	—	172
let's	43			—	—	112
like	2,400	6		—/	—/	85
little	116		63	—/	—/	138
look	1,587	10	28	—/	—/	90
ma	495	50				
made	28			—/	—	48
make	978	25	30	—/	—/	11
mama	1,572	11	55	—	—/	414
man	324	80		—	—	28
may	27			—	—	72

TABLE 49 (continued)

Common English words	According to Hawaiian study		Rank of word in Smith list	International** Kindergarten Union's list of words spoken at		Rank of words in Gates study
	Frequency	Rank of* word		Kindergarten	Home	
me	3,286	5	17	-/	-/	23
milk	65			—	—	88
mine	350	74	46	-/	-/	
more	1,300	19		-/	—	
mother	193			-/	-/	44
my	1,570	12	13	-/	-/	25
name	203			—	—	100
new	40			—	—	70
no	4,209	4	25	-/	-/	{adv. 9 adj. 10
not	610	37	9	-/	-/	74
now	649	34	32	-/	-/	104
of	58		60	-/	-/	24
off	60			-/	-/	{adv. 134 prep. 133
oh	437	55	20	-/	-/	{o 316 oh 279
O. K.	228	99				
old	45			—	—	52
on	573	41	19	-/	-/	8
one	1,534	13	27	-/	-/	{no. 12 adj. 13
only	293	83		—	—	270
our	77			-/	—	27
out	251	94	53	-/	-/	{adv. 81 prep. 80
over	560	43	67	-/	-/	110
play	830	28	54	-/	-/	36
push	220	100				
put	611	36	40	-/	-/	168
red	41			—	—	49
right	254	91		-/	-/	287
run	137			—	—	40
saw (v)	34			-/	—	64
say	71			-/	-/	76
school	269	87		—	—	125
see	1,047	23	18	-/	-/	18
she	259	89½	59	-/	-/	53
sit	186	62		—	—	126
six	34			—	—	93
so	57			-/	-/	240
some	392	66	41	-/	-/	
stay	402	62		—	—	
stop	78			—	—	67
take	711	32	51	-/	-/	317
tell	531	46		—	—	395
that	1,027	24	5	-/	-/	96
that's	423	60		-/	-/	97

TABLE 49 (continued)

Common English words	According to Hawaiian study		Rank of word in Smith list	International** Kindergarten Union's list of words spoken at Kindergarten Home		Rank of words in Gates study
	Frequency	Rank of* word		Kindergarten	Home	
the	2,324	7	10	-/	-/	1
them	1,478	16		-/	-/	61
then	227	97½		-/	-/	485
there	1,165	21	21	-/	-/	219
these	20			—	-/	{ adj. 201 pron. 200
they	113			-/	-/	51
think	111			—	-/	474
this	2,061	9	8	-/	-/	{ adj. 94 pron. 95
throw	242	95½				
time	443	54		—	-/	140
to	581	38	{ Prep. 58 inf. 12	-/	-/	4
too	431	57	conj. 48	-/	-/	194
train	42		50	—	—	190
tree	47			—	—	69
two	373	67		-/	-/	32
up	794	29	29	-/	-/	{ adv. 46 prep. 45
us	434	56		—	—	59
wait	259	89½		—	—	
want	365	69	14	-/	-/	154
was	103			-/	-/	77
water	242	95½		—	—	60
way (n)	187		65	-/	—	155
we	535	45	37	-/	-/	21
well	26			—	-/	
went	418	61		-/	—	136
what	764	30	39	-/	-/	91
when	172			-/	-/	127
where	566	42	44	-/	-/	220
who	206			—	—	62
why	230	97½		—	-/	222
will	17		33	-/	-/	276
wish	4			—	—	92
with	277	85	66	-/	-/	272
won't	21			—	-/	
work (v)	88			—	-/	79
would	5			—	-/	195
yeah	356	72				
yes	424	59	42	-/	-/	120
you	5,891	2	4	-/	-/	6
your	344	77	52	-/	-/	41
yours	127			-/	—	

tabulating, the latter aim was found impracticable. All words in each conversation had been tabulated separately for each child in rough alphabetical order, under the different parts of speech in order to make that analysis. These lists facilitated the tallying, both as to number of children using and the frequency of occurrence of each word, against a master list of the most common words found in the Kindergarten Union's list.

Table 49 includes all words occurring in the Smith list (67 in all) and those occurring among the first 100 words in any of the other four lists; viz., those of the present study and of Gates' reading vocabulary, and the kindergarten and home lists of the International Kindergarten Union Study. This makes a total of 173 different words.

In the table the frequency in the Hawaii list of all 173 is given but only the first 100 are ranked. All the words in the Smith list are checked as to rank. All words occurring in the first 100 in the two Kindergarten lists are checked in one way, those in the next 400 are indicated by another symbol. The ranks of all the words on the Gates' list are shown if they occurred among the first 500. No word, however is included if in one of the five lists it was not ranked among the first 100 words.

Wherein the Hawaii list differs markedly from the other spoken vocabularies, a difference as to English usage exists which, in many cases are incorrect usages. Wherein it differs from the Gates list in much lower usage of particular words, it indicates common words with which the majority of local children may be unfamiliar at the time of school entrance.

A displacement of rank in lists compared among the words in the first quartile, where the frequency in the Hawaii list runs close to or above 1000 and the comparative frequency between words differing by but a single rank by tens or hundreds, is more important than it is in the lower quartiles. Some of the differences are due to the different methods of recording.

Five interjections "ah," "eh," "hey," "oh," and "yeah" occur in the Hawaii list, only one of which "oh," occurs among the most frequent words in any of the other lists. Attention has been called above to the high percentage of interjections used by our subjects.

In the use of pronouns there is considerable difference in ranks. In Hawaii "you," "them," (commonly pronounced without the "th") "us," "me" and "he" are favored at the expense of "your,"

"they" and "it," "our," "mine," "his" and "she." (see Table 2 in Appendix C). "My," "I," "him" and "we" show no displacement. Aside from the first person singular pronoun, possessive forms are rare and there is a tendency to make one form do for several. Masculine pronouns are learned first and "em" is substituted for "it."

Errors in the use of articles accounts for the comparatively low rank of "a" and "an" and the higher rank of their substitute, "one". "No" is the fourth most frequent word in Hawaii owing to its incorrect use for "not" and failure to use the contraction of "not" with verbs; the only verb used with this contraction to any extent being "don't". "Yes" has a somewhat lower rank, perhaps because the colloquialism "O.K." is used instead. The latter word occurred in no other list.

The Kindergarten list included several past verb forms among the first 100 words; the Hawaii list includes only two, "broke" (which word the children know only in that form) and "went" which is sometimes used as an auxiliary in forming the past tense. "Go" another word so used and also, with "going", almost exclusively as an indication of the future as well as redundantly holds the third rank. Other than with these few words little attempt at conjugation occurs, as is evidenced in the extremely low frequency of other past forms and absence of the different forms of the auxiliaries "may," "will" and "be." The use of "like" for "want," "make" for "do," "tell" for "say," "get" for "have," and "stay" for the copula "is" account for the higher rank on the Hawaii list of the first word and the lower rank of the second in each pair of words.

Most of the prepositions and conjunctions in the table are used relatively less frequently in Hawaii. One of the exceptions "for," however, gains over the Smith list due to the tendency to use it instead of "to" with the infinitive. "Too" occurs with high frequency, not as a conjunction as in the Smith list, but as an adverb used not only correctly but also as a substitute for "very".

"Ma" and "mama," which are similar to or the same as baby words for "mother" in languages other than English spoken in Hawaii, rank 59 and 11 respectively, higher than in other lists but "father" and "mother" are rarely used. It will be recalled that words designating family relationship are the last to drop out of home languages which are competing with English.

The phrases "*waste time*" for "*don't want to*" and "*all time*" for "*always*" account for the high frequency of the word "*time*" in the Hawaii list and the use of "*kind*" similar to that of a Chinese classifier and in other redundant ways gives it a rank of 33 in that list although it does not attain the first 100 in a single mainland list.

"*More*" ranks 19 in the Hawaii list and places in the first 100 only in one of the Kindergarten lists. Its high frequency is due to its use as the sole means of comparison by the majority of our subjects and its occurrence in the phrase "*no more*" used for "*have none*".

"*Over*" gains in rank from 67 in the Smith to 43 in the Hawaii list owing largely to its frequency use in the phrase "*over there*" (frequently slurred so as to sound almost like a single word "*o-dere*") where mainland children would use the word "*there*" alone.

The other words used relatively more frequently in Hawaii are probably so used, either because some word must take the place of the displaced words or because of some peculiarity of the situation. For example the higher frequency of "*man*" and "*candy*" is found to be due mainly to the Filipino children whom the observer, a *man*, was accustomed to treat to *candy* in order to gain rapport.

Common words in the Gates' list found with very low frequency in the Hawaii list are "*bed*," "*day*," "*dog*," "*eye*," "*fire*," "*hand*," "*milk*," "*train*," "*tree*," "*off*," "*out*," "*new*," "*old*," "*red*," "*six*," "*run*," "*sit*," "*stop*," and "*work*."

Since *beds* are articles of furniture often absent in Japanese homes, the habit of drinking *milk* has to be taught the children of oriental immigrants, *trains* are very few in Hawaii so that many of the children had not seen any, and *fires* are not needed for warmth in Hawaii, the rarity of such words may be due to the child's environment and not his inadequate English vocabulary. However, when to the score of words listed above are added the varieties of verb forms, especially of the verb "to be," the prepositions and conjunctions used but rarely and by many of the children not at all, it is evident that there is a serious lack of vocabulary on the part of a large proportion of school entrants in Hawaii sufficient to handicap them to a considerable extent in learning to read.

V. SUMMARY AND CONCLUSIONS

A. SUMMARY

1. A study has been made of the language development of children from two to six years of age, born in Hawaii, who come from a non-English-speaking ancestry.

2. Six samplings of 125 each of children residing in Honolulu and representing groups of Chinese, Filipino, Hawaiian and part-Hawaiian, Japanese, Korean, and Portuguese ancestry have been studied. Besides these, records for 125 Filipino children residing in rural areas were gathered, and data received on sixteen Japanese and four Hawaiian children living in the country were examined. There are also included two groups totalling 125 children of mixed racial antecedents who were studied in other than the standard situation. These samples are fairly representative of Island groups except the Korean, who are somewhat selected.

3. The method used was the verbatim recording of each child's spontaneous conversation by a student who could speak the language of the child's ancestors in addition to English.

4. The standard situation in which the record was made for the first seven groups mentioned above was in or about the child's home while he was at play with his siblings or other playmates. Two other situations were used for smaller samplings: 100 children were studied during free play periods at kindergarten or nursery school, and 25 were studied in their own homes with only adults present.

5. The conversations so obtained were analyzed as to proportion of English used; average number of words per sentence; degree of egocentricity shown; types of sentence classified according to form and function; number of negative sentences; number, function, and form of questions; parts of speech; and inflection of words. The words most commonly used were also determined for English and for a few of the other languages used.

6. The results of this analysis were studied to determine the effect of race, sex, parental background, home influence, order of birth, residence, kindergarten attendance, and the different situations in which the records were taken.

7. The results show that in comparison with haole children and those studied on the mainland, the Island children are seriously retarded in the use of the English language, a retardation which is not compensated for by a greater advancement in other languages used.

8. On the whole, the children seem to prefer to use English if they can, even when another language is spoken in the home. Even the Japanese children, who use it least, use about 50 per cent English. About 88 per cent of the words recorded in the study were English, or 87 per cent if only the seven main groups are considered. These groups use 12 per cent of words from home languages other than English and about one per cent of words, mainly Hawaiian, that filtered in from other languages spoken in the Territory.

9. In Honolulu the children of Portuguese ancestry hear and use little but English; the Hawaiians hear some Hawaiian and the Koreans, considerable Korean, but each group uses 96 per cent English words; the Filipinos hear some Filipino and much pidgin English and use 92 per cent English words; the Chinese use 80 and the Japanese 50 per cent English words.

10. The average per cent of sentences entirely English is less for each group than the proportion of English words, since many sentences composed of more than one language are used.

11. Except for the Portuguese, who use very little but English, the per cent of English, whether of words or sentences, increases with age up to six years.

12. Mixed sentences, that is, those composed of more than one language, tend at first to increase in number with age and then to decrease for the more bilingual groups. For the Hawaiians they decrease and for the Portuguese increase in frequency with age. Such sentences are especially frequent among the Japanese and Filipinos; but whereas such sentences are for the former almost always a combination of English with the parents' mother tongue, for the Filipinos there are many sentences composed of three or four languages or of two languages other than a Filipino dialect.

13. The average amount of error in the use of English by the different groups varies from 379 per thousand English words for

the Portuguese to 587 per thousand for the rural Filipinos. The order of the groups in correctness of usage is as follows: Portuguese, Chinese, Hawaiian, Korean, Filipino, and Japanese. Over half of the differences found in comparing each group with the others is significant. The average error indices are all much higher than that of monolingual Caucasian three-year-olds as found in a previous study (28).

14. The frequency of error tends to decrease with age, but the only marked decrease for most groups is from two to three years. On the other hand, the two most monolingual made more errors at six than at five years.

15. The most frequent type of error found is the use of incomplete sentences, and next, the incorrect use of verbs. The insertion of words from other languages and the omission or incorrect use of prepositions and infinitives come next. The error type showing greatest excess over that found for Caucasians in the former study is in the use of the negative.

16. There is some difference between groups as to pattern of error and in the frequency of certain peculiar error idioms, which in some, but not all, cases can be traced to the influence of parental language. For example, a common error among the Japanese is the use of "*me, I*" as the subject of a sentence. Such repetition of two forms of the pronoun is good Japanese.

17. Error types that decrease in frequency with age consist of incomplete and mixed sentences and the wrong use of articles. No other types show a consistent decrease; in fact, in some cases an increase is found which, however, is at least partially explainable on the ground of the greater opportunity for making such errors when more complex sentences are attempted.

18. The various groups use, on the average, shorter sentences than do children in a less polylingual environment. The average length is slightly more than three words, which is about the average found in other studies at three years.

19. The rank order of the several groups from longest to shortest sentences used is Filipino, Portuguese, Chinese, Hawaiian, Korean, and Japanese. Eleven of the 27 differences between the groups are significant. The sentences increase in length with the children's increase in age. The differences from two to six years or from two

to three years are all statistically significant, and also those from three to five years in the case of four groups.

20. The longest sentences used are those composed of words from more than one language; next are those entirely in English. Except for the Chinese and Japanese groups, very few sentences of more than one word which are composed entirely in a language other than English are used.

21. The degree of egocentricity, or tendency to use sentences with one's self as the subject, as determined by Fisher's (11) method, shows great individual variation. It is lowest at two years and is fairly constant thereafter. The Filipino and Portuguese have the lowest average index; the Hawaiians have the highest. The more bilingual groups use more sentences that are classified as non-verbal than do the others.

22. The children in Hawaii were compared with a monolingual white American group previously studied (31). They are found to use more exclamatory and slightly fewer interrogative sentences, and to make much less frequent use of complex and compound sentences. Sentences that serve merely to name an object or person continue to a later age than with monoglot children. However, age trends are found to be similar, for exclamatory and naming sentences decrease; questions, answers, and complex and compound sentences increase, with age. Racial differences are not marked in the type of sentences used.

23. Questions asked by the children in the different groups number from 479 asked by the rural Filipinos to 987 by the Hawaiians. The city Filipinos asked 573, the Portuguese 528, and the Asiatic groups from 633 to 694 questions. From 25 to 73 per cent of the questions were directed to adults rather than to playmates.

24. Fewer questions of causality are asked than in the case of Caucasian monoglots, and more, especially among the more bilingual groups, are asked inquiring for the names of objects or as to what had been said to them. These differences indicate less maturity in speech. The monolingual Portuguese are an exception.

25. Questions in English are usually formed either by the use of an English interrogative word or by the addition of an interrogative particle such as "eh?" or even by adding a similar Japanese or Chinese particle. The Koreans and a few of the other children

make use of the phrase "*you know*" instead of "*isn't it*" in questions seeking corroboration. Interrogative words increase in number with age, whereas their use decreased with age in the case of the Caucasian monoglots.

26. The analysis made of parts of speech shows that in the use of connectives and pronouns and in the reduction with age in the proportion of interjections used, the Island groups are retarded, as they are in the use of the copula and inflected forms of verbs and nouns.

27. Much less use is made of articles, and of those used, the definite article occurs almost exclusively.

28. There is a slight superiority of girls over boys according to the various criteria of mastery of English used.

29. Children whose parents were born in the United States use more English and use it somewhat more correctly than do those with one or more parent born elsewhere; but there is no consistent difference between these groups as to length of sentence.

30. Children whose fathers' occupations rate above 9.0 on the Barr scale tend to use more and better English and longer sentences than do those whose fathers' occupations rate below 9.0. The difference is, however, not great for most groups, and in the case of the Koreans, does not exist as to proportion of English.

31. In the Hawaiian group, the part-Hawaiian children who represent more than two racial stocks have a slight advantage in mastery of English, according to the various criteria used. Then, in order, come the Caucasian-Hawaiian, Asiatic-Hawaiian, Filipino-Hawaiian, and, last of all, the pure Hawaiian.

32. By all criteria of mastery of English, there is a positive relation with the number of years of English schooling of the parents. The degrees of relationship differs for different groups and with the criterion used.

33. The most marked relationship found between mastery of English and possible factors studied is with the language rating of the home: children from homes where more and better English is used by other members of the household speak more and better English themselves and, to a slight extent, use longer sentences.

34. More English is used in the homes of Filipinos where the parents speak different Filipino dialects than where they speak the

same. The children whose parents use different dialects tend to speak more correct English and to use fewer mixed sentences, although their sentences tend to be somewhat shorter.

35. Later-born children in a family where a foreign language is spoken tend to use more English than do earlier-born children of the same age; but in most groups there is very little difference between older and younger children as to amount of error. In five of the seven comparisons made, slightly longer sentences are used by the earlier-born children.

36. Younger children tend to surpass their elder siblings in reaching the racial norms for their age in the use of English words but not in absence of error or in the length of sentences. The older siblings, except for the Filipinos, use longer sentences, even when allowance is made for difference in age, than do the younger.

37. More English is used and it is used more correctly in Honolulu than in the rural areas. The city children also make greater use of the conjugated forms of verbs. The Filipinos in the city use longer sentences also. More Hawaiian is spoken in the country by each of the three races observed.

38. Children who reside in neighborhoods where most of the residents are of the same racial antecedents as their parents do not make so much progress in learning English or in its correct usage as do those children who reside in mixed areas.

39. Records taken at kindergarten show that much more English is spoken there than about home. Longer sentences are also used and the language is more correctly spoken.

40. Bilingual children who attend kindergarten or nursery school gain so much practice in speaking a more nearly correct English while at school that there is a carry-over into the home.

41. In a situation with adults only present, the children use more English, longer sentences, and make fewer errors than they do when playing with other children.

42. Children who were studied more than once, the second time after intervals averaging about nine months in length, show increase in use of English, reduction in errors, and increase in sentence length. This agrees with the trends found at different age levels in the several groups.

43. An attempt made to separate the influence of the two factors,

bilingualism and pidgin English, on the retardation of speech of the children studied in Hawaii suggests rather strongly that not only is the child's mastery of standard English hindered by the prevalence of incorrect pidgin English, but also by his attempt to learn two languages.

44. When a language is disappearing before competition with a new language, nouns and interjections linger longest. Those words that refer to the more intimate aspects of the home, especially words expressive of family relationship and pertaining to eating, are the last to be abandoned, at least by young children.

45. The commonest English words, when contrasted with those found to be most common in mainland studies, give further evidence as to the high frequency of interjections; the failure to inflect words or to use the copula or indefinite article; and the tendency to substitute wrong verbs for the correct ones and the words "no" and "o.k." for "not" and "yes" and to confine the use of pronouns to only a few forms. The absence or rarity of words found by Gates to be among the most essential in a child's reading vocabulary suggests a severe handicap in learning to read, due to lack of vocabulary on the part of school entrants in Hawaii. The nine most frequent words are "I," "you," "go," "no," "me," "like," "the," "going," and "this," each occurring more than two thousand times.

B. CONCLUSIONS

The children in Hawaii from non-haole homes are retarded in language development to a degree so marked that, on most criteria, at the time of school entrance they are at about the level of three-year-old children from a less polyglot environment. The retardation is due to two handicaps: the prevalent use of pidgin English, and the bilingualism of many homes.

Children have a marked advantage over other children in mastering English when their parents were born in the Islands, received at least grade school education, have higher socio-economic status, and speak only English or, if they speak another language, at least use good English in the home.

When the mother tongues of the parents differ, the tendency is to use more English in the home, which condition leads to an earlier mastery of English by the child.

Kindergarten or nursery school attendance is a definite advantage for the bilingual child in Hawaii, particularly if there are more than a few Caucasian children in the same school.

It would be desirable, therefore, for such schools to be added to the local school system. There are, however, suggestions of slight contamination of the speech of children who speak better English, so that the number who use poorer English should not constitute too large a majority in any one school if such attendance is to improve the children's speech.

The tendency of racial groups to congregate in separate residential areas, while it may be desirable for some reasons, is not conducive to the preschool child's advancement in the use of English.

Older brothers and sisters help the younger child to use more but, unfortunately, not better English.

The extent and correctness of English spoken by children in each racial group are related to the date of their ancestors' first arrival in Hawaii and their first contact with English, to the relative proportion of the population made up by each group, and perhaps to some degree to the kinship to English of the language spoken by the group.

In general, by far the greatest number of the preschool population prefers to use English rather than any other language. If they could but hear good examples, the coming generation would be quite Americanized in speech.

The evidence, although insufficient, suggests that pidgin English is more responsible for incorrect English and bilingualism for the overuse of interjections, short sentences, immature type of questions when classed as to meaning, and lack of complex sentences.

APPENDICES

APPENDIX A:

FORM USED IN COLLECTING DATA

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> 1. Date of Observation 2. Child observed 3. Date of birth 4. Age 5. Father's occupation 6. Mother's occupation 7. Father's education 8. Mother's education 9. Father's racial descent and birthplace 10. Mother's racial descent and birthplace | <ol style="list-style-type: none"> 11. Other adults in the home 12. Does the child go to kindergarten? 13. Place 14. Residence 15. Sex 16. Order of birth 17. No. of children younger 18. No. of people present (adults (children) 19. Language used by each |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
- | | <i>preferred lang.</i> | <i>2nd lang.</i> | <i>3rd lang.</i> | <i>4th lang.</i> |
|-----------------|------------------------|------------------|------------------|------------------|
| a. Child | | | | |
| b. Mother | | | | |
| c. Father | | | | |
| d. Grandparents | | | | |
| e. Other adults | | | | |
| f. Siblings | | | | |
20. Time spent to take record
Recorded by

APPENDIX B:

SAMPLES FROM CONVERSATIONS OF AVERAGE FOUR-YEAR-OLDS OF DIFFERENT RACIAL ANTECEDENTS

1. *Boy, 3 Years 9 Months, Parents Japanese, Both Parents Born in Japan, Some Japanese Schooling*
- Oka San, this kind.* Going up on a box for something from his parents' store.
- Pants no naka agate ga alu.* Mother gets some candy for him.
(There are agates inside my trouser pockets.)
- Pants no naka ile te kule nai.* Mother gets some candy for him.
(Please put it in my trouser pocket.)
- Shut up.* A friend of his mother asks him for money for the candy.
- Two candy.* Goes out and gives two pieces to his brother.
- Come on (come on)* Sees a group of boys playing marbles in an argument.
- No go catch.* Sees a group of boys playing marbles in an argument.
- Kakelo ya (Let's run)* Runs off himself.
- Kule do this way (am coming)* Runs off himself.

- Shut up, you.*Running around and playing with Akira.
- Akira!*Running around and playing with Akira.
- Ano, girl. (that)*Referring to writer.
- Choose se (do)*
- You nala kulai ban made olu?*Addressing the writer.
(You stay until dark night.)
- Wait.*Playing "hide and seek".
- Safe.*Playing "hide and seek".
- Uta (hit)*Hits friend.
- Sure.*Imitating a boy.
- Shut up.*Imitating a boy.
2. *Boy, 4 Years Old; Parents Chinese; Father—Born in China, High School Education in China; Mother—Born in Honolulu, High School Education in Hawaii*
- Come, Shirley, ngo-de (we) play school*Speaking to Shirley (seven year old cousin).
- I know one fish song.*Telling supposed teacher.
- I no can sleep.*Telling teacher during sleep period.
- Soff (soft)*When teacher spanked him for not sleeping.
- I tal story. (tell)*Tell story.
- I like play yo-yo.*Addressing another boy playing yo-yo.
- This yo-yo not for him.*Addressing brother holding his yo-yo.
- How can for him?*Speaking to self.
- No more name.*Speaking to self.
- For me?*Speaking to self.
- Look! mama (Look! Look!)*Calling mother's attention while playing.
- I can!*Speaking to self.
- Good fun!*Speaking to self.
- Mama, ngo oi (I like) water.*Speaking to mother.
- Look! gum (so) full go*Refers to coffee on kitchen table.
- Coffee dit (drops) chut (out)*Speaking to kid brother and mother.
- Ngo (I) put powder.*Speaking to kid brother and mother.
- Just like girl.*Speaking to kid brother and mother.
- Mama, I like go riding wit Me-goo-jay. (aunty)*Speaking to mother.
- Be ngo sarm juk. (give me clothes—wear.)*Speaking to mother.
3. *Girl, Korean, 3 years 11 months, Parents Korean; Father Born in Korea, No English Education; Mother Born in Hawaii, Sophomore in High School*
- I no like only sing.*(Is asked to sing.)
- I like sit down and sing.*
- I no like sing.* "I don't want to sing." Cries.
- Look Onnie.*Doesn't want to sing because Onnie is looking at her.

- Hal-moo-nie* (Grandmother) Is asked who gave her the piece of meat.
- My house get plenty, boy!* "We have plenty of candy at home."
- I goin drink water.*
- 'At's mine, you know.* "The marble is mine."
- 'At's for dem, for Mah-chong dem.* .. "That's for them, for Ma-chong folks."
- You like 'um, eh?* Holds marbles in hands.
- Da towel wet.* Touches towel.
- Ma, try look. I stay still.* Stands for mother to look at her.
- T'wo fella go smoke and him.* Watches and counts the number of people smoking.
- Go 'way.*
- Mama, when we go home, buy candy you know.*
- I went find 'um.* "I found it." Mother asks where she got marble from.
- I goin to poke 'um.* Pokes stick in ground.
4. *Girl, 3 Years 11 Months, Parents Filipino, Both Born in Philippines, 7th and 4th Grade Education*
- Me mines one.* Sister asked whose candy was on the bench.
- I go live o' dea'.* Went into a small room.
- I no scare.* Sister said there was a ghost.
- Look at dat.* Sister soiled her dress.
- I gon upstairs.*
- I calabosin.* Jailing. She blocked the sister.
- I no like go up.* Stairs.
- I fall down.*
- I go down again.* She was afraid to fall.
- Well, you not to go someplace.* Talking to the baby sister.
- You pake.* (Hawaiian term for Chinese) Calling sister.
- I no gon give you candy.*
- Yaiyai my likod.* (sore my back) ... Asked the mother to scratch her back.
- No can catch me.* Ran away from the baby sister.
- Darling no can catch me.*
- I go tago.* (hide) She hid back of the door.
- You da ibe.* (shrimp) Called the sister shrimp.
- You io.* (shark)
- You ibe and io.*
- Me big like da man.* Like the observer.
5. *Boy, 4 Years 1 Month Old, Parents Both Born in Hawaii; Father—Portuguese-Hawaiian, 8th Grade Education; Mother—Haole-Hawaiian, 6th Grade Education*
- Mama Kaluhi coming home.* (when he saw sister walking down the street.)
- Eddie too* (seeing his brother coming home from school)
- Pau school* (telling mother school was over)

<i>Somebody coming mama</i>	(when he saw O coming into the yard)
<i>Beatrice we go play</i>	(asking sister)
<i>Baby you like play?</i>	(asking little brother)
<i>Play marbles</i>	(suggesting what they should play)
<i>I like play</i>	(asking sister)
<i>I get one agate</i>	(telling sister)
<i>You shoot Beatrice</i>	(playing marbles)
<i>Mama I like one piece of bread</i>	(asking mother)
<i>I like now</i>	(when mother said it wasn't lunch time yet)
<i>Ah there Bobo</i>	(seeing little playmate coming into his yard)
<i>Come Bobo</i>	(inviting shy playmate to come nearer)
<i>Us go play Bobo</i>	(asking playmate)
<i>Mama look Beatrice hitting me</i>	(calling to mother from outside)
<i>I going tell mama</i>	(threatening sister)
<i>Kaluhi look Beatrice</i>	(calling to big sister)
<i>Emily!</i>	(scolding baby sister)
<i>Mama no</i>	(telling mother he did not want to take a bath)
<i>I no like auau (bathe)</i>	(to mother)

6. *Boy, 4 Years 2 Months Old, Parents Portuguese, Born in Honolulu, 3rd and 4th Grade English Education*

<i>Get one big hole over there.</i>	Playing on sand.
<i>Push 'em.</i>	Playing on sand.
<i>Eh you guys!</i>	Calling friends.
<i>Your mother calling.</i>	Telling friend.
<i>Go-you.</i>	Calling attention to friend.
<i>Ketch 'em.</i>	As they see a crab.
<i>Where?</i>	Looking for crab.
<i>Went inside the water.</i>	As crab crawls into water.
<i>Ishie, try come.</i>	Calling his little friend.
<i>I stay all wet.</i>	As wave splashes on him.
<i>Look the dog.</i>	As dog is seen swimming.
<i>He stay swimming.</i>	As dog is seen swimming.
<i>You can swim?</i>	Asking friend.
<i>I can lili bit.</i>	Telling friend.
<i>I scare go far.</i>	Telling friend.
<i>Over here got sand.</i>	Calling friends.
<i>Come.</i>	Calling friends.
<i>We go make one puka (hole).</i>	Building a tower-like.
<i>Go 'way.</i>	As dog comes around.
<i>Lend me that.</i>	Asking friend to lend him a spade.

APPENDIX C

TABLE A
PER CENT EACH TYPE OF ERROR WAS OF TOTAL ERRORS

	Portu- guese	Hawai- ian	Filipino city	Korean rural	Chi- nese	Japan- ese	
<i>Omissions of</i>							
verb	4.3	5.6	4.5	5.2	3.9	6.7	7.3
subject or expletive	5.2	5.0	4.9	4.4	5.1	6.3	4.9
object	6.1	3.9	5.2	5.9	4.9	5.7	5.1
copula	5.5	5.6	5.7	3.8	6.0	4.9	3.9
verb and subject	15.2	15.8	7.8	10.7	14.4	15.1	20.9
verb and object	} 0.7	0.8	0.8	1.4	1.0	0.8	0.3
subject and object							
<i>Verbs</i>							
wrong choice	2.8	1.7	3.3	3.5	3.3	1.5	0.6
past { present for past or wrongly formed }	3.4	3.5	2.9	2.8	3.7	4.2	0.7
auxiliary omitted*	12.9	17.0	11.8	9.6	13.5	12.6	5.7
future	4.0	4.0	5.0	6.4	3.4	3.1	1.8
past used for present	0.2	0.1	0.3	0.2	0.2	0.3	0.3
present used for other tenses	0.5	0.3	0.5	1.0	0.4	1.1	0.2
other errors	0.0	0.1	0.1	0.0	0.1	0.1	0.2
<i>Substantives</i>							
gender	0.2	0.1	0.6	0.4	0.5	0.2	0.5
number	1.2	1.7	2.5	2.0	2.4	1.8	1.5
case	2.5	4.0	4.8	3.5	3.0	2.3	10.4
Prepositions	4.9	4.6	4.6	4.5	4.2	3.7	2.3
Infinitive sign	5.2	7.4	4.5	3.2	6.2	5.8	2.8
Articles	7.3	4.7	5.1	3.8	6.8	5.0	4.6
Modifiers	2.4	1.3	1.3	2.0	1.5	0.9	0.5
Connectives	0.6	0.5	0.7	0.7	0.6	0.9	0.2
Negatives	6.3	4.5	6.3	6.6	5.8	6.3	4.5
Comparison	1.0	0.2	0.2	0.1	0.1	0.2	0.2
Agreement	1.9	1.4	1.5	0.8	1.4	2.0	0.5
Order	2.0	1.1	2.0	2.1	1.7	0.7	1.1
Confused parts of speech	0.5	0.3	0.5	0.3	0.8	0.8	0.8
Redundancies	0.9	0.4	3.9	3.0	2.0	1.4	1.0
Miscellaneous	0.0	0.3	0.0	0.1	0.0	0.0	0.5
Mixed-in foreign words	2.2	4.0	8.7	11.9	3.0	5.6	17.1

*Includes a very few cases where a wrong auxiliary was used.

TABLE B
DETAILED LIST OF ERRORS IN THE USE OF PRONOUNS MADE BY EACH OF THE MAJOR GROUPS

	Portu- guese	Hawai- ian	Filipino city	Korean rural	Chi- nese	Japan- ese	Total	
In gender—he for it masculine pronoun used for feminine	1 3		8 50	3 27		9 2	12 128	
In number (?) 'em for it this for these	69	39	158	112 1	121	37 25	561 1	
In case								
1st person								
me for I	47	39	166	92	67	41	324	
me for my or mine	6	11	27	11	2	2	16	
my for I or mine				2			2	
mines	4	2	24	17	2	3	52	
mine for my	4						4	
I for me		1	3	5	5	4	18	
us for me	23	87	30	42	20	34	14	
us for our or ours			1	2			3	
2nd person								
you for your or yours	16	60	160	63	31	11	287	
yours for you					1		1	
yours for your	1		1				2	
your for yours	1						1	
3rd person								
him for he	38	13	19	25	17	2	114	
him for his	2		6	4	6		18	
he for his		1	3	2	4		10	
her for she	13	9	1		2		25	
hers for her	2						2	
she for her		1					1	
them for they	3	6	2		2	97	1	
them for their					1		1	
this for their				1			1	
who for what		1	1				2	
who for whose				3			3	
who for whom	1		1	1	2		5	
Japanese possessive added to English pronoun						70	70	
Total	234	277	599	418	316	143	452	2437

(?) This may be confusion of gender, "em" might come from him.

Objective case used for another	1563
Possessive case used for another	3
Possessive case formed as in nouns (mines, yours, hers)	56
Other wrong form of possessive	8
Subjective case used for another	29

TABLE C
TOTAL NUMBER OF ERRORS IN THE USE OF ENGLISH MADE BY EACH GROUP

	Portu- guese	Hawai- ian	Filipino city	rural	Korean	Jap- anese	Chi- nese	Kind- ergarten	Rural Jap- anese	In Situ- ation A
<i>Omissions of:</i>										
verb	323	394	392	421	304	301	381	280	36	38
subject or expletive	383	351	433	357	392	203	358	236	27	55
object	447	269	460	479	375	210	320	260	17	40
copula	402	408	499	307	466	161	279	256	17	47
verb and subject	1113	1106	683	864	1107	858	853	723	83	183
verb and object	28	30	47	40	34	4	10	7	6	
subject and object	24	25	26	75	46	9	35	10	1	1
<i>Verbs</i>										
wrong choice	202	123	293	284	257	26	87	146	5	25
present for past	62		77	116	291	30	236	101	2	22
past	185	241	181	106				36	2	6
wrongly formed										
auxiliary	947	1187	1043	777	1041	235	711	511	11	121
future	293	275	437	513	264	73	177	207	14	23
past used for present	11	8	23	19	15	14	14	3	2	5
present used for other tenses	40	19	45	79	31	10	63	48	1	11
other errors	1	6	9		9	8	8		7	
<i>Substantives</i>										
gender	4	8	56	36	39	2	9	9	0	1
number	101	121	222	162	186	63	101	65	5	15
case	181	274	427	279	228	429	130	194	96	18

TABLE C (continued)

	Portu- guese	Hawai- ian	Filipino city	rural	Korean	Jap- anese	Chi- nese	Kinder- garten	Rural Jap- anese	In Situ- ation A
Prepositions	360	318	404	360	323	96	211	228	16	53
Infinitive sign	378	520	398	262	477	117	329	180	7	70
Articles	533	328	445	312	523	191	282	392	30	45
Modifiers	178	93	114	162	117	20	51	47	6	13
Connectives	44	33	59	54	50	10	50	29	3	5
Negatives	451	310	553	529	444	184	358	265	17	33
Comparison	73	15	17	10	9	7	9	17	7	3
Agreement	139	101	130	67	109	23	113	54		36
Order	150	76	174	166	129	46	42	167	28	29
Confused parts of speech	40	18	47	28	58	34	46	31	0	12
Redundancies	69	28	345	242	152	43	78	213	6	26
Miscellaneous		20		7	1			2		
Mixed-in foreign words	159	279	767	959	233	705	314	115	191	64
Total English words used	20350	18827	19858	15062	18779	8861	16378	14370	1145	5130
Total errors	7321	6984	8806	8072	7710	4112	5655	4832	643	1000
Errors per 1000 words	360	371	443	536	411	464	345	336	562	269

APPENDIX D:

SENTENCES TO ILLUSTRATE THE SPECIAL LIST OF ERRORS

<i>already</i>	The car roll this ball all go down already.
<i>all same</i>	This all same red.
<i>as why</i>	Us no more money to pay, as why. Only sometime I stay home, the baby, as why.
<i>been</i>	Who been take that? You been see the towel?
<i>break—tear</i>	Break the paper.
<i>broke—break</i>	Ma, broke up the string. Frances broke the flower.
<i>bring—come</i>	Bring bottle come.
<i>by-and-by</i>	By and by mother scold.
<i>chance</i>	Whose chance for deal the cards?
<i>every time</i>	You every time lick me. Every time I stay home.
<i>find</i>	I finding it but I don't see it.
<i>for</i>	All right for buy milk nickel? You get fish for eat?
<i>funny kind</i>	You talk Chinese funny kind.
<i>get</i>	Upstairs get shoes. Way up there get one girl.
<i>go</i>	I like go pull. I go have the same cards again. By and by you go fall down. Fred go bite (did bite) my nose.
<i>house</i>	Us house no more baby. You house get plenty candy?
<i>kind</i>	Ah no quitting kind. This is marble kind agate.
<i>lazy</i>	I lazy stay in the house. Ah I lazy play. Lend me look. I lend her hold um.
<i>like</i>	He no like come. That's why you no like play? I like buy candy.
<i>little more</i>	Little more us going. Little more <i>pau</i> school.
<i>long time</i>	Long time went go work.
<i>make</i>	Goofy how you make. I make easy. Rachel no make. No make like that.
<i>me, I</i>	Me, I know.
<i>more big</i>	I run more fast than Helen.
<i>more bigger</i>	You going teach us more better.
<i>no</i>	You no can hear? No make hard.
<i>no more</i>	Us no more car. O'dere no more license.
<i>no need</i>	No need come. No need <i>hemo</i> (take off) your clothes.
<i>one</i>	Look, I get one gun. Baby swallow one seed. One train go down.
<i>open—turn on, unbutton</i>	Open the water. Open my pants.
<i>plenty</i>	When plenty boat come in. I see plenty ladybug.
<i>scare</i>	No scare!
<i>shame</i>	I shame. He no like go; he shame.
<i>sore</i>	O-oh sore! My teeth sore. No make sore.
<i>stay</i>	She mother stay home. Paper no stay outside. Blackie stay going.
<i>take</i>	Take 'em come. Take me go with you fellas.

tell

You tell you bring home candy. You no tell *mahalo* (thank you).

the

Oh the near you deal.

too

Too good. (expressing delight over the church festival)

try

Try lend me look. Come on baby, try come. Try catch me.

waste time

Waste time play. Waste time put the money in the bank.

went go

He went go work. It went peep.

and

went

Sure, you went cry. You went go tell.

wild

My mama wild you know.

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