

PAPERS ON LANGUAGE DEVELOPMENT

By W. G. BATEMAN, University of Montana

1. THE FIRST WORD

During the first year of life a large part of the child's energy is expended on the steps preliminary to speech. In the orderly progress from the first cry to actual talking no one stage, perhaps, can be said to be more important than the others. But the most striking mark of the value of the process is certainly the advent of the first spoken word which becomes a conspicuous mile-stone on the journey of mental development. In this paper has been gathered together all the information available in regard to the first word in order to show something of its time of appearance and of its character.

DATA

As much as possible of the information secured is expressed in the following tables. Many more papers by authorities other than those cited have been read, but they are either silent on this particular topic or make only vague statements concerning it.

TABLE I
FIRST WORD OF ENGLISH SPEAKING CHILDREN

Authority	Ref.	Sex	Time	Word	Time of next word
			months		months
Bateman.....	2	Girl	10½	hello	same time
".....	3	"	10	daddy	"
".....	4	"	11	bye- bye-	"
Bohn.....	5	"	9	daddy	"
Boyd.....	6	"	11	dada or dog	"
Brandenburg.....	7	"	10	bye-bye	12
Darwin.....	9	Boy	12	mum (food)	later
Grant.....	14	Girl	12	bye-bye (?)	same time
Hall.....	15	Boy	8	bye-bye	9
Jegl.....	16	Girl	12	mama	same time
Major.....	19	Boy	14	baby	"
Mickens.....	20	Girl	11	mama	"
Moore.....	21	Boy	10	papa or mama
Moyer.....	22	Girl	9	hark!	same time
Nice.....	23	"	14	mama
Pelsna.....	26	"	10	daddy or dog	same time
Pollock.....	27	"	13	dada	"
Shinn.....	30	"	10	da (there)	"

TABLE II
FIRST WORD OF GERMAN SPEAKING CHILDREN

Authority	Ref.	Sex	Time	Word	Meaning of word	Time of next word
			months			months
Ament.....	1	Girl	11½	mam mam	food	15
Lindner.....	17	"	9½	papa	father	same time
".....	18	Boy	13	da	there!	15
Preyer.....	28	"	11	hatta	gone!	13
Schneider.....	29	Girl	10	da	there!	11½
".....	29	"	10	take-take	dancing	11½
Stern.....	31	"	9	ata	father	15
".....	31	"	10½	didda	tic toc	11
".....	31	Boy	11½	papa	father	12
Strümpell.....	32	Girl	10½	ssi-ssi	tea-machine	10½
Stumpf.....	33	Boy	9½	papu-papu	food	12
Togel.....	36	"	14	o (hoch)	up	15

TABLE III
FIRST WORD OF CHILDREN SPEAKING OTHER LANGUAGES

Authority	Ref.	Sex	Speech	Time	Word	Meaning of word	Time of next word
				months			months
Deville.....	10	Girl	French	13½	papa	father	same time
Taine.....	34	"	"	10	wawa	dog	11
Gheorgor.....	13	Boy	Bulgarian	13½	dza	there!	later
".....	13	"	"	15	boc	up (?)	"
Oltuscewski ..	24	"	Polish	13	papa	food	same time

DISCUSSION

The Time. The ages of the children at the time of using the first word vary from 8 to 15 months. The distribution is as follows:

TABLE IV
TIME OF USING FIRST WORD

Age.....	8	9	9½	10	10½	11	11½	12	13	13½	14	15	Total
English.....	1	2	-	5	1	3	-	3	1	-	2	-	18
German.....	-	1	2	2	2	1	2	-	1	-	1	-	12
Others.....	-	-	-	1	-	-	-	-	1	2	-	1	5
Total.....	1	3	2	8	3	4	2	3	3	2	3	1	35

The largest group is that at 10 months. Of the 35 children 15 or 42.85 per cent are in the 10-11 group while 26 or 74.28 per cent have begun articulate speech by the end of the first year. It is interesting to note that half of the 12 boys did not use their first word until after the first anniversary. None

of the nine-months group are boys and the latest of all to begin speech—during the fifteenth month—is of the same sex. Thus the boys in general appear to reach this stage later than their sisters. A comparison between the English and German speaking children shows little difference between the two unless it be a slight advantage in time on the part of the American children. Those speaking Polish and Bulgarian began decidedly late; but perhaps their task is harder than that of the others.

The only statistics heretofore gathered on this topic are those of Feldmann (12) published long ago in 1833. The times when 33 children began to speak were distributed as follows:

<u>Month</u>	14	15	16	17	18	19
Number of Children..	1	8	19	3	1	1

With the data collected for this paper these figures are in complete discordance. Since it appears impossible to now obtain the original paper we have no means of knowing whether Feldmann's "beginning to speak" is equivalent to the "first spoken word" or not; nor do we know from what class of the people his subjects came nor how the data were collected. Nevertheless, these figures are quoted in books and papers on child development since no others have been available. For children in the more cultured homes, there seems no doubt that Feldmann's times are too late and are probably so for English and German speaking children in general. Compayre (8) states that children do not use spoken words intelligibly until the middle of the second year. This again seems too late. Tanner (35) quotes Feldmann. Tracy (37) puts the time of beginning the vocabulary in the second half year. This is more in accord with the data in the above tables but he states that, "many children a year old cannot speak a single word." O'Shea (25) considers the first eight months as the pre-linguistic period.

Although the largest group of children according to the figures of the present study used the first word at about 10¹/₂ months and the majority before 12 months, there are no rigid limits of normality. Bohn's child, although beginning 1-2 months earlier than the subjects of Bateman, Moore and Pelsma, was no further advanced than they at the end of the first year. Nice's, daughter beginning at 3-4 months later than the last named children was, nevertheless, somewhat more advanced than they by the third and fourth birthdays. Hall's child, the youngest of all to begin articulate speech, developed rapidly not only in regard to talking but in other things as

well and so was, perhaps, generally precocious. Wyma (38) claims his subject to have used words intelligently in the sixth month. This is certainly very early; it is a date at which many of the children noted in the above lists had not even begun conscious imitation. It would appear that the child was unusually precocious or else the observations were faulty. At the other extreme is Preyer, who states that he did not begin to talk until nearly three years of age. A number of observers of speech development say they have seen children who did not talk at two years. Doran (11) states that he knew of "some children of average intelligence that did not talk until they were six or seven years old," which must almost certainly be set down as abnormal. None of these last mentioned records show whether the child concerned did absolutely no talking or whether it was only limited in vocabulary or lacking encouragement to talk. It is difficult to believe that a child who has made no attempts at articulate speech by the eighteenth month, and still more so by the twenty-fourth, can be entirely normal in all other respects. General feebleness of health, poor powers of hearing, defects in or lack of development of the vocal organs, or adenoids may lead to disability in speech. Children so affected are frequently backward in other respects as well. Perhaps a distinction should be made between no speech and unintelligible speech. The author knew a boy of 2¹/₂ years who talked but was unable to make himself understood. His speech, which was very monotonous in intonation and consisted largely of a few simple sounds, suggested something in the nature of tone-deafness as the cause of its poor quality.

From the above data it would appear that a child of good heredity and environment who has not begun talking at 15 months of age is more or less retarded in this respect, and a like failure at 18 months should instigate an examination for probable cause.

The Word. The lists show that the words which these children happen upon as the corner-stones of their vocabularies are with few exceptions nouns and interjections with the former in the majority. All the English words used may be said to fall in these classes since Moyer, whose 'hark' forms the only exception, says that this and other early words were used mostly in an exclamatory way. Among the German children those of Togel, Preyer and Schneider appear to have used words having at least a verbal coloring.

The most frequently named object is the paternal parent, He is named variously 'papa,' 'dada,' 'ata' and 'daddy.' The Polish child used 'papa,' too, but in a sense quite different

since to him it meant something to eat. Four children hit upon 'there' as a demonstrative sufficing for many purposes; three used 'bye-bye' but only one the opposite 'hello.' In three cases onomatopoeia was apparently the decisive factor leading to the first word. Darwin's child even coined a word for his debut into speech, the often quoted 'mum' which meant food. Pollock (27) suggests that this was not a true invention but was due to accidental noise made during eating.

In some cases it appears difficult to fix upon the first word. The ubiquitous 'papa' and 'mama' sounds coupled with coincidence are often confusing while imperfect enunciation sometimes prevents a decision. Some children, it would appear, made a sort of tentative effort at articulate speech before really arriving at that stage. Moore's notes furnish a good example. She states that as early as the twelfth week the child cried "eng" when hungry and "mää" when hurt. In the twenty-ninth month it seemed that "babba" indicated content and "momma," hunger. Then for two weeks beginning with the thirtieth he always said "ta-ta" after eating. In the fortieth week, however, "mu-mu" appeared to mean hunger. It was not until the forty-second week that "papa" and "mama" were used and then only vaguely. The sounds of the twelfth week were probably only differentiated cries. The 'tata' is interesting but was soon lost. No less than three different successive sounds were thought to denote hunger. In placing the data from this record in the table the word used first at forty-two weeks is considered the first word. Major's child is said to have used "hi" as an expression of desire at twelve months and Lindner's boy used "mm" at the same age in imitation of the sound of vehicles. These scarcely seem real first words and do not appear in the tables.

The author's two children made none of these half-efforts. From the sixth month on both babbled a great deal and began at this time to use when fed, comfortable and contented strings of sounds based in one case on 'dog' (doggley-ogglely-wogglely) and in the other on 'zug' (uggle-zuggle-guggle). Following the example of other observers one might say that these sounds expressed a feeling of well-being or of satisfaction with things. However, they did not really express anything, being merely play just as the children played with all the babbling sounds. During the seventh month both children began conscious imitation and after that frequently said words that seemed intelligently used. A little observation showed, however, only coincidence at work. The older child used the

first word in the middle of the tenth month when riding one day in her go-cart. Seeing some people draw near she clapped her hands and cried, "Hello, hello." Her expression and actions showed that she knew she had done something new. After this when riding out she saluted almost everybody, increasing the number of 'hellos' to four. She never used the word under other circumstances except later when rehearsing her vocabulary. The younger child used the sounds 'papa' and 'dada' an incalculable number of times but never in reference to her father since he was not named either by others. On the first day of the eleventh month she put out her arms and called "Daddy" as he approached her and after that used the word constantly. She never applied it to her mother nor to other men, an embarrassing trait of some of the children mentioned in the tables.

The sudden advent of the first word in this way is similar to other creations of like nature. At one moment something *is not* and at the next moment it *is* and we do not know what miracle fills the infinitesimal gap. Perhaps what happens in that fraction of time is something quite simple and the miracle is really worked out in the long preparation.

The One-word-vocabulary. Stern (31) points out that a number of children use no new words for some time after the first word. Lindner's son (18) said only 'da' for two months and one of Stern's daughters was as long in acquiring a second word. His son took two and one half months while Ament's niece was three and one half months with a working vocabulary of only one word. Preyer's son after beginning at eleven months was two months in arriving at a second word and took six more for a third. These long waits are not characteristic of the English speaking children. The children observed by Shinn, Moore, Boyd, Pelsma, Moyer, Grant, Pollock and Bateman used two or more words very closely together while only Brandenburg's child appears to have waited as long as two months to add to the vocabulary. Two German girls, one French girl and the Polish and Bulgarian children experienced no one-word-vocabulary stage. Indeed the acquisition of new words by some of the American children shows quite the opposite tendency. For example, Pelsma's child learned ten words in ten or eleven weeks, Moore's boy six words in about the same time. Bateman's children learned ten and nine words in ten and twelve weeks respectively, while his niece learned eight words in seven weeks. Some of the German children make similar beginning and progress: as for instance Lindner's and Strümpell's daughters who both used more than one word to begin with; and also

Stern's elder daughter who acquired eight words in a period of ten weeks. A period of stagnation after the first word, therefore, appears to be rather the exception than the rule.

REFERENCES

1. AMENT. Die Entwicklung von Sprechen und Denken beim Kinde. Leipzig, 1899.
2. BATEMAN. A Child's Progress in Speech. *J. Educ. Psychol.*, V, 1914, 307-321.
- 3.———. Two Children's Progress in Speech. *J. Educ. Psychol.*, VI, 1915, 475-493.
- 4.———. The Language Status of Three Children at the Same Ages. *Ped. Sem.*, XXIII, 1916, 211-240.
5. BOHN. First Steps in Verbal Expression. *Ped. Sem.*, XXI, 1914, 578-593.
6. BOYD. The Development of a Child's Vocabulary. *Ped. Sem.*, XXI, 1914, 95-124.
7. BRANDENBURG. The Language of a Three Year Old Child. *Ped. Sem.*, XXII, 1915, 89-120.
8. COMPAYRE. The Intellectual and Moral Development of the Child. New York, 1896.
9. DARWIN. A Biographical Sketch of an Infant. *Mind*, II, 1877, 285-294.
10. DEVILLE. Notes sur le developpement du langue. *Rev. Ling, et Philol. Comp.*, XXIII, 1890, 330-343.
11. DORAN. A Study of Vocabularies. *Ped. Sem.*, XIV, 1907, 401-438.
12. FELDMANN. De statu normali functionem corporis humani. Dissert. Bonner, 1833.
13. GHEORGOR. Die ersten anfänge des sprachlichen Ausdrucks für das Selbstbenusstsein bei Kindern. *Arch. ges. Psychol.*, V, 1905, 329-404.
14. GRANT. A Child's Vocabulary and its Growth. *Ped. Sem.*, XXII, 1915, 183-203.
15. HALL. The First Five Hundred Days of a Child's Life. *Child Study Mo.*, II, 1896-97, 586-608.
16. JEGI. The Vocabulary of a Two-year-old Child. *Child Study Mo.*, VI, 1900-01, 241-261.
17. LINDNER. Beobachtungen und Bermerkungen über die Entwicklung der Sprache des Kindes. *Kosmos*, VI, 1882, 430-441.
18. LINDNER. Aus dem Naturgarten der Kindersprache. Leipzig, 1898.
19. MAJOR. First Steps in Mental Growth. New York, 1906.
20. MICKENS. Practical Results of Child Study. *Child Study Mo.*, III, 1897-98, 198-205.
21. MOORE. The Mental Development of a Child. *Psychol. Rev. Mon. Sup.*, No. 3, 1886.
22. MOYER. Speech Development. Dissert. Univ. Penn., 1911.
23. NICE. The Development of a Child's Vocabulary in Relation to Environment. *Ped. Sem.*, XXII, 1915, 35-64.
- 2x OLTUSCEWSKI. Die geistige und sprachliche Entwicklung des Kindes. Berlin, 1897.
25. O'SHEA. Linguistic Development and Education. New York, 1907.
26. PELSMA. A Child's Vocabulary and its Development. *Ped. Sem.*, XVII, 1910, 328-369.

27. POLLOCK. An Infant's Progress in Language. *Mind*, III, 1878, 392-401.
28. PREYER. Die Seele des Kindes. Berlin, 1905.
29. SCHNEIDER. Die Schöpferische Kraft des Kindes in der Gestaltung seiner Bewusstseinszustände bis zum Beginn des Schulunterrichts. *Z. f. Philos. u. philos. Kritik.*, CXXI, 1903.
30. SHINN. The Biography of a Baby. New York, 1905.
31. STERN. Die Kindersprache. Leipzig, 1907.
32. STRÜMPPELL. Psychologische Pädagogik. 1880.
33. STUMPF. Eigenartige sprachliche Entwicklung eines Kind. *Z. pad. Psychol.*, II, 1900, 1-29.
34. TAÏNE. De l'acquisition du langue chez les enfants et les peuples primitifs. *Rev. Philos.*, I, 1876, 5.
35. TANNER. The Child. Chicago, 1915.
36. TOGEL. 16 Monate Kindersprache. *Ber. Kinder. u. Heiler.*, XIII, 1905, 36.
37. TRACY. The Psychology of Childhood. Boston, 1906.
38. WYMA. The Mental Development of the Infant of Today. *J. Psychol. Med. and Mental Path.*, VII, 1881, 62-69.