



The Pedagogical Seminary

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/vzps20>

Language Development during the Fourth Year

G. C. Brandenburg^a & Julia Brandenburg^a

^a Purdue University, USA

Published online: 30 Aug 2012.

To cite this article: G. C. Brandenburg & Julia Brandenburg (1919) Language Development during the Fourth Year, The Pedagogical Seminary, 26:1, 27-40, DOI: [10.1080/08919402.1919.10532620](https://doi.org/10.1080/08919402.1919.10532620)

To link to this article: <http://dx.doi.org/10.1080/08919402.1919.10532620>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

LANGUAGE DEVELOPMENT DURING THE FOURTH YEAR

THE CONVERSATION

By G. C. and JULIA BRANDENBURG, Purdue University

In an article in the Pedagogical Seminary of March 1915 an account was given of the language development of our daughter G during the fourth year. The data presented in that article were largely of the vocabulary growth. In the present article we shall attempt to describe some other phases of G's linguistic growth during the fourth year.

During the time the study was being made we lived in Madison, Wisconsin, where the father was engaged in graduate work and teaching in the University. There was naturally a good deal of studying, reading, writing, and discussion of educational matters in the home at that time as there has always been. It is hardly conceivable that this should not be reflected in the child's language as G has always shown a keen interest in all the activities of the home and is never satisfied in being a mere spectator. She insists on taking part in everything and manifests considerable annoyance when there is discussion in her presence which she cannot, at least, partially understand.

When G was 40 months of age a record was made of her conversation for an entire day and this was repeated just 12 months later when she was 52 months old. It was naturally more difficult to record verbatim all she said during the day in the latter case. We used an improvised system of shorthand and took turns writing, each working about an hour at a time. Even then, it was found impossible to get everything down precisely as it was uttered. As an aid in the interpretation of mental growth such records are obviously of considerable value for if the vocabulary record represents the "linguistic tool chest" of the child, the conversation record indicates the facility with which the "tools" are used.

The following table presents an analysis of the day's speech hour by hour:

28 LANGUAGE DEVELOPMENT DURING THE FOURTH YEAR

TABLE I

Hours.....	7:00	8:00	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	Total
Words spoken....	1495	925	1256	968	1496	1366	1224	662	1511	1196	1241	1183	406	14,930
Singing and Babbling..	282	365	73	140	50	70	0	10	30	15	10	130	130	1,305
Questions..	40	18	32	28	27	31	37	13	34	32	71	31	3	397
Meaningless questions..	0	0	0	1	0	0	2	0	0	0	2	0	0	5
Sentences..	209	104	163	123	184	163	158	87	184	180	177	175	60	1,967
Average words per sentence..	7.1	8.9	7.7	7.8	8.1	8.3	7.7	7.6	8.2	6.6	7.0	6.7	6.7	7.5
Minutes silent.....	0	0	12	7*	0	0	0	20	0	0	0	0	0	39
Use of I, me, my & mine	152	72	59	50	97	86	81	30	62	70	88	73	38	958
Use of you & yours..	73	24	47	36	42	51	26	21	43	37	52	40	3	495
Use of we, our & us	3	11	14	1	1	0	27	2	5	2	8	5	2	81
Use of Mamma..	75	29	53	47	33	48	64	14	24	42	52	19	8	327
Use of Papa	38	18	23	15	13	21	27	25	44	29	40	33	1	508

*Humming during these seven minutes.

Total Words.—The total number of words uttered is not quite so large as it would have been if G had not spent 20 minutes of the two o'clock period in the library looking at picture books; during this time none of her speech could well be recorded. There were two other periods spent out of doors walking when it was impossible to record all that was said. These two amounted to 40 minutes. She uttered during the day, according to the record, 14,930 words, an average of 1244 words per hour. At 40 months of age, one year before this, she spoke 11,623 words in the day, an average of 950 per hour. Children evidently differ greatly in the quality and quantity of linguistic expression during the day. We have always considered G rather talkative. Mrs. Nice's daughter E, at 63 months used only 10,500 words in a day, but one of Bell's children used 15,230 words at three and one half years of age while another of four years found use for 14,996. None of the children reported by Gale used so large a number, being younger children. It is quite obvious from these records that G is not abnormal in the number of words used in a day.

Singing and Babbling.—It is interesting to note how large a part music plays in the daily life of a child. While it was not possible in every case to record the syllables and words just as they were uttered, it was not difficult to get the number of these and so it is believed that this is approximately correct. It will be noted that singing is recorded in the one o'clock period. The detailed record shows that the child hummed several times during the hour but used no words. Thus there was not an hour in the day in which some musical expression

did not occur. The most musical periods seem to be early in the day, in this case during the first two waking hours. In considering this phase of G's expression, it must be remembered that she has never been able to carry a tune and apparently only distinguishes between different airs by the words. Frequently the singing is a matter of chanting some ordinary phrase in a rhythmical manner as: "See my dollie, see my dollie." Very frequently such chanting is accompanied by rhythmical motions of some part, or of all of the body. There is still a small amount of pure rhythmical babbling such as: "Rub dub de da," "Zuz zuz ze ze," etc. This is always in rhythm, and frequently has some semblance to a tune. It thus appears that G is still in the rhythm, or lowest, stage of musical development, a stage which many children of her age have passed, but one beyond which a small percentage of children never go.

Questions.—The total number of questions asked during the day was 397, an average of 33 per hour. A year before, she asked 376 in the course of the day, so there has been little change so far as the quantity of interrogation is concerned. There are, however, slight changes in the nature of the questions which are probably significant. There are not more than five of the 397 questions which appear to have been asked merely to be getting attention or to be talking and in these cases it is not certain that they were not bona fide. As far as possible we have always answered G's questions when they were genuine, as they usually were. The following are typical questions from G's speech at 52 months of age:

(On the street passing Mr. Schumacher's house which was being remodeled.)

G. Papa, where's Mr. Schumacher?

F. At his store I suppose.

G. Well, I thought he was going to tear his house down?

F. He was, but he has to stay at the store.

G. O, so he hired some other men to take his house down, did he?

F. Yes.

G. Does he stay at the store all the time?

(To her father writing.)

G. Are you tired, Papa?

F. Yes.

G. It's too bad isn't it, Mamma? I wish I had a little brother or sister to do all that work. Now, do you see? Say, Papa, why don't you let me do that work and then you wouldn't get so tired?

Questions at 40 months of age:

- G. Papa, do you want my buggy fixed so it won't make so much noise? This way, Papa? Mamma where are you going?

At this age the child's mind seldom remained on one subject long enough to ask more than two or three questions about it and then it would jump to some other subject perhaps entirely foreign to the first. More often only one or two questions were asked at the same time on the same topic as is illustrated by the following from her speech at 42 months:

- G. (To her aunt) Aunt Laura, did you change your mind?

A. No.

- G. Did you go out to your farm?

A. Yes.

- G. I can turn the water on. I'm going to wash my hands.

Dinner (At the table).

- G. How do we make high chairs, Mamma? Aunt Laura, where's my— Here's my fork. Give me my knife and spoon and fork and knife. Am I dressed? Will you put that down, Papa? Dinner is served, Mamma.

Considering the great number of questions asked by a normal child of four or five years of age, it is really no wonder that parents often acquire the habit of answering most questions with, "I don't know" or, "Keep still, don't bother me," etc. And still, when we see what a small percentage of the child's questions are without a quite definite purpose to the child, it is apparent that we must adopt a more intelligent method of dealing with the questions; otherwise the mental development of the child is bound to suffer. True, the child must not be encouraged in asking all sorts of silly questions or in repeating questions over and over again thus developing a sort of artificiality or affectedness in his expression. It is just as important that this practice as well as the other extreme be avoided for the welfare of his mental life. Only by careful and constant observation in each case is it possible for the parent to adopt and pursue a sane course.

Sentences.—As nearly as can be determined there were spoken during the day, 1873, one year previous. A considerably larger number of words and sentences were spoken in the first hour of the day than in any other. The child seems to awaken in the morning full of energy and enthusiasm which manifests itself in an outburst of linguistic expression. The average number of words per sentence for the entire day is approximately 7.5, as against an average of 6.6 the preceding year. The number of words per sentence seems to

be small in the first period of the day and during the last four periods. The separation of the child's conversation into sentences is in many cases an arbitrary matter since several sentences are frequently run together without much attention to inflection in the child's haste and enthusiasm in telling something. The following paragraph illustrates G's sentence structure where it is at about its best on this day:

"Mamma, I'm goin' to have you wash this when it gets dirty. Yes, the lace'll get dirty, but I'll have you take the lace off when you wash it. See, just like this? Well, Mamma, where shall I put my other pillow 'cause it takes all the room here? Mamma, I tell you. We'll put this here 'cause it's clean. Uhuh. I know where I'll put it now. I'll have them lay down here and then when I want them to sit up I'll have them sit up here."

The following illustrates the sentence structure at the same period of the day one year before:

"Are you going to let the hen out? Take hold my hand. I am starved to death. I want an orange. I am hungry. I don't like bread without butter. We don't have bread after we've had orange, Mamma. I can find a big piece when it's good."

The sentence structure has become, during the year, somewhat more complex, a little smoother, and slightly more coherent; and it is perfectly evident, if our observations can be relied upon to any degree, that G's mental operations have been modified in precisely the same ways.

Amount of Silence.—At no time during the entire day except when she was in the library, was G silent for a period to exceed four minutes, and the total amount of time that she was linguistically inactive outside the time spent in the library was only 19 minutes. No record was made, however, of silence where the periods were less than one-half minute in length. It is, indeed, hard to believe that a child can maintain such an incessant linguistic bombardment for so long a time, and yet it takes little observation of children of G's age to convince one that this is characteristic of a normal child. Naturally, a child would ordinarily be compelled to be quiet more of the time than was G on this particular day since others in the family would consume a considerable portion of the time in conversation. In this respect the day could not be considered entirely normal. In view of this tendency to constant expression on the part of the growing child, it is easy to appreciate some of the hardships which fall to the lot of the child when he is put into the typical public school where he is attached to an uncomfortable seat and compelled to sit quiet and silent

for from one to three hours at a time. Is it any wonder that children whisper, talk aloud or write notes in spite of iron-clad rules? Is it any wonder that the innocent, happy, cheerful and open countenanced child starting to school in September comes back in June, shy, indifferent, secretive and lifeless?

Personal Pronouns.—If one should assume as some psychologists have that the use of the personal pronoun is indicative of the development of the *self* concept, then the use of this pronoun in its various forms becomes an interesting topic. Every other sentence, that is, one half of all the sentences the child used during the day, contain the first personal pronoun in some form. The total number of uses of this term for the day was 958, while the corresponding number for one year before was 860. The ratio of first personal pronouns to other words was therefore, at forty months one to every 13.5 and at 52 months one to every 15.6. One might conclude from this that, while the egoistic tendency is still strong in G, the number of uses of this term being regarded as an index, it is apparently losing some of its relative importance. This conclusion is slightly supported, by the facts concerning the uses of the personal pronouns in the second and third persons for we expect a decrease in the egoistic to be paralleled by an increase in the altruistic tendency indicated by a growth in the “you” and “we” elements. The second personal pronoun was used approximately 500 times during the course of the day at 52 months of age, or once for every 29.8 words of conversation. At 40 months of age this term is found 375 times in the day’s conversation or once for every 31.6 words. Here, then, we find a small increase in the relative amounts of the “you” and “we” elements in the child’s speech.

The writer does not feel at all certain as to the significance of these observations. It would be necessary to have considerable more data of a similar nature before attempting much generalization. The child gets its mode and form of expression almost wholly through imitation of the expression of his associates. As the expression develops in complexity, more and more does it tend to become an exact reproduction of their pronunciation, vocabulary, form and style. There is little in the behavior of the child, aside from the language, at this stage to indicate that the developing use of the personal pronouns is of great significance so far as the growth of egoistic and altruistic tendencies are concerned.

The Terms “Papa” and “Mamma”.—The number of uses of these words is a rather difficult matter to determine. It

was thought that by careful study of the uses of the two terms some idea might be gained, first, of the relative importance from the child's viewpoint of the two parents, and second, of the mere amount of attention which the child demands from the parents. Naturally this would vary greatly with different types of children and with different kinds of homes. The first difficulty encountered in our study was the fact that the child does not always use the word *Papa* or *Mamma* when addressing the parent and the second was that she does not always use these words to call for any sort of attention at all. In attempting to make out the relative amount of reference to each of the parents, one is compelled to use his personal judgment in a great many cases. The figures given in the table are therefore, partially an approximation. The words *Papa* and *Mamma* are most frequently used in asking questions and in these cases practically always require a response. Even where the words are not used in sentences or put in the form of questions, a response of some kind is usually expected from the parent. The fact that G calls upon the mother or used the term *Mamma* about forty times an hour during the entire day and on the father only about twenty-seven times per hour suggests that the mother enters much more largely into the mental life of the child at this stage of development than does the father. There are many and obvious reasons, which need not be discussed here, why this should be true. It is altogether probable that were there other children in the family, the child's attention would not be directed to the parents so continuously. In any event this data indicates the almost incomprehensible demands which the child makes upon the parent's attention. It also indicates how intimate is the relation between the parents' mental characteristics and the child's mental development and to what extent the child's mental development and mental status are linked with and molded by its parental environment.

THE ONE-DAY VOCABULARY

In making up the vocabulary of words used during the day, verb inflections have been listed as separate words, but the names of 43 persons and six places have been omitted. There were 51 of the verb inflections. If these are subtracted, the vocabulary as indicated in the table would be decreased to 901. Including the proper nouns and the verb variants, the total number of different words used is seen to be 999.

At 40 months of age G used 859 different words in the course of a day's conversation. She had at that time a vocabulary of approximately 2500 words; so that she made use of

34 LANGUAGE DEVELOPMENT DURING THE FOURTH YEAR

34% of her available fund of words during the day. At 50 months of age, with a vocabulary of about 4200 words, she used about 1000 different words, or about 24% of her word fund. Thus it is seen that as the size of the total vocabulary increases, the size of the one-day vocabulary increases, but the ratio of the latter to the former decreases. This is what one naturally would expect.

The following table shows the ratio of the different parts of speech in the one-day vocabulary.

	NUMBER	PER CENT
Nouns.....	402	42.3
Verbs.....	292	30.7
Adjectives.....	113	11.9
Adverbs.....	72	7.6
Pronouns.....	31	3.3
Prepositions.....	20	2.1
Interjections.....	11	1.1
Conjunctions.....	9	1.0
Total.....	950	100.0

THE ONE-DAY VOCABULARY

I. NOUNS	book	clock
All	bottle	cloth
all right	boy	coalbucket
amen	bread	coat
animals	breakfast	cocoa
anything	breast	coffee
arm	brother	cold
apples	bulldog	corn
automobile	bunches	cottontail
	butcherknife	couch
	bushel	cover
baa	butter	cow
baby		cream
back		cream-pie
band	cage	croup
barber	cake	crowd
barn	candy	cucumber
basement	capitol	cup
basket	care	cupful
bath	case	cushions
beans	cattlesnake	
bears	cellar	
bed	chain	dandelion
beater	chair	day
beef	chatterbox	dear
belts	cheek	"dee dil dee"
bit	chickens	dinner
bites	children	dishes
birdie	chimney	dishpan
blanket	Chinaman	doctors
bloomers	chocolate	dog
boards	church	dollie
boat	cinnamon	door
body	city	drawer

THE ONE-DAY VOCABULARY—*Continued*

dream	grinder	meal
dress	grounds	men
drink	guns	midnight
dust		milk
ears	hair	mince-pie
edges	halfpast	minute
egg	hall	mistake
eight	hands	monkeys
ends	hat	morning
engine	head	months
enough	"heehee"	mother
everybody	hello	mountains
everything	hide and seek	mouth
exercise	home	muss
eye	hook	
eyelid	horse	name
face	house	nap
fairy	hundred	needle
faucet	husband	night
feather		night-cap
feet	ice	nightgown
fellow	icebox	no
fibs	icewater	nobody
fight		noise
finger	jackolantern	none
fire	jelly	nose
five	jellyroll	no sir
flag	juice	notebook
floor		notes
flour	Kentucky	
flowers	kind	oar
fly	kitty	one
folks	knives	"oop see daisy"
foot		oranges
fork	lace	order
four	lady	oven
Friday	lake	owls
friends	lamb	
frogs	lamp	page
front	leg	pair
fun	lemon	pan
	lemon-pie	pancakes
gentleman	letter	pantry
German	library	Papa
Germany	lid	paper
girl	light	papers (newspapers)
glass	line	part
God	lion	peanut-butter
godmother	lots	pen
Goldilocks	lunch	pencil
goodness		people
good night	mail	picnics
Grandma	mailman	picture
Grandpa	Mamma	pie
grapefruit	man	piece
grapes	market	piggies
	match	pillows

36 LANGUAGE DEVELOPMENT DURING THE FOURTH YEAR

THE ONE-DAY VOCABULARY—*Continued*

pillowslip	skin	tree
pin	skirt	tulips
pinchbug	sleeves	turns
pin-cushion	soap	two
pipe	soldiers	typewriter
place	some	
plan	something	"uh huh"
plate	songs	umbrella
playland	sorts	university
playthings	south	"uppty"
pneumonia	spankings	
pocketbook	spinach	view
porch	spoon	visit
powder	spoonful	voice
priest	squirrel	
pudding	stairway	waist
pumpkin-pie	statue	washboard
	stick	washdish
quilt	stockings	watch
	stomach	water
rabbits	stool	wave
rats	store	way
rascal	story	"wee wee"
reason	stove	west
Red Hiding Hood	stream	wheat
refrigerator	street	wheel
review	street-car	while
road	stripes	wieners (weenees)
rockingchair	stuff	wind
room	sugar	window
room (space)	soot	wolf
roses	summer	woodchuck
rye	sun	word
	Sunday	work
sandwiches	supper	
Santa Claus	sweetheart	yard
satchel		year
Saturday	table	yes
school	tailor	yes sir
scissors	taste	
screens		
secret	tea	
see saw	teeth	II. VERBS
seven	things	
shame	thread	am
shaver	three	are
shears	thumb	aren't
sheep	time	asking
sheet	tin	asks
shoes	Tipperary	
shop	toadstools	bake
show	toiletsoap	baked
sidewalk	tomatoes	barbared
sink	top	be
sister	towel	beat
six	town	been
sixty	train	began

THE ONE-DAY VOCABULARY—*Continued*

begin	dreamed	ironing
beginning	dreamt	is
believe	dress	isn't
belongs	dressed	
bent	drink	jumped
bet	drop	
bite	dropped	keep
blow (trans.)	drunk	kill
blow (intrans.)	dry	kiss
boarding		knock
borrow	eat	knocked
bother	eaten	know
break	eating	
bring	enjoy	laugh
broke		lay
broken	fade	laying
burn	fall	leak
buttoned	fastened	leaked
buy	feels	learn
	fix	leave
call	fixed	left
came	fold	let
can	folded	lift
can't	forgot	like
care	found	jit
catch		lived
caught	gave	lives
"chair"	get	locked
"chaired"	getting	looked
changed	give	looking
chase	given	lost
chopping	go	
clean	going	make
cleaned	gone	making
closed	got	matter
come	grating	may
coming	guess	meant
cooked		meet
coughs	had	mend
could	hang	met
couldn't	hanging	mind
crawl	happens	move
crawled	has	
cried	have	named
crying	hear	need
curl	heard	needed
cut	helps	
	hired	open
darning	hit	ought
did	hold	
didn't	"holler"	peeling
die	hurry	pick
do	hurrying	planning
does	hurt	play (music)
done	hush	play
don't		played
draw	ironed	playing
		please

THE ONE-DAY VOCABULARY—*Continued*

pour	stop	wipe
pray	stuck	wiped
pressing	suck	wiping
pull	sucking	wish
pulled	suppose	wonder
pulling	surprise	won't
put		work
putting	take	worked
	taking	would
quit	talking	wrap
	tastes	writes
rains	teach	writing
raining	tear	written
read	tell	wrote
reading	thank	
remember	think	III. ADJECTIVES
rest	thought	A
ride	threw	all
ring	throw	another
roaring	tied	any
rub	told	asleep
run	took	awful
	tore	
said	touching	bad
sang	try	beautiful
saw	trying	best
say	turn	better
scared	turned	big
scrambled		bitter
see	unbutton	black
seen	unbuttoned	blue
send	"unchange"	broken
set	understood	busy
shall	unhooked	
shopping	used	clean
should		clear
show	wait	cloudy
shut	waited	cold
sings	wake	cross
singing	walk	cute
sit	walked	
sitting	walking	dark
sleep	want	dirty
slips	wanted	double
smells	wanting	dusty
sounds	was	
spank	wash	each
spill	washed	easier
spit	wasn't	either
spoiled	watch	every
sprinkle	waving	
stand	wear	faster
standing	went	fat
started	were	fine
stay	whistle	first
stayed	whistling	fresh
step	will	fried

THE ONE-DAY VOCABULARY—*Continued*

full	squeaky	even
funny	still	ever
glad	straight	
good	such	far
great	sure	fast
	sweet	
happy	sweetest	half
hard		hardly
heavy	tall	here
higher	that	how
hot	the	
hungry	these	inside
	third	instead
kind	thirsty	
	this	just
last	those	
little	tired	like
long	true	
longest	two	maybe
loud		mostly
lower	welcome	
	well	near
many	wet	never
mean	which	not
more	white	now
much	whole	
mussy	wilted	off
	worn	on
new	worse	once
next	wrinkled	only
nice	wrong	out
		over
old		
older	IV. ADVERBS	partly
open	Again	past
other	ago	pretty
own	ahead	
	all	quicker
pink	along	quite
"play"	already	
powdered	anyway	rather
pretty	around	ready
	as	really
real	away	
red		so
right	back	sometime
rough	bedtime	somewhere
round	before	soon
	below	than
sad	besides	then
same		there
second		through
shortest	down	throughout
sick	downstairs	today
sleepy		tomorrow
sorry	early	tonight
sour	else	too

THE ONE-DAY VOCABULARY—*Continued*

up	their	after
	them	around
very	these	at
	they	
when	this	between
where		by
whether	we	
why	what	down
	who	
yesterday		except
yet	you	
	you'll	for
	your	from
	yourself	

V. PRONOUNS

Both

he
her
him
his

I
I'll
I'm
it
itself
I've

me
mine
my
myself

our
ourselves

she

that

VI. INTERJECTIONS

Achew
ah
glory

my

oh
oh oh oh
ouch

whee
whew
whoo whoo

zuz

VII. PREPOSITIONS

About
across

in
into

of
off
on
over

to

under

with

VIII. CONJUNCTIONS

And
but
cause
if
or
that
though
till
while