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A LIST OF WORDS SELECTED FROM THE HORN-PETERSON LIST CONTAINING ALL
THREE-LETTER SEQUENCES FOUND IN THE FIRST SEVEN THOUSAND WORDS

by

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A Thesis Submitted to the

Faculty of

The University of North Carolina

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

Greensboro

1947

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3945 ✓

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CHAPTER I

STATEMENT OF THE PROBLEM

Introduction

What is the best copy to use for building skill in the learning of typewriting? The question may have no definitive answer. Yet better copy than any now in use might be developed. It is not the purpose of this study to investigate better copy. There is, however, one aspect of letter sequences in words that seems to justify investigation in order to facilitate further research on better typewriting copy. This investigation has to do with a study of three-letter sequences in words and the formation of a list of words containing all three-letter sequences found in a large number of words.

Problem

The problem of this thesis is to list the three-letter sequences found in words known to be used in business writing, and to compile a word list which contains all of these three-letter sequences. This list might serve as a basis for the construction of typewriting copy that will provide a range of letter-stroke patterns conditioned by the preceding stroke and the following stroke.

Background of Problem

Various word lists such as the Horn¹ list and the Horn-Peterson² list have influenced typewriting copy presented by textbook writers. Most closely related to the present work, however, are short lists of words based on digraphs or two-letter sequences. Blanchard and Smith in Typing for Business present a selected list of 73 words with the statement that "all the most-used letter combinations (two-letter) are included in the practice of these 73 words."³ Blackstone and Yerian present 82 words that "comprise most of the combinations (two-letter) in the 10,000 most common words."⁴

Dvorak considered letter sequences in the construction of his simplified keyboard:

Typed English is made up almost entirely of these digraphs combined as words. . . . Accordingly, typewriter keys should be arranged to give these few

¹Ernest Horn, A Basic Writing Vocabulary (University of Iowa Monographs in Education, First Series, No. 4, April 1, 1926).

²Ernest Horn and Thelma Peterson, The Basic Vocabulary of Business Letters (New York: The Gregg Publishing Company, 1943).

³Clyde I. Blanchard and Harold H. Smith, Typing for Business (New York: The Gregg Publishing Company, 1944), p. 21.

⁴E. G. Blackstone and C. T. Yerian, Teacher's Handbook for Typewriting for Personal Use (New York: The Gregg Publishing Company, 1937), p. 15.

digraphs the fastest and most effective setups available for successive stroking. Have you realized that, in like manner, nearly one half of your ordinary typing copy is merely 104 three-letter combinations known as trigraphs, or simply 208 four-letter combinations?¹

Dvorak used the information on digraphs to construct a new keyboard that would allow the commonest two-letter sequences to be typed without difficult reaches.²

Consideration of three-letter sequences was suggested by Fuller's statement in Reading Factors in Typewriting that "each stroke may be affected by the preceding stroke and the stroke that is coming next."³ Sequences of letters in different words have been studied by Hoke,⁴ Lessenberry,⁵ and Rowe.⁶ But aside from the lists

¹August Dvorak, et al., Typewriting Behavior (New York: American Book Company, 1936), p. 214.

²Ibid., 218.

³Donald C. Fuller, Reading Factors in Typewriting (Doctor's Dissertation, Harvard University, 1943), p. 96.

⁴Roy Edward Hoke, The Improvement of Speed and Accuracy in Typewriting, The Johns Hopkins University Studies in Education, No. VII (Baltimore: The Johns Hopkins Press, 1922).

⁵D. D. Lessenberry, Chart Showing All Two-Letter Sequences Based on an Analysis of the Horn 3009 Commonest Words (Syracuse, N. Y.: L. C. Smith & Corona Typewriters, Inc., 1927).

⁶Clyde E. Rowe, "The Importance of Two-, Three-, Four-, and Five-Letter Combinations on the Basis of Frequency in a Word List" (Unpublished Master's Thesis, University of Pittsburgh, 1930).

of words presented by Blackstone and Yerian,¹ and Blanchard and Smith,² which cover common two-letter sequences, there is no available list of words including all three-letter sequences found in the first 7,000 words of the Horn-Peterson list.³

One step beyond the short lists of words based on two-letter sequences would be a compilation of a list of words containing all three-letter sequences found in the first 7,000 words of the Horn-Peterson list.

Source of Data

Horn-Peterson's The Basic Vocabulary of Business Letters was used as the basis of this study because it is based upon an analysis of business writing; because it gives the weighted frequency for each word; and because it is a published list readily available to research people and business teachers. An objection to the list is that it is taken from a part of compilations made before 1926.⁴

¹Blackstone and Yerian, op. cit., p. 15.

²Blanchard and Smith, op. cit., p. 21.

³Horn and Peterson, op. cit.

⁴Horn, A Basic Writing Vocabulary, op. cit.

Description of Horn-Peterson List

The Horn-Peterson list contains 14,834 words ranked according to frequency of occurrence in a sampling of 1,436,223 running words in letters from twenty-six classes of business. The average number of different firms included in each class is six.

The list of twenty-six classes of business are as follows:¹

1. Miscellaneous
2. Florists
3. Automobile manufacturers and sales companies
4. Wholesale and retail druggists
5. Manufacturers of clothing and textiles
6. Dealers in lumber and furniture
7. Manufacturers, wholesalers, and retailers of foodstuffs
8. Law firms
9. Insurance companies
10. Dealers in crockery and china
11. Building and construction companies
12. Community organizations
13. Coal and oil companies
14. Electrical supply houses
15. Medical supply companies
16. School supply companies
17. Banks; loan and investment companies
18. Public utilities
19. Dealers in hardware and machinery
20. Car and truck companies
21. Railroad and express companies
22. Steel and iron manufacturers
23. Schools, churches, and libraries
24. Department stores
25. Publishers
26. Farmers

¹Horn and Peterson, The Basic Vocabulary of Business Letters, op. cit., p. 4-5.

Reliability of Horn-Peterson List

Leslie¹ reported the following with the exception of the percentages and the number of words represented for the sixth and seventh thousand ranks. The percentages were found from the Leslie chart by dividing the number of running words represented in a group by the total running words (1,436,223) of the Horn-Peterson study.

Number of Running Words Represented by Various Frequency Groups in the Horn-Peterson Business Letter Frequency List

Frequency Group	Number of Running Words Represented	Percent of Total Words Represented
First 1000	1,000,329	69.6
Second 1000	77,043	5.4
Third 1000	30,712	2.1
Fourth 1000	15,446	1.1
Fifth 1000	9,534	.7
Sixth 1000	6,191	.4
Seventh 1000	5,014	.3

The above chart shows that there is a large number of words represented for the highest frequency group of words and a progressively smaller number of words in each less high frequency group.

A study of 1,436,223 total words should be considered

¹Louis A. Leslie, "Basic Shorthand Vocabularies Compared," The Business Education World, XXV;4 (December 1944), p. 182.

an adequate sample to designate certain words as common if they have high frequencies of occurrence.

This study will assume on the basis of the Leslie chart that words in the first 1,003 rank of the Horn-Peterson list are satisfactorily ranked and may be properly termed common words. The words ranked from 1,004 to 7,033 will be considered for purposes of this study as samples of less frequent words in the English language.

Weighted Values

The Horn-Peterson list of words is ranked from high to low according to weighted frequency rather than frequency of occurrence. Weighting considers frequency of occurrence of the word and the number of businesses in which the word appeared. For example, "consider" was found a total of 414 times in twenty-three out of twenty-six classes of business. The weighted total 2,070 was found by multiplying 414 by 5, the number used for weighting in the following chart.

The Horn-Peterson chart¹ for weighting is as follows:

<u>Number of Types of Business</u>	<u>Number Used For Weighting</u>
1-2	1
2-6	2
7-12	3
13-20	4
21-26	5

¹Horn and Peterson, op. cit., p. 7.

These numbers used for weighting are derived by taking the approximate square root of the number of different classes of business. Thus, if the word is found in from 21 to 26 classes of business, the square root to the nearest integer of any one of these numbers is 5. This gives increased value to words occurring in many businesses. A word that occurs a large number of times in one business and few times in other businesses is probably of less significance than the same word appearing in a number of businesses, and the number used for weighting is meant to compensate for this factor. The weighting formula was derived by Horn and Peterson based on their best judgment after a study of their data. The complete formula for weighting is the frequency of the word times the weight derived from the number of businesses in which the word occurred. The weighted frequency was used in assigning the rank of a particular word.

Irregularities of Horn-Peterson List

Since no differentiation was made by Horn-Peterson in words of equal weighted frequency, the first thousand words include 1,003 words. Similarly, the dividing point separating each thousand words had to be contracted or expanded so that words of equal weighted frequency would not be put into different thousands.

The words ranked 996 to 1,003 have a weighted frequency of 516 derived according to the Horn-Peterson formula for ranking

purposes. Words having the same weighted frequencies are alphabetized in Appendix A¹ of the Horn-Peterson book. The alphabetizing has no significance aside from convenience for listing; hence no line is drawn between words ranking from 996 to 1,003. This necessitated drawing the line for the first thousand at either 995 or 1,003. Horn and Peterson chose to draw the line at 1,003 as it is nearer the thousand mark than 995. This same procedure was followed for the dividing line for each thousand group of words. For this study, a classification of words by even thousands would be more satisfactory in comparing words by the thousands.

The discussion of this study will deal with thousands, but the thousands are based upon the Horn-Peterson classification² given below. In order to differentiate this particular type of classification of thousands, the symbol "M" will be used according to the Horn-Peterson classification given below.

<u>Number of Words</u>	<u>Symbol</u>	<u>Position of Words</u>	<u>Weighted Credit OF Last Word</u>
First 1000	1M	1-1003 words	516
Second 1000	2M	1004-2003 words	147
Third 1000	3M	2004-3004 words	56
Fourth 1000	4M	3005-4087 words	24
Fifth 1000	5M	4088-5226 words	14
Sixth 1000	6M	5227-5992 words	9
Seventh 1000	7M	5993-7029 words ³	6
First 7000 - TOTAL	7M		

¹Ibid., p. 194-232.

²Ibid., p. 8.

³According to actual count, there are only 7,029 words instead of 7,033. The seventh thousand rank is four less than 7,033.

A further irregularity affecting the present study is the listing by Horn and Peterson of seventeen two-word terms in the first 7M words counted as one word, such as "Parcel post," "all right," "high school," in addition to separate listings of "parcel," "post," "all," "right," "high," "school," etc. All items as given by the Horn-Peterson list are retained in this study. If such two-word combinations counted as one had been eliminated, the ranking of the Horn-Peterson list would have been upset, and it would have led to complications in summarizing the data by thousands according to the Horn-Peterson classification. "Parcel post" is the only two-word term classified as one word in the first M. "Parcel" is found by itself in the second M. "Post" is found by itself in the first M. "Parcel," if counted as one word including the number of times found in "parcel post," would have deserved a much higher ranking. "Post," if counted as one word including the number of times found in "parcel post," would have deserved a much higher ranking. It was not the purpose of this study to alter the Horn-Peterson ranking; so the two-word terms were included in this study as they were found in the list.

Justification for Use of Total 7M Words

The total 7M words was decided upon as the basis of this study because Horn and Peterson give the symbols for the weighted

ranks through the seventh thousand and because a fairly large sample of words was wanted for the purposes of this study. The question whether words in the second through the seventh M are properly ranked will not eliminate them as samples of less frequent words.

CHAPTER II

PROCEDURES AND FINDINGS

Procedure 1. Preparation of Sequences for Total 7M (Seventh Thousand Rank) Words

The 14,834 words of the Horn-Peterson list are on pages 9 to 193 of The Basic Vocabulary of Business Letters in alphabetical order. Each of the first 7M ranking words is labeled in the book as 1, 2, 3, 4, 5, 6, and 7 to designate in which M the word is found.

Starting with the first page (page 9), each word that was labeled 1 through 7 was taken in order of appearance and analyzed for three-letter sequences. One-letter and two-letter words not having three-letter sequences were omitted.

The sequences were typed on adding machine paper $3\frac{1}{2}$ inches wide in order to facilitate handling and filing. After each sequence with its identifying numerals was typed, nine line spaces (three triple spaces) were left before typing the next entry in order to insure sufficient space for clipping and handling the entry after it was cut.

The page number, the number of the word on the page (inserted numbers), and the M rank of the word from which the sequence came were recorded along with the sequence. For example, from

page 9 of the list, the first word "abandon" was recorded thus:

<u>Page No.</u>	<u>Word No.</u>	<u>Frequency Rank</u>	<u>Sequence</u>
<u>9</u>	<u>1</u>	<u>7</u>	<u>aba</u>
<u>9</u>	<u>1</u>	<u>7</u>	<u>ban</u>
<u>9</u>	<u>1</u>	<u>7</u>	<u>and</u>
<u>9</u>	<u>1</u>	<u>7</u>	<u>ndo</u>
<u>9</u>	<u>1</u>	<u>7</u>	<u>don</u>

This process was continued until all sequences were recorded for the total 7M words. Every item was checked and rechecked for accuracy as was every step in the whole study. The rolls of adding machine paper were next cut so that each sequence was listed on a separate slip of paper. These slips of paper were arranged alphabetically according to sequence. The resulting alphabetical list is given in Table I. All the slips were counted for each sequence and the frequencies of occurrence in the 7M total words tabulated. However, since these frequencies were misleading as to the importance of the sequences in all words, these numbers and their discussion have been omitted from the final writing of this study. For example, the sequence "hey" occurs only once in the study, yet it is a part of the word "they" which is ranked among the fifty-two most common

words according to the Horn-Peterson list. "Hey" in "they" is a sequence recurring frequently in business correspondence and in all writing.

Findings 1

Table I, pages 15-22, "Three-Letter Sequences Found in 7,029 Words Arranged in Alphabetical Order," reveals that 37,028 total three-letter sequences are in the first 7,029 ranked words of the Horn-Peterson list. The total sequences, however, are made up of the repetitions of 3,007 different sequences; yet only 3,007 different sequences out of a possible 21,952¹ different sequences are used in the 7,029 words.

¹The permutations of the twenty-six letters of the alphabet in all possible three-letter combinations equal 17,576. The permutations of the twenty-six letters of the alphabet plus the hyphen and the apostrophe in all possible sequences of three equal 21,952.

TABLE I

THREE-LETTER SEQUENCES FOUND IN 7,029 WORDS ARRANGED IN ALPHABETICAL ORDER

Total Number of Sequences. . . . 37,023

Number of Different Sequences. . . 3,001

aba	aer	all	aph	ast	axl	ben	bre	cat
abb	afe	alm	api	asu	aya	ber	bri	cau
abe	aff	aln	apl	asy	ayb	bes	bro	cav
abi	afl	alo	apo	ata	aye	bet	bru	cca
abl	afr	alp	app	atc	ayi	bey	bsc	cce
abn	aft	alr	apr	ate	aym	bib	bse	cci
abo	aga	als	aps	atf	ayo	bic	bsc	cco
abr	age	alt	apt	ath	ays	bid	bst	ccr
abs	agg	alu	ara	ati	aza	big	bta	ccu
abu	agi	alv	arb	atl	aze	bil	bte	cea
aby	agn	alw	arc	atm	azi	bim	btf	ced
aca	ago	aly	ard	ato	azo	bin	btl	cee
acc	agr	ama	are	atr		bir	bto	cef
ace	ags	amb	arf	ats		bis	btr	cei
ach	agu	ame	arg	att	bab	bit	bts	cel
aci	ahe	ami	ari	atu	bac	bje	buc	cem
ack	aho	amm	ark	auc	bad	bla	bud	cen
aco	aid	amo	arl	aud	bag	ble	buf	cep
acq	aig	amp	arm	aug	bak	bli	bug	cer
acr	ail	ams	arn	aul	bal	blo	bui	ces
act	aim	ana	aro	aun	ban	blu	bul	cet
acu	ain	anc	arp	aup	bar	bly	bum	cha
acy	air	and	arq	aus	bas	bmi	bun	chb
ada	ais	ane	arr	aut	bat	bno	bur	che
adc	ait	ang	ars	auz	bay	boa	bus	chi
add	aiv	ani	art	ava	bbe	bob	but	chm
ade	aja	ank	arv	ave	bbi	bod	buy	chn
adh	ajo	ann	ary	avi	bbo	bog	bvi	cho
adi	aka	ano	asa	avo	bbr	boi	byl	chr
adj	ake	anq	asb	avy	bby	bol		chu
adl	akf	ans	asc	awa	bdi	bon		cia
adm	aki	ant	ase	awe	bea	boo	cab	cid
adn	aks	anu	ash	awf	bec	bor	cad	cie
ado	ala	anv	asi	awi	bed	bot	cak	cif
adq	alc	anw	ask	awn	bee	bou	cal	cig
adr	ale	anx	asm	aws	bef	bov	cam	cil
ads	alf	any	asn	awy	beg	bow	can	cim
adu	alg	aor	aso	axa	beh	box	cap	cin
adv	ali	apa	asp	axe	bei	boy	car	cio
ady	alk	ape	ass	axi	bel	bra	cas	cip

TABLE I (Continued)

cir	cru	dea	dly	dvo	edn	eis	ens	ery
cis	cry	deb	dma	dwa	eds	eit	ent	esa
cit	cta	dec	dme	dwe	edy	eiv	enu	esc
civ	cte	ded	dmi	dwo	edu	eiz	env	esd
ciz	ctf	dee	dne	dye	eea	eje	eny	ese
cka	cti	def	doc	dyi	eec	eke	eof	esh
ckb	ctl	deg	doe		eed	eki	eog	esi
cke	ctn	del	dog		eei	ekl	eom	esk
ckg	cto	dem	doi	eab	eek	eks	eon	esm
ckh	ctr	den	dol	eac	eel	ela	eop	esn
cki	cts	dep	dom	ead	eem	elb	eor	eso
ckl	ctu	deq	don	eaf	een	elc	eos	esp
ckn	cub	der	doo	eag	eep	eld	ecu	ess
ckr	cuf	des	dop	eak	eer	ele	eov	est
cks	cui	det	dor	eal	ees	elf	epa	esu
ckw	cul	dev	dou	eam	eet	eli	epe	esy
cky	cum	dew	dow	ean	eev	ell	eph	eta
cla	cup	dex	doz	eap	efa	elo	epi	etc
cle	cur	dge	dpo	ear	efe	elp	epl	ete
cli	cus	dgi	dqu	eas	eff	elr	epo	eth
clo	out	dgm	dra	eat	efi	els	epr	eti
clu	ouu	dha	dre	eau	efl	elt	eps	eto
cni	cyc	dhe	dri	eav	efo	elv	ept	etr
coa	cyh	dia	drc	eba	efr	ely	epu	ets
cod	cyl	dio	dru	ebi	efs	ema	equ	ett
cof		did	dry	ebo	eft	emb	era	etu
cog		die	dsc	ebr	efu	eme	erb	etw
coh	dab	dif	dsh	ebt	ega	emi	erc	ety
coi	dag	dig	dsi	ebu	ege	emn	erd	euc
col	dai	dil	dso	eby	egg	emo	ere	eum
com	dal	dim	dst	eca	egi	emp	erf	eva
con	dam	din	dth	ece	egl	ems	erg	eve
coo	dan	dio	dua	ech	ego	emu	erh	evi
cop	dap	dir	duc	eci	egr	ena	eri	evo
cor	dar	dis	due	eek	egs	enc	erk	ewa
cos	dat	dit	dug	eol	egu	end	erl	ewe
cot	dau	diu	dul	eco	eha	ene	erm	ewh
cou	dav	div	dum	ecr	ehe	enf	ern	ewi
cov	day	dix	duo	ect	ehi	eng	ero	ewl
cow	dca	diz	dup	ecu	eho	enh	erp	ewp
coy	dcl	dja	dur	eda	eig	eni	err	ewr
cqu	dde	djo	dus	edd	eil	enj	ers	ews
cra	ddi	dju	dut	ede	eim	enl	ert	exa
cre	ddl	dke	dva	edg	ein	enn	eru	exc
cri	ddr	dle	dve	edi	eip	eno	erv	exe
cro	ddy	dli	dvi	edl	eir	enr	erw	exh

TABLE I (Continued)

exi	fin	gaz	glu	hat	hoc	ibb	ift	inf
exp	fir	gdo	gly	hau	hod	ibe	ifu	ing
ext	fis	gea	gme	hav	hoe	ibi	ify	inh
eya	fit	geb	gna	hay	hog	ibl	iga	ini
eye	fix	ged	gne	haz	hoi	ibr	ige	inj
eyi	fla	gee	gni	hbo	hok	ibu	igg	ink
eyo	fle	gel	gnm	hco	hol	ica	igh	inl
eyz	fli	gem	gno	hda	hom	ice	igi	inm
	flo	gen	gns	hdr	hon	ich	ign	inn
	flu	geo	goa	hea	hoo	ici	igo	ino
fab	fly	ger	goe	hec	hop	ick	igr	inq
fac	fol	ges	goi	hed	hor	icl	igs	ins
fai	fon	get	gol	hee	hos	ien	igu	int
fal	foo	gga	gon	hef	hot	ico	iho	inu
fam	for	gge	goo	hei	hou	ics	ike	inv
fan	fou	ggi	gor	hel	hov	ict	iki	iod
far	fra	ggl	got	hem	how	icu	ila	iog
fas	fre	ggr	gov	hen	hre	icy	ild	iol
fat	fri	ggs	gow	heo	hri	ida	ile	ion
fau	fro	gha	gra	hep	hro	idd	ili	ior
fav	fru	ghb	gre	her	hst	ide	ilk	iot
fea	fry	ghe	gri	hes	hte	idg	ill	iou
feb	fse	ghi	gro	het	htf	idi	ilm	ipa
fec	fte	ghl	gst	hev	hti	idl	ilo	ipe
fed	fti	gho	gth	hey	htl	idn	ilr	ipl
fee	fts	ghs	gua	hfu	htn	ido	ils	ipm
fek	fue	ght	gue	hhe	hts	ids	ilt	ipp
fel	ful	ghw	gui	hho	hty	idt	ilu	ipr
fen	fun	gia	gul	hib	hum	idu	ilv	ips
fer	fur	gib	gum	hic	hun	iec	ilw	ipt
fes	fus	gic	gun	hie	hur	ied	ily	iqu
fet	fut	gid	gur	hif	hus	ief	ima	ira
few	fyi	gie	gus	hig	hut	iel	imb	irc
ffa		gif		hil	hwa	iem	ime	ird
ffe		gil		him	hwe	ien	imi	ire
ffi	gag	gin	hab	hin	hys	ier	imm	iri
ffo	gai	gio	had	hio		ies	imn	irl
ffs	gal	gir	haf	hip		iet	imo	irm
ffy	gam	gis	hai	hir	iab	ieu	imp	irn
fia	gan	git	hak	his	iag	iev	ims	iro
fib	gar	giv	hal	hit	ial	iew	imu	irr
fic	gas	giz	ham	hle	iam	ife	ina	irs
fid	gat	gla	han	hly	ian	iff	inb	irt
fie	gau	gle	hap	hma	iar	ifi	inc	iru
fig	gav	gli	har	hme	ias	ifl	ind	iry
fil	gay	glo	has	hni	iat	ifo	ine	isa

TABLE I (Continued)

isb	jac	kie	ldi	liz	lta	mat	mni	nal
isc	jam	kil	ldm	lke	lte	max	mns	nam
isd	jan	kin	ldn	lki	lth	may	mob	nan
ise	jar	kir	ldo	lks	lti	mba	mod	nap
isf	jaw	kit	ldr	lla	lto	mbe	moi	nar
ish	jec	kke	lds	lle	ltr	mbi	mok	nas
isi	jel	kle	lea	llf	lts	mbl	mol	nat
isk	jer	kly	leb	lli	ltu	mbo	mom	nau
isl	jew	kma	lec	llm	lty	mbr	mon	nav
ism	jif	kme	led	lln	lua	mbu	moo	nba
isn	job	kne	lee	llo	lub	mea	mop	nbo
iso	joi	kni	lef	lls	luc	meb	mor	nca
isp	jor	kno	leg	llu	lud	mec	mos	nce
isr	jou	kou	lei	llw	lue	med	mot	nch
iss	joy	kra	lel	lly	lug	mee	mou	nci
ist	jud	kru	lem	lme	lul	meh	mov	ncl
isu	jul	ksh	len	lmo	lum	mel	mpa	nco
ita	jum	ksm	lep	lms	lun	mem	mpe	ncr
itc	jun	kwa	ler	lne	lur	men	mph	nct
ite	jur	kwe	les	lnu	lus	mco	mpi	ncu
ith	jus		let	loa	lut	mer	mpl	ncy
iti	jut		leu	lob	lva	mes	mpo	nda
itl	juv	lab	lev	loc	lve	met	mpr	nde
itm		lac	lex	log	lvi	mew	mps	ndh
itn		lad	ley	loi	lwa	mfo	mpt	ndi
ito	kab	lag	lfa	lon	lwo	mia	mpu	ndk
itr	kag	lai	lfi	loo	lye	mic	mse	ndl
its	kbo	lak	lfo	lop	lyi	mid	msh	ndm
itt	ked	lam	lge	lor	lyp	mie	mst	ndn
itu	kee	lan	lia	los	lys	mig	muc	ndo
ity	keg	lap	lib	lot	lyz	mil	mud	ndp
ium	keh	lar	lic	lou		mim	muf	ndr
ius	kel	las	lid	lov		min	mul	nds
iva	ken	lat	lie	low	mab	mir	mum	ndu
ive	kep	lau	lif	loy	mac	mis	mun	ndy
ivi	ker	lav	lig	lpe	mad	mit	mur	nea
ivo	kes	law	lih	lph	mag	miu	mus	nec
ixe	ket	lax	lik	lpi	mah	mix	mut	ned
ixi	kew	lay	lim	lpl	mai	miz	mys	nee
ixt	key	laz	lin	lpl	maj	mly		nef
iza	kfa	lbo	lio	lps	mak	mna		neg
ize	kfu	lbs	lip	lre	mal	mme	nab	nei
izi	kgr	lco	liq	lro	man	mni	nac	nel
izo	kha	leu	lis	lry	map	mmo	nad	nem
	kho	lde	lit	lse	mar	mmu	nag	nen
	kid	lde	liv	lso	mas	mne	nai	neo

TABLE I (Continued)

ner	nkn	nst	oat	ogy	onl	orp	own	phe
nes	nkr	nsu	oba	ohi	onm	orr	ows	phi
net	nks	nsw	obb	oho	onn	ors	owt	phl
nev	nla	nta	obe	oic	ono	ort	oxc	pho
new	nle	nte	obi	oid	onp	oru	oxe	phs
nex	nli	nth	obj	oil	ons	orw	oxf	phy
ney	nlo	nti	obl	oin	ont	ory	oxi	pia
nfa	nly	ntl	obo	oir	onu	osa	oya	pie
nfe	nme	ntm	obs	ois	onv	ose	oye	pid
nfi	nna	nto	obt	oje	ony	osi	oyi	pie
nfl	nne	ntr	obv	oke	onz	oso	oym	pig
nfc	nni	nts	oca	oki	ood	osp	oys	pil
nfu	nno	ntu	occ	okk	oof	oss	oze	pin
nga	nnu	nty	oce	okl	ook	ost		pio
ngd	nob	nua	oci	oko	ool	osu		pip
nge	noc	nue	ock	oks	oom	ota	pab	pir
ngh	nod	nuf	oco	ola	oon	otb	pac	pis
ngi	nog	nui	oct	old	oop	oto	pad	pit
ngl	noi	num	ocu	ole	oor	ote	pag	pke
ngn	nol	nuc	oda	olf	oos	oth	pai	pla
ngr	nom	nup	odd	oli	oot	oti	paj	ple
ngs	non	nur	ode	olk	ope	otm	pal	pli
ngt	noc	nus	odi	oll	oph	oto	pam	plo
ngu	nor	nut	odo	olo	opi	ots	pan	plu
nhe	nos	nva	ods	ols	opl	ott	pap	ply
nho	not	nve	odu	olt	opm	otw	par	pme
nia	nou	nvi	ody	olu	opo	oty	pas	poc
nic	nov	nvo	oem	olv	opp	oub	pat	poe
nif	now	nwh	oes	oma	opr	ouc	pav	pog
nig	noy	nwi	oet	omb	ops	oud	pay	poi
nih	npa	nxi	oev	ome	opt	oug	pea	pok
nil	npl	nyb	ofa	omf	opu	oul	pec	pol
nim	npr	nyi	ofe	omi	opy	oun	ped	pon
nin	nqu	nyo	off	omm	ora	oup	pee	poo
nio	nre	nyt	ofi	omo	orb	ouq	pef	pop
nis	nro	nyw	ofo	omp	orc	our	peg	por
nit	nsa	nze	ofs	oms	ord	ous	pel	pos
niv	nsc		oft	omy	ore	out	pen	pot
niz	nse		oga	ona	org	ova	peo	pou
njo	nsf	oac	oge	onc	orh	ove	per	pow
nju	nsh	oad	ogg	ond	ori	ovi	pes	ppa
nka	nsi	oal	ogj	one	ork	owa	pet	ppe
nke	nsi	oan	ogn	onf	orl	owd	pev	ppi
nkf	nsm	oap	ogr	ong	orm	owe	pew	ppl
nki	nso	oar	ogs	oni	orn	owi	pfu	ppo
nkl	nsp	oas	ogu	onj	oro	owl	pha	ppr

TABLE I (Continued)

ppy	ran	rem	rks	roz	rup	scl	sil	spl
pra	rao	ren	rla	rpa	rur	sco	sim	spo
pre	rap	reo	rld	rpe	rus	scr	sin	spr
pri	rar	rep	rle	rpl	rut	scu	sio	spu
pro	ras	req	rli	rpo	rva	sda	sir	squ
pru	rat	rer	rlo	rpr	rve	sdi	sis	sre
pse	rau	res	rls	rps	rvi	sea	sit	ssa
psy	rav	ret	rly	rqu	rvo	seb	siv	sse
pta	raw	rev	rma	rra	rwa	sec	siz	ssf
pte	ray	rew	rme	rre	rwe	sed	ske	ssi
pth	raz	rfa	rmi	rri	rwi	see	ski	ssm
pti	rba	rfe	rml	rro	rwr	sef	skr	ssn
ptl	rbe	rfo	rmo	rru	ryb	seh	sks	sso
ptn	rbi	rfu	rms	rry	ryd	sei	sky	ssp
pts	rbl	rga	rnu	rsa	rye	sek	sla	ssu
ptu	rbo	rge	rny	rsd	ryi	sel	sle	sta
pty	rbu	rgi	rna	rse	ryo	sem	sli	stb
pub	rca	rgo	rne	rsh	ryt	sen	slo	std
pul	roc	rgr	rni	rsi	ryw	sep	sly	ste
pum	roh	rgu	rnm	rso		seq	sma	sti
pun	rei	rgy	rno	rsp		ser	sme	stl
pup	rol	rha	rns	rst	sab	ses	smi	stm
pur	roo	rhe	rnt	rsu	sac	set	sno	sto
pus	ror	rho	roa	rsy	sad	sev	smu	stp
put	rcu	ria	rob	rta	saf	sew	sms	str
puz	rda	rib	roc	rte	sag	sey	sna	sts
pwa	rde	ric	rod	rtg	sai	sfa	sne	stu
pyi	rdi	rid	rof	rth	sak	sfe	sno	sty
	rdo	rif	rog	rth	sal	sfi	soa	sua
	rds	rig	roh	rtl	sam	sfo	soc	sub
qua	rdu	rik	roi	rtm	san	sfu	sod	suc
que	rdw	ril	roj	rtn	sap	sfy	soe	sud
qui	rdy	ril	rok	rto	sar	sha	sof	sue
quo	rea	rim	rol	rts	sas	she	soi	suf
	reb	rin	rom	rtu	sat	shi	sol	sug
	rec	rio	ron	rtv	sau	shm	som	sui
	red	rip	roo	rta	sav	sho	son	sul
rab	ree	ris	rop	rub	saw	shr	soo	sum
rac	ree	rit	ror	ruc	say	shu	sop	sun
rad	ref	riu	ros	rud	sba	sia	sor	sup
raf	reg	riv	rot	rue	sbe	sib	sot	sur
rag	reh	riz	rou	rug	sbu	sic	sou	sus
rai	rei	rka	rov	rui	sca	sid	spa	swa
rak	rej	rke	row	rul	sce	sie	spe	swe
ral	rek	rki	rox	rum	sch	sif	sph	swi
ram	rel	rkm	roy	run	sci	sig	spi	syo

TABLE I (Continued)

sym	tfo	toc	tul	ued	ump	uri	uzz	wai
syn	tfu	tod	tum	uee	ums	url		wal
syr	tga	toe	tun	uel	umu	urn		wam
sys	tgo	tof	tur	uen	una	uro	vab	wan
	tha	tog	tus	uep	unb	urp	vac	war
	tho	toi	tut	uer	unc	urr	vag	was
tab	thd	tok	twe	ues	und	urs	vai	wat
tac	the	tol	twi	uet	une	urt	val	wav
taf	thf	tom	two	ufa	unf	urv	van	way
tag	thh	ton	tyl	uff	ung	ury	var	wde
tai	thi	too	typ	uga	uni	usa	vas	wea
tak	thl	top		uge	unj	usb	vat	wed
tal	thm	tor		ugg	unk	usc	vau	wee
tam	tho	tos	uab	ugh	unl	use	vea	wei
tan	thr	tot	uad	ugs	unn	ush	ved	wel
tap	ths	tou	uag	ugu	unp	usi	veg	wen
tar	thu	tov	uai	uic	unq	usk	vel	wer
tas	thw	tow	ual	uid	unr	usl	vem	wes
tat	thy	toy	uan	uie	uns	usn	ven	wet
tau	tia	tpa	uar	uil	unt	usp	ver	wev
tav	tib	tpo	uat	uin	unu	uss	ves	wfu
tax	tio	tpu	uba	uip	unw	ust	vet	wha
tay	tie	tra	ubb	uir	uof	usu	vey	whe
tba	tif	tre	ubd	uis	uor	usy	via	whi
tbo	tig	tri	ube	uit	uot	uta	vic	who
tch	til	tro	ubi	uiv	uou	uto	vid	why
teo	tim	tru	ubj	ula	upa	ute	vie	wic
toy	tin	try	ubl	ulb	upe	utf	vig	wid
tda	tio	tsc	ubm	uld	upi	utg	vil	wif
tea	tip	tse	ubr	ule	upk	uth	vin	wil
tec	tir	tsi	ubs	ulf	upl	uti	vio	wim
ted	tis	tso	ubt	ulk	upo	utl	vir	win
tee	tit	tst	uca	uli	upp	utm	vis	wir
tef	tiv	tta	ucc	ull	upr	uto	vit	wis
teg	tiz	tte	uce	ulo	ups	utp	viv	wit
tel	tla	tti	uch	ulp	upt	utr	voc	wiv
tem	tle	ttl	uci	ult	upw	uts	voi	wle
ten	tli	tto	uck	ulu	upy	utt	vol	wly
teo	tlo	ttr	uco	ulv	uqu	utu	vor	wne
tep	tly	tts	uct	uly	ura	uty	vot	wni
ter	tma	tty	udd	uma	urb	uum	vou	wns
tes	tme	tua	ude	umb	urc	uve		woe
tet	tmo	tub	udg	ume	urd	uye		wom
tev	tne	tud	udi	umi	ure	uyi	wab	won
tex	tni	tue	uds	umn	urf	uys	wad	woo
tfi	tob	tuf	udy	umn	urg	uze	wag	wor

TABLE I (Continued)

wou	xer	yab	yma	zen	f-t	up-	an'	le'
wov	xes	yag	yme	zer	h-w	w-u	ar'	ls'
wpo	xfo	yal	ymp	zes	ke-	y-t	at'	ne'
wra	xha	yan	ynd	zin	lf-	-ad	ay'	ng'
wre	xhi	yar	yon	zle	ll-	-by	'cl	nt'
wri	xho	ybe	you	zon	l-k	-ca	ct'	ny'
wro	xib	ybi	ype	zor	l-s	-da	c's	n's
wsh	xim	ybo	ypi	zsl	nd-	-du	dn'	n't
wsp	xin	yoh	ypo		nt-	-en	d's	ok'
wth	xio	yel	ypt		ow-	-ex	ek'	on'
wye	xis	yda	yri	ar-	o-c	-ha	en'	or'
	xle	yea	yse	ce-	o-d	-ic	er'	oy'
	xpa	yed	ysi	co-	o-o	-kn	es'	o'c
xac	xpe	yee	yst	dy-	o-w	-op	e's	re'
xam	xpi	yel	yth	d-p	p-t	-pi	ey'	rk'
xat	xpl	yer	yti	ee-	re-	-pr	ff'	rs'
xca	xpo	yes	ywa	e-e	r-b	-se	fs'	r's
xoe	xpr	yet	ywh	e-i	so-	-st	f's	sn's
xch	xte	yho	zye	e-p	st-	-to	g's	th'
xcl	xti	yie		e-u	te-	-up	ht'	ts'
xcu	xtr	yin		e-y	th-	-we	h's	t's
xec	xts	yla	zar	ft-	to-	-wh	ic'	ys'
xed	xtu	yle	zat	f-a	t-d	-ye	k's	ld'
xem		yli	zed	f-e	t-h			y's

Procedure 2. Classifying Sequences According to M's (Thousand Word Ranks)

The slips of paper used in compiling Table I, pages 15-22, were sorted into seven groups by the number on each slip denoting the frequency rank by M's. Each M group was arranged with each sequence and listed alphabetically. Tables II-A, II-B, II-C, II-D, II-E, II-F, II-G resulted. The frequencies of occurrence were tabulated for all the sequences in each M, but since these frequencies are misleading, these numbers and their discussion have been omitted from the final writing.

Findings 2

Table II-A, "Three-Letter Sequences Found in the First Thousand Rank (1-1003) of the Most Common Words, Arranged in Alphabetical Order," pages 26-29, lists the sequences found in the first M.

Rowe¹ found 1,277 different three-letter sequences in the first thousand words of Horn's A Basic Writing Vocabulary.² In this study based on Horn and Peterson's The Basic Vocabulary of Business Letters,³ 1,304 different three-letter sequences

¹Rowe, op. cit., p. 69

²Horn, A Basic Writing Vocabulary, op. cit.

³Horn and Peterson, The Basic Vocabulary of Business Letters, op. cit.

were found in the first M when business letters were used as the source of the material. The additional number in the present study may be accounted for by the inclusion of some business terms in the first M of the Horn-Peterson list that were not included in the first M of the Horn list.

The present study found 1,304 different sequences out of a total 4,009 sequences in the first M words as compared to 3,007 different sequences found in the total 7M words. Thus, 43.4 percent of the 3,007 different sequences used in the total 7M words are found in the first M.

In considering total sequences, this study does not mathematically consider the one- and two-letter sequences that are complete words. Yet there are 29 one- and two-letter words in the list of 7,029 words. The following 27 words were found within the first M:

a	do	it	or
am	go	me	so
an	he	my	to
as	I	no	up
at	if	of	us
be	in	oh	we
by	is	on	

"Ad" occurs as a single word in the fourth M. "Re" occurs as a single word in the fifth M. All of these sequences are met in the first two or the last two letters of three-letter sequences in the first M, with the exception of "by," "my," and "oh."

Tables II-B, II-C, II-D, II-E, II-F, II-G on pages 30-56 give the sequences for the second through the seventh M words. The tables for the second through the seventh M follow about the same pattern as the first M (Table II-A, pages 26-29).

The following chart is a summary of the total sequences and the different sequences in each M in Tables II-A through II-G:

<u>No. of Words</u>	<u>Position of Word</u>	<u>Total Sequences</u>	<u>Different Sequences¹</u>
First thousand	1-1003 words	4,009	1,304
Second thousand	1004-2003 words	4,928	1,494
Third thousand	2004-3004 words	5,330	1,592
Fourth thousand	3005-4087 words	5,885	1,730
Fifth thousand	4088-5226 words	6,388	1,819
Sixth thousand	5227-5992 words	4,425	1,545
Seventh thousand	5993-7029 words	<u>6,063</u>	1,842
TOTAL SEQUENCES		37,028	

¹ It was previously noted that there are only 3,007 different sequences in the total 7M words. This list of different sequences for each M is accurate but does not eliminate duplicate sequences in the M's. Procedure 3 to follow will clarify this.

TABLE II-A

THREE-LETTER SEQUENCES FOUND IN FIRST THOUSAND RANK (1-1003) OF
MOST COMMON WORDS, ARRANGED IN ALPHABETICAL ORDER

Total Number of Sequences. . . .4,009

Number of Different Sequences. .1,304

abl	alu	asi	ber	cei	ctl	doe	eem	end
abo	alw	ask	bes	cel	cto	doi	een	ene
abs	ame	asm	bet	cem	cul	dol	eep	eng
acc	ami	aso	big	cen	cum	don	eet	eni
ace	amo	ass	bil	cep	cur	dou	efe	enc
ach	amp	ast	bit	cer	cus	dow	eff	ens
aci	ana	asu	bje	ces	cut	doz	efi	ent
ack	anc	ata	bla	cha	dan	dre	efo	env
act	and	ate	ble	che	car	dra	eft	eop
add	ang	ati	bli	chi	dat	duc	efu	epa
ade	ani	ath	blu	cho	day	due	ega	eph
adi	ank	atl	bly	cia	ddi	dum	ege	epi
adj	ann	att	boa	cid	ddr	dup	egi	epo
adv	ano	atu	bon	cie	dea	dur	egr	epr
ady	ans	aug	boo	cin	dec	dva	egu	ept
aft	ant	aus	bot	cir	ded	dve	eig	equ
aga	anu	ava	bou	cis	dee	dvi	ein	era
age	anx	ave	bov	cit	def	eac	eip	erc
ago	any	avi	box	cka	del	ead	eir	erd
agr	ape	avo	boy	cke	dem	eal	eit	ere
aid	app	avy	bri	cki	den	ean	eiv	erh
ail	apr	awa	bso	ckn	dep	ear	eks	eri
aim	aps	aya	bta	cks	der	eas	ela	erl
ain	ara	ayi	bte	cla	des	eat	eld	erm
air	arc	aym	bui	cle	det	eav	ele	ern
ais	ard	ays	bul	olo	dge	eca	elf	err
ait	are	bab	bus	olu	dgm	ece	eli	ers
ake	arg	bac	but	coa	dia	eci	ell	ert
aki	ari	bad	buy	col	dic	eck	elo	erv
ala	ark	bal	cal	com	did	eco	elp	ery
ale	arl	ban	cam	con	dif	ect	elv	esc
alf	arm	bas	can	cop	din	ecu	ely	esd
alk	arn	bec	car	cor	dir	ede	ema	ese
ali	aro	bed	cas	cos	dis	edg	emb	esi
all	arr	bee	cat	cou	dit	edi	eme	esm
alm	ars	bef	cau	cov	div	edl	emi	esp
alo	art	beg	cca	cre	dju	edu	emo	ess
alr	ary	bei	coe	cri	dle	eed	ems	est
als	ase	bel	cco	cte	dli	eek	ena	esu
alt	ash	ben	ced	cti	dly	eel	enc	esy

TABLE II-A (Continued)

eta	fun	hee	ide	iod	ket	lon	mmu	nfo
ete	fur	hei	iec	ion	kin	leo	mom	nge
eth	fut	hel	ied	iou	kle	lop	mon	ngl
eti	gag	hem	iel	ipm	kno	lor	mor	ngs
ett	gai	hen	ien	ipp	lab	los	mos	ngt
etu	gan	her	ies	ipt	lac	lot	mou	nic
etw	gar	hes	iev	irc	lad	low	mpa	nie
eve	gav	het	iew	ird	lai	lre	mpe	nig
evi	ged	hey	ife	ire	lan	lrc	mpl	nin
ewh	gem	hic	iff	irm	lar	lso	mpo	nic
ewi	gen	hig	ifi	irs	las	lth	mpt	nis
exa	ger	hil	ify	iry	lat	lts	mst	nit
exc	ges	him	ige	isa	law	lud	muc	niz
exp	get	hin	igh	isc	lay	lue	mun	nki
ext	gge	hip	igi	ise	ldi	lum	mus	nks
eye	ghe	hir	ign	isf	lea	lut	nab	nle
fac	ght	his	igu	ish	leo	lve	nag	nly
fai	gin	hit	ike	isi	led	lwa	nal	nne
fal	giv	hod	ila	iss	lef	lyi	nam	nni
far	gla	hol	ild	ist	leg	mao	nan	nno
fat	gle	hom	ile	ita	lem	mad	nas	nnu
fav	gly	hon	ili	ite	len	mai	nat	not
fec	gme	hoo	ill	ith	lep	mak	ncc	nou
fee	gne	hop	ilr	iti	les	mal	nci	nov
fer	goi	hor	ils	itl	let	man	ncl	now
few	goo	hos	ily	itc	lib	mar	ncc	nqu
ffe	gon	hot	ima	its	lic	mat	ncr	nse
ffi	got	hou	ime	itt	lie	may	nda	nsi
ffo	gra	how	imi	itu	lif	mbe	nde	nsp
fic	gre	hre	imm	ity	lig	mea	ndi	nst
fid	gro	hro	imp	ive	lik	med	ndl	nsu
fie	gth	hur	ina	ivi	lin	mee	ndo	nsw
fig	gul	ial	inc	iza	lis	mem	nds	nta
fil	gur	iat	ind	ize	lit	men	ndu	nte
fin	gus	ibe	ine	jen	liv	mer	nea	nth
fir	had	ibl	inf	jec	liz	mes	nec	nti
fit	hal	ibu	ing	job	lla	met	ned	ntl
flo	han	ica	ini	jud	lle	mew	nee	nto
fol	hap	ice	ink	jul	lli	mig	nef	ntr
for	har	ich	inl	jun	llo	mil	ner	nts
fou	has	ici	inn	jus	lls	min	nes	nty
fre	hat	icl	inq	kag	lly	mis	nev	nua
fri	hav	ict	ins	ked	lno	mit	new	nue
fro	hea	icu	int	kee	lea	mme	nex	num
fte	hec	icy	inu	ken	loc	mmi	ney	nve
ful	hed	ida	inv	kes	log	mmo	nfi	nvo

TABLE II-A (Continued)

nxi	onv	owl	pur	rie	rty	sir	tao	tor
nyt	ood	own	put	rig	ruc	sis	tag	tot
oad	ook	ows	qua	ril	rul	sit	tai	tou
oal	ool	oze	que	rin	run	siz	tak	tow
oan	oom	pac	qui	ric	rus	ske	tal	tra
oar	oon	pag	quo	rip	rve	ski	tam	tre
oat	oor	pai	rab	rit	rvi	sma	tan	tri
oba	ope	pan	rac	riv	rwa	smu	tar	tro
obe	opi	pap	rad	rke	ryt	soc	tat	tru
obl	opl	par	raf	rki	sab	sol	tea	try
obt	opo	pas	rag	rli	sai	som	ted	tsi
oca	opp	pay	rai	rly	sal	son	tee	tta
occ	opy	pea	ral	rma	sam	soo	tel	tte
oci	ora	pec	ram	rme	sar	sor	tem	tti
ock	ord	ped	ran	rmi	sat	spe	ten	ttl
oct	ore	pen	rat	rms	sav	spo	ter	tto
oda	org	peo	rce	rne	saw	spr	tes	tua
ods	ori	per	rch	rni	say	ssa	tev	tud
oes	ork	pho	rcu	roa	sch	sse	tga	tue
off	orm	pie	rda	rob	sco	ssf	tha	tun
oge	orn	pin	rde	rom	scr	ssi	the	tur
oic	orr	pla	rdi	ron	sda	ssu	thi	twe
oin	ort	ple	rds	roc	sea	ssu	tho	two
oki	orw	pli	rea	rop	sec	sta	thr	tyl
okl	ory	ply	rec	ror	sed	ste	ths	ual
oks	ose	pme	red	rot	see	sti	thu	uan
old	osi	poi	ree	rou	sel	stm	tio	uar
ole	oss	pol	ref	rov	sen	sto	tif	uat
oli	ost	pon	reg	rpo	sep	str	til	ubj
oll	ota	por	rei	rra	ser	sts	tim	ubl
olc	ote	pos	rel	rre	ses	stu	tin	ubt
olu	oth	pow	rem	rri	set	sty	tio	uoc
ome	oti	ppa	ren	rro	sev	sua	tir	uch
omi	ots	ppe	rep	rry	sfa	sub	tis	uct
omm	oub	ppi	req	rsd	sfi	suc	tit	ude
omp	ouc	ppl	res	rse	sfu	sue	tiv	udg
ona	oug	ppø	ret	rso	sha	suf	tle	udi
onc	oul	ppr	rev	rst	she	sug	tly	udy
ond	oun	pra	rew	rta	shi	sui	tme	ued
one	our	pre	rga	rte	sho	sul	tob	ues
onf	ous	pri	rge	rtg	sib	sum	toc	uff
ong	out	pro	rha	rth	sid	sun	tod	ugg
onl	ova	pte	ria	rti	sig	sup	tog	ugh
onn	ove	pti	rib	rtm	sim	sur	tol	ugu
ons	owe	ptl	ric	rts	sin	swe	tom	uil
ont	owi	pub	rid	rtu	sio	sys	too	uip

TABLE II-A (Continued)

uir	une	urn	utu	vie	wed	wil	xch	yme
uit	uni	urp	vai	vin	wee	win	xic	you
ula	unl	urr	val	vic	wei	wir	xpe	yst
uld	unt	urs	van	vis	wel	wis	xpl	yth
ull	uot	urt	var	voi	wen	wit	xpr	zat
ult	upl	use	ved	vol	wer	wle	xte	zen
uly	upo	ush	vel	vor	wes	wor	xtr	zes
umb	upp	usi	vem	wai	wev	wou	yab	n't
ume	ura	ust	ven	wan	wha	wri	yea	on'
umm	urc	usu	ver	war	whe	wro	yes	
ums	urd	uti	ves	was	whi	xac	yet	co-
una	ure	ute	vic	wat	who	xam	yin	o-o
und	uri	uts	vid	way	why	xce	yle	-op

TABLE II-B

THREE-LETTER SEQUENCES FOUND IN SECOND THOUSAND RANK (1,004-2,003)
OF MOST COMMON WORDS, ARRANGED IN ALPHABETICAL ORDER

Total Number of Sequences. . . . 4,928

Number of Different Sequences. . 1,494

abi	alt	ase	bea	buy	cle	del	duc	ees
abl	alu	ash	bec	cab	cli	dem	due	eet
abo	aly	asi	bed	cal	clo	den	dul	efe
abs	ama	aso	beg	cam	clu	dep	dva	eff
acc	ame	ass	beh	can	coa	der	dvi	efi
ace	ami	ast	bel	cap	cof	des	eab	efr
ach	amp	asu	ber	car	col	det	eac	efu
aci	ana	asy	bes	cas	com	dev	ead	ege
ack	anc	ata	bet	cat	con	dge	eak	egg
acq	and	atc	bey	caw	cor	dgi	eal	egi
acr	ane	ate	bil	cce	cot	dgm	eam	egr
act	ang	ath	bin	cco	cou	dic	ean	egu
add	ani	ati	bje	ccu	cow	did	eap	ehi
ade	ank	atm	bla	ced	cqu	die	ear	eho
adi	ann	ato	ble	cee	cre	dif	eas	eig
adj	ans	atr	bli	cei	cri	dil	eat	ein
adl	ant	ats	blo	cel	cro	din	eau	eip
ado	anu	att	bly	cen	cry	dio	ebr	eit
adv	any	atu	bmi	cep	cte	dir	ebt	ela
afe	apa	aul	bod	cer	ctf	dis	eby	elc
aff	ape	aus	boi	ces	cti	dit	eca	ele
aft	aph	aut	bon	cha	ctl	diu	ece	elf
age	app	ave	bor	che	cto	div	eci	eli
agr	ara	avi	bot	chi	ctr	dju	eco	ell
ags	arb	avo	bou	cho	cts	dle	ecr	elo
ahc	arc	awa	box	chu	ctu	dly	ect	elp
aid	ard	awi	boy	cia	cul	dne	ecu	els
aig	are	awn	bra	cie	cur	doc	ede	elt
ail	arg	axe	bri	cif	cus	doe	edg	elv
aim	ari	aye	bro	cil	out	dog	edi	ely
ain	ark	ayi	bru	cin	dai	dol	edn	ema
air	arl	ays	bsc	cip	dam	doo	eds	emb
ait	arm	bab	bse	cir	dat	dop	edu	eme
ake	arn	bad	bst	cit	day	dou	eea	emi
ala	arr	bag	bta	cka	dde	dow	eed	emo
ale	ars	ban	bte	cke	ddl	dra	eei	emp
alk	art	bar	btl	cki	dea	dre	eel	ems
all	ary	bas	bui	ckl	deb	dro	eem	enc
alo	asa	bat	bur	ckn	ded	dry	een	end
als	asc	bbe	bus	cla	def	dua	EEP	ene

TABLE II-B (Continued)

eng	eth	fix	gua	iab	ilw	ite	leg	lur
eni	eti	fla	gue	ial	ily	ith	lem	lus
enj	eto	flo	gul	ian	ima	iti	len	lve
ens	ets	fly	gur	iar	ime	itl	ler	lwa
ent	ett	fol	hai	iat	imi	its	les	lyi
enu	etu	foc	han	ibe	imp	itt	let	lys
env	ety	for	hap	ibi	ims	itu	lia	mac
eon	eve	fou	har	ibl	imu	ity	lib	mad
epa	evi	fra	has	ibr	ina	ium	lic	mag
epe	ewa	fre	hau	ica	inc	iva	lie	mai
epi	ewh	fri	hav	ice	ind	ive	lig	mal
epl	ews	fru	hay	ici	ine	ivi	lik	man
epo	exa	fte	hea	ick	inf	ixe	lim	mar
epr	exc	fts	hed	icl	ing	ize	lin	mat
eps	exe	ful	hee	ict	ini	jec	lip	may
ept	exh	fun	hel	icu	ink	joi	lis	mbe
equ	exp	fur	hem	idd	inq	jou	lit	mbi
era	ext	fus	hen	ide	ins	joy	liv	mea
erc	eyo	gal	her	idi	int	jud	lke	med
erd	eys	gar	hes	idu	inu	jus	lki	mee
ere	fac	gas	hie	ied	inv	kag	lla	mel
erf	fai	gat	hig	ied	ion	ked	lle	mem
eri	fam	ged	hil	ief	ior	kee	lli	men
erk	far	gem	him	ien	iou	kel	llo	mec
erl	fas	gen	hin	ier	ipa	ken	lls	mer
erm	fat	ger	his	ies	ipe	kep	lly	mes
ern	fau	ges	hle	iet	ipp	kes	loa	met
err	fav	get	hly	iew	ipt	ket	loc	mid
ers	fea	ghe	hoe	ife	ira	kid	log	mig
ert	feb	ghl	hod	iff	ire	kin	lon	mil
erv	fec	gho	hog	ifi	iri	kly	loo	min
erw	fed	ght	hol	ify	irl	kno	lop	mis
esa	fee	gin	hon	iga	irm	lab	lor	mit
esc	fel	gla	hoo	ige	iro	lac	los	miu
esd	fer	gly	hop	igh	irs	lad	lot	miz
ese	ffa	gme	hor	igi	isa	lai	low	mme
esi	ffe	gna	hos	ign	isc	lan	loy	mmu
esk	ffi	gne	hot	igu	ise	lar	lpf	mob
esm	ffo	gnm	hou	ike	isf	las	lse	mod
esn	fic	goe	how	ild	ish	lat	lth	mon
esp	fie	gol	hro	ile	isk	lay	ltr	mor
ess	fig	got	hte	ili	isp	lec	lty	mot
est	fil	gov	htl	ilk	iss	ldr	lua	mov
eta	fin	gra	hty	ill	ist	lea	lub	mpa
etc	fir	gre	hur	ilt	isu	lec	lud	mpe
ete	fit	gro	hus	ilu	ita	led	lum	mph

TABLE II-B (Continued)

mpl	ngi	nvo	omp	ote	pho	rag	rig	rre
mpo	ngl	nyo	ona	oth	pic	rai	rin	rri
mpr	ngs	oad	onc	oti	pin	ral	rio	rro
mps	nic	oat	ond	oto	pip	ram	rip	rry
mpt	nie	oba	one	ott	pit	ran	ris	rsa
mse	nim	obb	onf	oub	pla	rap	rit	rse
muc	nin	obi	ong	ouc	ple	rar	riv	rsi
mum	nio	obj	onn	oug	pli	rat	riz	rso
mun	nis	obl	ons	oul	plo	raw	rke	rst
mus	nit	obs	ont	oun	plu	ray	rks	rta
mut	niv	obt	onv	oup	ply	rbo	rld	rte
mys	njo	oca	ood	our	poi	rce	rli	rth
nab	nki	occ	oof	ous	pok	roh	rlo	rti
nag	nks	oce	ook	out	pon	rei	rly	rtl
nal	nme	oci	ool	ove	poo	rcu	rma	rtm
nam	nne	ock	oon	ovi	pop	rde	rme	rts
nar	nni	oct	oor	owa	por	rdi	rmi	rtu
nat	non	ocu	oos	owe	pos	rdl	rmo	rua
nce	noo	ode	oot	owi	pou	rds	rms	rub
nch	nor	ods	ope	owl	ppe	rdu	rna	ruc
nci	not	odu	opo	own	ppl	rea	rne	rue
ncl	now	ody	opp	ows	ppo	reb	rni	rug
nco	npa	oes	opt	oxe	ppr	rec	rnm	rui
ncr	nqu	off	opu	oxi	ppy	red	rno	rul
ncy	nsa	ofi	ora	oye	pra	ree	rns	run
nda	nse	ofc	orc	oys	pre	ref	roa	rve
nde	nsf	oft	ord	pac	pri	reg	rob	rvi
ndi	nsi	ogr	ore	pai	pro	reh	roc	rwi
ndn	nsp	ogu	ori	pag	pta	rei	rod	ryi
ndo	nst	oid	ork	pal	pte	rel	rof	sac
nds	nus	oil	orl	pam	pti	rem	rog	saf
nea	nsw	cin	orm	pan	pts	ren	rok	sag
nec	nta	oke	orn	pap	pty	reo	rol	sal
ned	nte	oks	oro	par	pub	rep	rom	san
nee	nth	old	orp	pas	pul	req	ron	sap
nei	nti	ole	orr	pat	pum	rer	roo	sar
nen	ntl	oll	ors	pea	pur	res	rop	sat
ner	nto	olo	ort	pec	put	ret	ros	sav
nes	ntr	ols	ory	ped	qua	rev	rot	say
net	nts	olu	ose	pel	que	fre	rou	sca
new	nue	olv	osi	pen	qui	rge	rov	sce
ney	nuf	omb	osp	per	quo	rgi	row	sch
nfe	num	ome	oss	pes	rab	ria	rox	scr
nfi	nus	omi	ost	pet	rac	rib	rpo	scu
nfo	nve	omm	osu	pfu	rad	ric	rpr	sda
nge	nvi	omo	ota	phl	raf	rie	rra	sec

TABLE II-B (Continued)

sed	sme	tac	tim	tua	uit	usi	voi	xol
see	soc	tag	tin	tud	ula	usl	vol	xec
sel	soi	tai	tio	tun	ule	uss	vor	xed
sen	som	tak	tis	tur	ull	ust	vou	xes
sep	son	tal	tit	tut	ult	usu	wai	xha
seq	sor	tam	tiv	twi	uly	usy	wal	xim
ser	sou	tan	tle	typ	umb	ute	wan	xpe
ses	spa	tar	tli	uab	umn	utf	war	xpl
set	spe	tat	tly	uai	ump	uth	was	xpr
sew	spi	tax	tme	ual	una	uti	wat	xte
sfa	spl	tch	tof	uan	und	utl	way	xtr
sfe	spo	tea	tog	uar	unf	uto	wea	yar
sfy	ssa	tec	tom	ubb	ung	uts	wed	yea
sha	sse	ted	ton	ubl	uni	utt	wel	yed
she	ssi	tee	too	ubm	unn	utu	wer	yee
shi	sso	tel	top	ubs	unp	uyi	wes	yel
sho	ssu	tem	tor	ubt	uns	val	wet	yin
sib	sta	ten	tov	uca	unt	van	whe	yon
sic	ste	tep	tow	uce	unu	var	who	you
sid	sti	ter	tra	uch	uot	ved	wic	ype
sig	stm	tes	tre	uck	upe	vel	wid	yse
sil	sto	tfi	tri	uct	upl	vem	wif	ysi
sim	str	tfu	tro	ude	upp	ven	win	zed
sin	sts	the	tru	udg	ura	ver	wis	co-
sio	stu	thi	try	ued	urc	ves	wle	o-o
sir	sua	thl	tse	uen	ure	vic	wms	-op
sis	sub	tho	tst	ues	urg	vid	wom	ar'
sit	sug	thr	tta	ufa	uri	vie	won	en'
siv	sui	thu	tte	uga	urn	vil	wor	n't
ske	sun	tia	tti	ugh	urp	vin	wro	ny'
sli	sup	tic	ttil	uic	urr	vio	wsp	on'
slo	sur	tie	tto	uil	urs	vis	xac	r's
sly	swe	tif	ttr	uip	urt	vis	xam	sn'
sma	tab	tig	tty	uir	use	vit	xce	y's

TABLE II-C (Continued)

emo	eta	fin	gly	hoi	iew	ipp	jud	lio
emp	ete	fir	gna	hol	iff	ips	jun	lid
ena	eth	fit	gne	hom	ifi	ipt	jus	lie
enc	eti	fix	gni	hon	ifo	ira	kee	lig
end	eto	flo	gns	hoo	ifu	irc	ked	lik
ene	ets	flu	got	hop	ify	ire	ken	lim
eng	ett	fol	gra	hor	iga	iri	ker	lin
eni	ety	foo	gre	hos	ige	irl	ket	lip
enj	eva	for	gri	hou	igh	irm	kew	lis
ens	eve	fou	gro	hri	ign	irs	kho	lit
ent	evi	fra	gth	hte	igu	iry	kin	liv
enu	evo	fre	gua	hti	ike	isa	kit	lla
eof	ewa	fri	gue	hts	ild	isc	kke	lle
ecu	ewe	fry	gum	hus	ile	ise	kle	lli
epa	ewh	fse	gun	hwa	ili	ish	kly	lln
epe	ewi	fte	gur	hwe	ill	isi	kne	llo
epi	ewr	fue	had	hys	ilr	isl	kno	lls
epl	ews	ful	hai	iab	ils	ism	kru	llu
epo	exa	fun	hal	ial	ilv	isn	lab	lly
epr	exc	fur	ham	iam	ily	iso	lac	lne
ept	exe	fyi	han	ias	ima	isp	lad	loa
epu	exh	gag	hap	iat	imb	iss	lai	loc
equ	exi	gai	har	ibe	ime	ist	lak	log
era	exp	gal	has	ibi	imi	ita	lam	lon
erc	ext	gam	hat	ibu	imn	itc	lan	loo
ere	fac	gan	hau	ica	imo	ite	lar	lop
erf	fal	gar	hdr	ice	imp	ith	las	lor
eri	fan	gas	hea	ici	imu	iti	lat	los
erk	far	gat	hed	ick	ina	ito	lau	lot
erl	fea	gay	hee	ics	inc	its	law	lou
erm	fec	gaz	hei	ict	ind	itt	lay	low
ern	fed	ged	hel	icu	ine	itu	lde	loy
ero	fee	gel	hem	ida	inf	ity	ldr	lpe
err	fel	gen	hen	ide	ing	iva	lds	lpi
ers	fen	ger	her	idg	ini	ive	lea	lps
ert	fer	ges	hes	idl	ink	ivi	lec	lro
erv	fes	get	hib	idn	inl	ixe	led	lti
erw	fet	gge	hic	ids	inn	ixt	leg	lto
ery	ffe	ghi	hig	idt	inq	iza	lem	lts
esc	ffi	ght	hil	ied	ins	ize	len	ltu
ese	ffs	ghw	hin	ief	int	jar	ler	lua
esh	fib	gic	hip	ien	inu	jec	les	lud
esi	fio	gin	hit	ier	inv	job	let	lue
esp	fid	gir	hle	ies	ion	joi	lev	lus
ess	fie	gis	hme	iet	ior	jor	ley	lva
est	fig	gle	hog	iev	ipa	joy	lia	lve

TABLE II-C (Continued)

lyi	mpo	nfi	nti	oin	opu	pac	ppl	ree
mac	mpr	nfl	ntl	oje	ora	pad	ppo	ref
mag	mps	nfo	ntm	oke	orc	pal	ppr	reg
mai	mpt	nga	ntr	okk	ord	pam	pre	rei
maj	mud	nge	nts	okl	ore	pan	pri	rel
mal	mum	ngi	nty	ole	org	par	pro	rem
man	mun	ngl	nua	old	ori	pas	psy	ren
map	nab	ngn	nue	oli	ork	pat	ptc	rec
mar	nac	ngr	nuf	oll	orm	pay	pte	rep
mas	nag	ngs	nui	olo	orn	pea	pti	req
mat	nal	ngt	num	ols	oro	pec	ptn	rer
max	nap	ngu	nus	olt	orp	ped	pub	res
mbe	nar	nic	nut	olv	orr	pee	pul	ret
mbi	nat	nif	nve	oma	ors	pen	pup	rev
mbl	nav	nig	nvi	omb	ort	per	pur	rfa
mea	nce	nin	nvo	ome	ory	pes	pus	rfe
meb	nch	nio	nyi	omi	ose	pew	put	rfu
mec	ncl	nit	nyw	omm	osi	pha	qua	rga
med	nol	niz	oad	omp	osp	phi	que	rge
mem	nco	njo	oar	oms	oss	phl	qui	rgi
men	ner	nkl	oas	omy	ost	phy	rac	rgu
mer	not	nkr	oat	ona	osu	pic	rag	ria
mes	neu	nks	obj	onc	ote	pid	rai	rib
met	ney	nly	obl	ond	oth	pig	ral	ric
mew	nda	nma	obs	one	oti	pil	ram	rid
mic	nde	nne	oca	onf	ott	pin	ran	rie
mid	ndi	nno	occ	ong	ouc	pir	rap	rif
mil	ndl	nnu	oce	oni	oug	pit	rar	rig
min	ndo	nom	oci	onn	oun	pla	ras	ril
mis	ndp	noo	ock	ono	oup	ple	rat	rim
mit	nds	nor	ocu	ons	our	pli	rav	rin
mix	ndu	not	oda	ont	ous	plo	raw	ric
mma	ndy	nou	odd	onu	out	plu	ray	rip
mmc	nea	now	odu	onv	ova	ply	rce	ris
mmi	nec	noy	ody	ood	ove	pme	rch	rit
mmo	ned	nqu	oev	ook	ovi	poc	rcu	riv
mmu	nee	nsa	ofe	ool	owa	poi	rde	rke
mod	nef	nse	off	oom	owi	pol	rdi	rki
mot	neg	nsf	oft	oon	own	pon	rdl	rks
mou	nen	nsi	oge	oos	ows	pop	rdo	rlo
mov	neo	nsp	ogn	ope	owt	por	rds	rls
mpa	ner	nst	ogr	opi	oxf	pos	rdw	rly
mpe	nes	nsu	ogs	opm	oya	pot	rea	rma
mph	nev	nta	ogy	opo	oye	ppa	reb	rme
mpi	new	nre	oic	opp	oym	ppe	rec	rmi
mpl	nfe	nth	oil	ops	pab	ppi	red	rms

TABLE II-C (Continued)

rmy	rus	sif	sub	thu	tuf	umi	ved	xed
rna	rva	sig	suc	thw	tul	una	vel	xfo
rne	rve	sil	sue	thy	tun	unc	vem	xhi
rni	rvi	sim	suf	tia	tur	und	ven	xim
rns	rwe	sin	sug	tic	tus	unf	ver	xis
roa	ryb	sio	sui	tie	tut	unk	ves	xpe
roc	ryo	sis	sul	tif	tyl	uni	vey	xpi
rod	sad	sit	sum	tig	typ	unt	via	xpl
rof	saf	siv	sup	tim	uag	upi	vid	xpo
rog	san	siz	sur	tin	ual	upl	vie	xtu
roj	sap	sks	swe	tio	uar	upo	vin	yan
rol	sar	sla	swi	tip	uat	upp	vis	ybo
rom	sas	sli	syc	tir	ube	upr	vit	yeh
ron	sat	sno	tab	tis	ubj	upt	voi	yed
roo	sav	soc	tac	tit	ubl	ura	vol	yee
rop	sce	soe	tag	tiv	ubm	urc	vor	yin
ror	sch	sof	tai	tle	ubs	ure	vot	yle
ros	sci	sol	tak	tly	ucc	urf	vou	yli
rot	sco	som	tal	tma	uce	urg	wal	yme
rou	scr	son	tan	tme	uch	uri	war	yon
rov	scu	soc	tar	tne	uci	urn	way	
row	sea	sor	tat	toc	uck	urp	wea	you
roy	sec	sou	tax	tod	uct	urr	wed	ype
rpl	sed	spe	tay	tog	ude	urs	wee	ysi
rpo	see	spi	tch	tom	udg	urt	wei	ywa
rre	sef	spl	tcy	ton	udi	urv	wes	zat
rri	seh	spo	tea	too	udy	usa	wha	zed
rro	sel	spr	tec	top	ued	use	whe	
rse	sem	squ	ted	tor	uel	ush	wid	zin
rsh	sen	ssa	tee	tow	uen	usi	wil	
rso	seq	sse	tef	toy	ues	uss	win	an'
rta	ser	ssf	tel	tra	ufa	ust	wir	ay'
rte	ses	ssi	tem	tre	uff	uta	wis	dn'
rth	set	sso	ten	tri	ugg	ute	wit	
rti	sfe	ssu	teo	tro	ugh	utf	wne	en'
rtm	sfu	sta	tep	tru	uie	uth	wom	er'
rto	sha	ste	ter	try	uil	uti	won	
rtu	she	sti	tes	tso	uin	uto	woo	n's
rub	shi	stl	tex	tta	uir	uts	woo	
ruc	shm	stm	tfi	tte	uis	utt	wor	n't
rue	shn	sto	tfd	tte	ula	uty	wri	
rul	sib	sto	thd	ttd	ule	vac	wth	o'c
rum	sic	str	the	ttd	uli	vai	xam	r's
run	sic	sts	thi	yto	ull	val	xce	sn'
run	sid	stu	tho	tub	ult	van	xch	y's
rup	sie	sty	ths	tud	ume	vat	xec	'ol

TABLE II-D

THREE-LETTER SEQUENCES FOUND IN FOURTH THOUSAND RANK (3,005-4,087)
OF MOST COMMON WORDS, ARRANGED IN ALPHABETICAL ORDER

Total Number of Sequences. . . .5,885

Number of Different Sequences. .1,730

abe	air	apl	aul	bli	ccu	coi	def	dso
abi	ais	apo	aut	blo	cea	col	del	dua
abl	ait	app	ave	bly	ced	com	den	duc
abo	aka	aps	avi	boa	cee	con	dep	due
abr	ake	apt	avo	bod	cei	coo	deq	dul
abs	aki	ara	awe	bol	cen	cop	der	dum
aca	aks	arc	awi	bon	cep	cor	des	dup
acc	ala	ard	awn	boo	cer	cos	det	dur
ace	ale	are	aya	bor	ces	cou	dev	dva
ach	alf	arf	ayb	bot	cha	cov	dex	dve
aci	ali	arg	aye	bow	che	cqu	dge	dvi
ack	alk	ari	ayi	boy	chi	cra	dha	eab
acq	all	ark	aym	bra	chm	cre	dia	ead
acr	aln	arm	ayo	bre	chn	cri	dic	eaf
act	als	arn	ays	bri	cho	cro	die	eag
acu	alt	arr	azi	bro	chr	cru	dif	eak
ada	alv	ars	bab	bsc	cfa	cta	dil	eal
add	ame	art	bac	bse	cid	cte	din	eam
ade	ami	ary	bag	bso	cie	cti	dir	ean
adi	amo	ase	bak	bst	cif	cto	dis	eap
adj	ams	ash	bal	bta	cig	cts	dit	ear
adm	ana	asi	ban	buc	cil	ctu	div	eas
ado	anc	ask	bar	bud	cim	cul	dju	eat
ads	and	asm	bat	bui	cin	cum	dle	eau
adu	ane	aso	bbe	bul	cip	oup	dly	eav
adv	ang	ass	bbi	bun	cir	cur	dme	eba
ady	ani	ast	bbo	bur	cis	cus	dmi	ebt
aff	ank	asu	bea	but	cit	cyl	doc	eby
aft	ann	atc	bed	buy	cke	dab	dom	ece
aga	ano	ate	beg	cab	ckg	dan	don	ech
age	anq	atf	bel	cal	cki	dap	dop	eci
agg	ans	ath	ben	can	ckn	dar	dor	ecl
agi	ant	ati	ber	cap	ckr	dat	dou	eco
ago	anv	ato	bey	car	cks	dau	dra	ecr
agr	any	atr	bil	cas	cla	day	dre	ect
ags	anw	ats	bin	cat	cle	ddr	dri	ecu
aho	apa	att	bir	cau	cli	dea	dro	eda
ail	ape	atu	bit	cea	clo	deb	dru	ede
aim	aph	aud	bla	ceé	cod	dec	dry	edg
ain	api	aug	ble	cco	cog	ded	dsh	edi

TABLE II-D (Continued)

edl	emo	esi	fil	glo	hle	ien	ion	ize
eds	emp	eso	fin	gna	hme	ier	iou	izi
edu	ems	esp	fir	gne	hni	ies	ior	jaw
eec	ena	ess	fit	gni	hoe	ieu	ipe	jew
eed	enc	est	fix	gnm	hog	iev	ipl	job
eek	end	esu	fla	gno	hoi	iew	ipp	joi
eel	ene	eta	fle	gns	hol	iff	ipr	joy
een	enf	etc	flo	gol	hon	ifi	ips	jur
eep	eng	ete	fly	gon	hoo	ifl	ipt	jus
eet	eni	eth	fol	got	hop	ift	irc	juv
eev	enj	eti	for	gov	hor	ify	ire	kab
eef	ens	ets	fou	gra	hos	iga	iri	kag
efe	ent	ett	fre	gre	hot	ige	irm	kee
eff	eon	eum	fri	gri	hou	igh	irn	kel
efi	eor	eva	fru	gro	hri	igi	irr	ker
efl	eou	eve	fte	gui	hte	ign	irs	kes
efu	eov	evi	ful	gul	hun	ike	irt	ket
ega	epa	evo	fun	hab	hus	ild	iru	key
ege	epe	ewe	fus	haf	hwe	ile	isa	kgr
egg	eph	ewi	fyi	han	iab	ili	isc	kin
egi	epl	ews	gag	har	iag	ill	ise	kir
egl	epo	exa	gan	has	ial	ils	ish	kke
ego	epr	exc	gar	hat	ian	ily	isi	kle
egr	eps	exe	gat	hau	iar	ima	isl	kma
egu	ept	exh	gau	hbo	ias	imb	ism	kne
ehe	equ	exi	gaz	hoo	iat	ime	iso	kni
eig	era	exp	gea	hdr	ibb	imi	isp	kou
eim	erc	ext	ged	hea	ibe	imm	iss	kra
ein	ere	eya	gem	hed	ibi	imo	ist	kru
eip	erf	eye	gen	hee	ibl	imp	isu	lab
eki	erg	eys	geo	hel	ibu	ims	ita	lac
ela	eri	fab	ger	hem	ica	ina	ite	lad
eld	erl	fac	ges	hen	ice	inc	ith	lag
ele	erm	fai	get	hec	ich	ind	iti	lai
elf	ern	fal	gga	her	ici	ine	itl	lam
eli	ero	fam	gge	hes	ick	inf	itn	lan
ell	erp	far	ggs	hev	ics	ing	ito	lap
elr	err	fav	ghb	hhe	igt	ini	its	lar
els	ers	fea	ght	hho	ieu	inj	itt	las
elt	ert	fec	gic	hib	ida	ink	itu	lat
elv	erv	fel	gif	hic	ide	inl	ity	lay
ely	erw	fer	gin	hil	idi	ino	ium	lde
ema	ery	ffe	gio	hin	idu	ins	ive	ldi
emb	esc	ffi	gis	hip	ied	int	ivi	ldm
eme	ese	fic	gla	hir	ief	inu	ivo	ldn
emi	esk	fie	gle	hit	iel	inv	ixt	ldo

TABLE II-D (Continued)

lds	lot	mly	ndi	nne	oad	olu	ory	pet
lea	lov	mna	ndm	nno	oan	olv	osa	phi
lec	low	mme	ndo	nnu	oap	ome	ose	pho
led	lry	mmi	ndr	nol	oat	omi	osi	phs
lee	lse	mmn	nds	nom	oba	omm	osp	pia
leg	lte	mno	ndu	non	obb	omo	oss	pic
lem	lth	mmu	ndy	nor	obe	omp	ost	pid
len	lti	mns	nec	not	obs	oms	ota	pil
lep	lts	mob	ned	ncu	obt	ona	ote	pin
ler	ltu	mod	nee	nov	oca	ond	oth	pip
les	lty	mon	nef	npa	oco	one	oti	pir
let	luc	moo	neg	nqu	oce	onf	otm	pit
leu	lum	mor	nei	nre	ock	ong	oto	pla
lex	lun	mos	nel	nsa	oco	onn	ott	ple
ley	lus	mot	nen	nse	oct	ono	oub	pli
lia	lut	mou	ner	nsf	ocu	onp	oul	plu
lic	lva	mov	nes	nsh	ode	ons	oun	poi
lid	lve	mpa	new	nsi	odi	ont	oup	pol
lie	lvi	mpe	nfa	nsm	ods	onv	our	pon
lif	lye	mpl	nfe	nso	odu	ony	ous	por
lig	mag	mpo	nfi	nsp	ody	onz	out	pos
lik	mah	mpr	nfo	nst	oes	ood	ove	pot
lim	mai	mps	nfu	nsu	oef	oof	ovi	pou
lin	mak	mpt	nga	nta	off	ook	owd	pow
lip	man	msh	nge	nte	ofi	ocl	owe	ppa
lis	map	mul	ngl	nth	oga	ocr	own	ppe
lit	mar	mus	ngr	nti	ogi	oot	ows	ppi
liv	mas	mut	ngs	ntl	ogn	ope	oyi	ppl
liz	mat	nab	nic	ntm	ogr	opo	oys	ppo
lks	may	nag	nie	ntr	ogy	opp	pai	ppr
lla	mba	nai	nil	nts	oid	opr	pan	pra
lle	mbe	nal	nin	ntu	oil	ops	pap	pre
lli	mbi	nam	nis	nty	oin	opt	par	pri
llm	mbu	nan	nit	nua	ois	ora	pas	pro
llo	mea	nar	niv	nuc	oke	orc	pat	pse
lls	med	nat	niz	nur	oki	ord	pav	pta
llu	mel	nav	njo	nus	okk	ore	pay	pte
lly	mem	nce	nju	nut	oko	org	pea	pti
lme	men	nch	nke	nva	old	orh	pec	pub
lnu	mer	nci	nkl	nve	ole	ori	ped	pul
loa	mes	nco	nkr	nvi	olf	ork	pee	pum
lob	mic	nct	nks	nvo	oli	orm	pef	pup
loc	mil	ncy	nlo	nwh	olk	orn	pel	pur
log	min	nda	nly	nyb	oll	orr	pen	pus
loo	mis	nde	nme	nyw	olo	ors	per	put
los	mit	ndh	nna	nze	olt	ort	pes	qua

TABLE II-D (Continued)

que	rga	ros	ryw	sit	sul	tic	tun	ums
qui	rge	rot	sab	siv	sum	tie	tur	umu
rab	rgo	rou	sac	ske	sun	tif	tus	una
rac	rhc	rov	sag	ski	sup	tig	tut	unc
rad	ria	row	sal	sks	sur	til	typ	und
rag	rib	rpa	san	sla	sys	tim	uai	une
rai	ric	rpr	sap	sle	tab	tin	ual	unf
ral	rie	rra	sat	sli	tac	tio	uan	unj
ram	rif	rre	sav	smi	taf	tir	uar	uni
ran	rig	rri	sba	sno	tag	tis	uat	unl
rap	rik	rro	sca	sms	taí	tit	ube	unr
ras	ríl	rru	sch	soa	tak	tiv	ubl	uns
rat	rim	rry	scl	sol	tal	tiz	ubs	unt
raw	rin	rsa	sco	som	tan	tle	ucc	unu
ray	rio	rse	scr	son	tap	tli	uce	uou
rca	rip	rsh	sea	sor	tar	tlo	uck	upe
rce	ris	rsi	sec	sou	tas	tly	uct	upi
rch	rit	rso	sed	spa	tat	tme	ude	upl
rci	riu	rst	see	spe	tau	tmo	udg	upo
rcl	riv	rsu	sel	spi	toh	tne	udi	ups
rco	ríz	rsy	sem	spl	tco	toc	uen	upt
rde	rka	rta	sen	spo	tda	toe	ues	ura
rdi	rke	rte	sep	spr	tea	tog	uet	urc
rds	rkm	rtg	seq	ssa	tec	tom	uff	ure
rea	rks	rth	ser	sse	ted	ton	uga	urg
reb	rly	rti	ses	ssf	tee	too	uge	uri
rec	rma	rtn	set	ssi	tel	tor	ugg	urn
red	rme	rto	sev	sso	tem	tot	ugh	urp
ree	rmi	rts	sew	sta	ten	tov	ugs	urr
ref	rml	rtu	sfe	std	ter	tow	uid	urs
reg	rms	rty	sfu	ste	tes	tpo	uil	urt
reh	rma	ruc	sha	sti	tex	tra	uir	ury
rei	rne	rud	she	stl	tfo	tre	uis	usa
rel	rni	rug	shi	stm	tga	tri	uit	usb
rem	rns	rui	sho	sto	thc	tro	ula	use
ren	roa	rum	sia	stp	thd	tru	uld	ush
reo	rob	run	sib	str	the	try	ule	usi
rep	roc	rup	sic	sts	thh	tta	uli	usl
req	rod	rur	sid	stu	thi	tte	ulk	ust
res	rof	rus	sif	sty	thl	tti	ull	usu
ret	rog	rut	sig	sua	tho	tth	ult	utc
rev	rol	rva	sil	sub	thr	tto	umb	ute
rew	rom	rve	sin	suc	thu	tua	ume	uth
rfe	ron	rvi	sio	suf	thw	tub	umm	uti
rfo	roo	rwa	sir	sug	thy	tud	umn	utl
rfu	rop	rye	sis	sui	tia	tul	ump	utm

TABLE II-E

THREE-LETTER SEQUENCES FOUND IN FIFTH THOUSAND RANK (4,088-5,226)
OF MOST COMMON WORDS, ARRANGED IN ALPHABETICAL ORDER

Total Number of Sequences. . . . 6,388

Number of Different Sequences. . 1,819

abi	ail	api	atu	bje	cam	cle	dag	dle
abl	aim	apl	auc	bla	can	cli	dal	dly
abn	ain	apo	aud	ble	cap	clo	dam	dmi
abo	air	app	aug	bli	car	clu	dan	doc
abs	ais	apr	aus	blo	cas	coa	dar	dor
aca	ait	aps	aut	blu	cat	coh	dat	dou
acc	aiv	apt	auz	bly	cau	coi	dav	dow
ace	ajo	ara	ave	bno	cce	col	day	doz
ach	ake	arb	avi	boa	cci	com	dca	dra
aci	aki	arc	avo	bod	cco	con	dde	dre
ack	ala	ard	awa	boi	ccu	coo	ddi	dri
acq	alc	are	awe	bon	cea	cop	dea	dru
acr	ale	arg	awy	boo	ced	cor	deb	dsh
act	ali	ari	axa	bor	cee	cot	dec	dth
acu	all	ark	axe	bot	cei	cou	ded	dua
acy	als	arl	aye	bou	cel	cov	dee	duc
abc	alt	arm	ayi	bow	cem	coy	def	due
ade	alu	arn	ays	box	cen	cqu	del	dul
adh	alv	arp	aze	bra	cep	cra	dem	dup
adi	aly	arr	azo	bri	cer	cre	den	dur
adj	ama	ars	bac	bro	ces	cri	dep	dus
adm	amb	art	bak	bru	cha	cro	deq	dva
ads	ame	arv	bal	bse	che	cru	der	dve
adu	amm	ary	ban	bse	chi	cta	des	dvo
adv	amo	asb	bar	bst	cho	cte	det	eab
aer	amp	ase	bas	bte	cia	cti	dev	eac
afe	ams	ash	bat	btf	cid	ctl	dge	ead
aff	ana	asi	bby	bto	cie	ctn	dhe	eaf
afl	anc	ask	bea	buf	cif	cto	dia	eag
aft	and	asn	beg	bul	cil	ctr	dic	eal
age	ane	asp	bel	bum	cin	cts	die	eam
agg	ang	ass	ben	bun	cip	ctu	dif	ean
agi	ani	ast	ber	bur	cir	cuf	din	ear
agn	ank	atc	bes	bus	cit	cui	dis	eas
ago	ann	ate	bid	but	civ	cul	dit	eat
agr	ans	ath	big	buy	cke	cum	dir	eav
ags	ant	ati	bil	bvi	cki	cup	div	eba
agu	anu	ato	bin	cab	ckn	cur	diz	ebr
aid	ape	ats	bir	cak	cks	cut	dja	ebt
aig	aph	att	bit	cal	cla	cua	dke	eca

TABLE II-E (Continued)

ece	ela	erm	fan	gar	gua	hoo	idt	ing
ech	elb	ern	far	gat	gue	hop	idu	ini
eci	eld	ero	fas	gau	gui	hor	iec	inj
eck	ele	erp	fat	gea	gul	hos	ied	ink
ecl	eli	err	fec	ged	gum	hot	ief	inl
eco	ell	ers	fee	gem	gun	hou	ien	inm
ecr	elo	ert	fek	gen	gus	hov	ier	inn
ect	els	erv	fen	geo	hab	how	ies	ino
ecu	elt	ery	fer	ger	haf	hre	iet	inq
eda	ely	esa	fes	ges	hai	hro	iev	ins
edd	ema	esc	fet	gge	hal	hst	iew	int
ede	emb	ese	few	ggr	ham	hte	ife	inu
edg	eme	esh	ffa	ghb	han	htf	iff	inv
edi	emi	esi	ffe	ghe	has	htn	ifi	iod
edl	emn	esm	ffi	ght	har	hts	ift	ion
eds	emo	eso	ffo	ghw	hau	hum	ify	ior
edu	emp	esp	fic	gib	hbo	hun	iga	iou
eed	ems	ess	fid	gic	hea	hur	ige	ipa
eel	ena	est	fie	gid	hec	hwa	igg	ipe
eem	enc	eta	fil	gie	hed	hys	igh	ipp
een	end	etc	fin	gil	hee	iab	igi	ips
eer	ene	ete	fit	gin	hef	iag	ign	ipt
eet	eng	eti	fis	gio	hei	ial	igo	iqu
efe	eni	eto	fix	gis	hel	iam	igs	ira
eff	enl	etr	fla	git	hen	ian	ike	irc
efi	eno	ets	fle	giz	her	iar	iki	ird
efl	ens	ett	flo	gla	hes	iat	ild	ire
efr	ent	ety	flu	glé	hfu	ibe	ile	iri
eft	eny	eum	fol	gli	hho	ibi	ili	iro
efu	eog	eva	foo	gly	hib	ibl	ilk	irr
ega	eop	eve	for	gne	hic	ibr	ill	irs
ege	eos	evi	fra	gni	hie	ibu	ils	irt
egi	epa	ewe	fre	gnm	hig	ica	ilt	isa
egl	epe	ewi	fri	gno	hil	ice	ily	isc
ego	epi	ewp	fro	gns	him	ici	ima	isd
egr	epo	ewr	fte	goi	hin	ick	imb	ise
egs	ept	exc	fts	gon	hio	ico	ime	isf
egu	equ	exe	ful	goo	hip	ics	imi	ish
eho	era	exh	fun	gor	hir	ict	imm	isi
eig	erc	exp	fur	got	hma	icu	imn	isk
eim	ere	ext	fus	gov	hme	ida	imp	isl
ein	erf	eyi	fyi	gra	hoc	idd	ina	isp
eiv	erh	eys	gag	gré	hoi	ide	inc	iss
eke	eri	fac	gai	gri	hol	idg	ind	ist
	erg	fai	gal	gro	hom	idi	ine	ita
	erl	fal	gan	gth	hon	ido	inf	ito

TABLE II-E (Continued)

ite	lam	lli	meh	nal	ngt	nti	oil	ope
ith	lan	llo	mem	nam	ngu	ntl	oin	opi
iti	lap	lls	men	nan	nia	ntr	ois	opl
itm	lar	lly	mer	nap	nic	nts	oke	opo
itn	las	loa	mes	nar	nie	ntu	oki	opp
ito	lat	lob	met	nat	nif	nty	oks	opr
its	law	loc	mfo	nce	nig	nua	ola	ops
itt	lax	log	mia	nch	nin	nue	old	ora
itu	lay	lon	mic	nci	nio	nuf	ole	orc
ity	laz	loo	mil	nci	nio	nuf	ole	orc
ium	lbo	los	min	nco	nit	nur	oli	ord
iva	lbs	lou	mis	net	niz	nur	oll	ore
ive	loc	lov	mit	ncy	nju	nva	olo	org
ivi	lde	low	miu	nda	nke	nve	olt	ori
ixe	ldi	loy	mix	nde	nkf	nvi	olu	ork
ixt	lea	lte	mma	ndi	nki	oac	olv	orm
ize	lec	lth	mne	ndk	nla	oac	oma	orn
jac	led	lti	mmi	ndl	nly	oad	omb	oro
jam	leg	lts	mmo	ndo	nme	oan	ome	orp
jec	lem	lty	mmu	nds	nna	oar	omf	orr
jel	len	lub	mne	ndu	nne	oat	omi	ors
jer	ler	luc	mni	nea	nni	obb	omm	ort
jew	les	lue	mod	nec	nno	obj	omo	oru
joi	let	lug	moi	ned	nno	obl	omp	ory
jor	leu	lum	mok	nee	nno	obs	ona	ose
fou	lev	lun	mon	nef	nog	obv	onc	osi
jun	lex	lus	mop	neg	noi	oca	ond	oso
jur	ley	lut	mop	neg	nom	occ	one	osp
ked	lfi	lve	mor	nei	nor	oce	onf	ost
kee	lia	lyz	mot	nel	not	oci	ong	osu
ken	lib	lyz	mou	nen	not	ock	oni	ota
ken	lib	mag	mov	ner	nou	oco	onj	ote
ker	lic	mai	mpa	nes	nov	oda	onl	oth
kes	lie	maj	mpe	net	now	ode	onn	oti
ket	lif	mak	mpe	net	noy	ode	onn	oti
key	lig	mal	mpe	net	noy	odi	ono	oto
kfu	lik	man	mpi	ney	nqu	odi	ono	oto
kil	lim	mar	mpl	ney	nsa	ods	ons	ots
kin	lin	mas	mpr	nfa	nsc	odu	ont	ott
kne	lip	mat	mpt	nfe	nse	oem	onu	otw
kni	liq	mba	mpt	nfi	nsh	oes	onv	oty
kno	lis	mbe	mst	nfl	nsi	oet	ony	oub
ksm	lit	mbi	mul	nfo	nsi	oet	ony	oub
lab	liv	mbl	mun	nge	nsl	ofe	ood	oug
lac	lks	mbu	nab	nga	nsm	ogi	ook	oud
lag	lla	mec	nab	nge	nsp	ogr	ool	oun
lai	lle	med	nac	ngi	nst	ogs	oom	oup
			nad	ngl	nsu	oho	oon	our
			nag	ngr	nta	oic	oor	ous
			nai	ngs	nre	oid	oot	out

TABLE II-E (Continued)

ove	plo	rar	rid	rpl	sea	soc	tai	tiz
ovi	plu	ras	rie	rpo	seb	sol	tak	tle
owe	poc	rat	rif	rpr	sec	son	tal	tly
owi	poe	rav	rig	rra	sed	som	tam	tli
owl	pog	raw	rik	rre	see	sor	tan	tme
own	pok	ray	ril	rri	sel	sot	tap	tne
ows	ppl	raz	rim	rro	sem	sou	tar	tni
oxi	poi	rbl	rin	rry	sen	spa	tas	toc
oya	pon	rbu	rio	rsa	sep	spe	tat	toe
oye	poo	rce	rip	rse	ser	sph	tav	tog
oyi	por	roh	ris	rsi	ses	spi	tax	toi
oze	pos	rcu	rit	rso	set	spl	tay	tom
pac	ppe	rda	riv	rst	sey	spo	tch	ton
pai	ppi	rde	rke	rsu	sfa	spu	tea	too
pal	ppl	rdi	rle	rta	sha	ssa	ted	top
pan	ppo	rds	rlo	rte	she	sse	tel	tor
par	ppr	rdu	rly	rtg	shi	sai	tem	tos
pas	pra	rea	rma	rth	shm	sam	ten	tou
pat	pre	rec	rme	rti	sho	ssn	ter	tow
pay	pri	red	rmi	rtl	sib	sso	tes	tpo
pea	pro	ree	rmo	rts	sic	ssu	tex	tpu
pec	pru	ref	rms	rtu	sid	sta	tfu	tra
ped	pse	reg	rna	ruc	sie	ste	tga	tre
pen	pte	reh	rne	rug	sig	sti	tgo	tri
peo	pti	rei	rni	run	sil	stl	tha	tro
per	pub	rel	rno	rus	sim	sto	the	tru
pes	pul	rem	rnt	rva	sin	stp	thf	try
pet	pun	ren	roa	rve	sio	str	thh	tsc
pew	pur	reo	roc	ryd	sir	sts	thi	tta
pha	put	rep	rod	sab	sis	stu	thm	tte
phe	pwa	rer	rof	sac	sit	sua	thr	tti
phi	pyi	res	rog	sad	siv	sub	ths	tth
pho	qua	ret	rok	saf	siz	suc	tia	tto
phs	que	rev	rol	sag	ske	sud	tib	ttr
phy	qui	rfa	rom	sai	ski	sue	tic	tub
pic	quo	rfe	ron	sal	sky	sul	tie	tul
pie	rab	rfo	roo	san	sla	sum	tif	tum
pig	rac	rga	rop	sat	sli	sup	tig	tur
pil	rad	rge	ros	sau	slo	sur	til	tus
pin	rag	rgi	rot	sbe	sly	sus	tim	tut
pio	rai	rgo	rou	sca	sma	swe	tin	twi
pir	rak	rgu	row	sce	sme	swi	tio	typ
pit	ral	rhe	rov	sci	smi	syn	tip	uad
pla	ram	ria	roy	sco	sno	tab	tis	uai
ple	ran	rib	roz	scr	sna	tac	tit	ual
pli	rap	ric	rpe	sdi	sne	tag	tiv	uan

TABLE II-E (Continued)

uar	uit	une	urs	val	vor	wor	yed	-du
uat	uiv	unf	urt	van	wag	wpo	yer	-kn
ubi	ugh	uni	ury	var	wai	wra	yin	-op
ubl	ugs	unq	usa	vat	war	wri	ynd	-up
ubs	ula	uns	use	vea	wat	wye	you	an'
ubt	ulb	unt	ush	ved	wav	xat	ype	d's
uca	ule	uor	usi	vel	way	xce	ypo	en'
ucc	ulf	uot	usl	ven	wea	xcl	ysi	er'
uce	uli	upa	ust	ver	wed	xec	uze	ey'
uch	ull	upe	utc	ves	wee	xed	zed	e's
uci	ult	upl	ute	vet	wei	xer	zen	ff'
uck	ulu	upp	utg	vey	wel	xha	zon	f's
uct	ulv	upw	uth	vic	wer	xhi	zor	ht'
udd	uly	upy	uti	vid	wes	xin	ar-	ld'
udi	uma	ura	utl	vie	wid	xpa	co-	n's
uen	umb	urb	uto	vig	wil	xpe	ll-	nt'
uer	ume	urd	utp	vil	win	xpr	l-k	n't
ues	umi	ure	uts	vin	wit	xte	o-o	or'
ufa	umm	urg	utt	vio	wiv	xti	ow-	re'
uff	ump	uri	uum	vis	wle	xtu	r-b	rs'
uic	ums	urn	uys	vit	wly	yal	st-	r's
uid	umu	uro	uze	voc	wni	yar	t-d	sn'
uip	uno	urp	vab	voi	wns	yda	w-u	t's
uir	und	urr	vac	vol	woe	yea	-by	y's

TABLE II-F

THREE-LETTER SEQUENCES FOUND IN SIXTH THOUSAND RANK (5,227-5,992)
OF MOST COMMON WORDS, ARRANGED IN ALPHABETICAL ORDER

Total Number of Sequences. . . . 4,425

Number of Different Sequences. . 1,545

abe	alg	ari	bar	bug	cka	dca	dsh	efi
abl	ali	ark	bas	bui	cke	dde	dst	efl
abr	alk	arm	bat	bul	cks	dea	duc	efu
abs	all	arn	bdi	bun	cla	dec	due	ega
abu	alo	arp	bea	bur	cle	ded	dva	egi
acc	alp	arq	bed	but	cli	dee	dve	egl
ace	als	arr	ben	byl	clo	def	dvi	ego
ach	alt	ars	ber	cal	oni	deg	dye	egr
aci	alv	art	bet	cap	coa	dem	dyl	egs
ack	aly	ary	bic	car	cog	den	eab	egu
aco	ama	asc	bil	cas	coi	dep	ead	eig
acq	amb	ase	bin	cat	col	der	eak	ein
act	ame	ash	bir	coe	com	det	eal	eje
acu	ami	asi	bit	coo	con	dew	ear	eke
adc	amp	ask	bje	cea	coo	dex	eas	ela
add	ams	asn	ble	ced	cop	dge	eat	eld
ade	ana	asp	bli	cee	cor	dhe	ebr	ele
adh	anc	ass	blo	cel	cos	dia	ebu	eli
adi	and	ast	blu	cem	cou	dic	eca	ell
adm	ane	asu	bly	cen	cqu	did	ece	elo
adr	ang	ata	boa	cep	cra	die	ech	els
adv	ani	atc	bob	cer	cre	dif	eci	elt
aff	ank	ate	bod	ces	cri	dig	eck	ely
aft	ann	ath	boi	cet	cro	dim	eco	ema
age	ans	ati	bon	cha	cte	din	ecr	emb
agg	ant	ato	boo	chb	cti	dir	ect	eme
agi	anu	atr	bor	che	ctl	dis	edg	emo
agn	anx	ats	bou	chi	cto	dit	edi	emp
aid	any	atu	box	chm	cts	div	edl	emu
aig	aph	aul	bra	cho	ctu	dix	eds	ena
ail	api	aus	bre	chu	cub	dle	edu	enc
ain	app	aut	bri	cia	cul	dly	edy	end
ais	aps	ava	bro	cid	cur	dma	eed	ene
ait	apt	avo	bru	cig	cus	dmi	eei	enf
aja	ara	awf	bso	cil	cut	dom	eel	eni
ake	arb	aws	bse	cin	cyc	dor	eep	enn
aks	arc	axl	bso	cip	cyh	dou	eer	enr
alc	ard	aym	bst	cis	dan	dra	ees	ens
ale	are	bac	btr	cit	dat	dro	efa	ent
alf	arg	bal	buc	ciz	day	dry	efe	enu

TABLE II-F (Continued)

env	ets	fte	han	ibe	imi	ith	ldm	low
eof	ett	fti	har	ibi	imm	iti	ldn	lph
eog	etu	fts	has	ibl	imo	itl	lea	lta
eom	ety	ful	hat	ibu	imp	itc	leb	lte
eop	eva	fus	hbo	ica	ina	itr	lec	lti
eor	eve	fyi	hda	ice	inc	its	led	lty
ecu	evi	gam	hea	ici	ind	itt	lem	lub
epa	ewa	gan	hec	ick	ine	itu	len	luc
epe	ewe	gar	hed	icon	inf	ity	lep	lue
eph	ewr	gat	hee	ics	ing	iva	ler	lun
epr	exa	gea	hel	ict	ini	ive	les	lur
ept	exc	geb	hem	icy	inj	ivi	let	lus
epu	exe	ged	her	ida	ink	iza	lev	lve
equ	exh	gen	hes	ide	ins	ize	lge	lwo
era	exi	geo	hib	idi	int	izi	lia	lyi
erb	exp	ger	hic	idl	inu	jam	lic	lyz
erc	ext	ges	hie	ids	inv	jec	lid	mab
ere	eye	get	hil	ied	iol	joi	lie	mad
erf	eys	ggi	hin	ief	ion	jur	lif	mak
erg	fab	ggr	hio	iel	iot	jus	lig	mal
erh	fac	gha	hip	ien	iou	jut	lih	man
eri	fai	ghs	his	ier	ipe	kag	lik	mar
erk	fal	ght	hit	ies	ipp	ked	lim	mat
erl	far	gia	hly	iet	ipr	kee	lin	mba
erm	fas	gin	hme	ifi	ips	keg	lio	mbe
ern	fau	gio	hoe	iff	ipt	keh	lip	mbi
erp	fav	gle	hog	ify	iqu	kel	liq	mbi
err	fel	glu	hok	iga	ira	ker	lis	mbo
ers	fer	gna	hol	ige	ire	kes	lit	mbr
ert	ffe	gne	hon	igh	irr	ket	liz	mec
eru	ffi	gni	hoo	igi	irt	kil	lle	med
erv	ffo	gno	hor	ign	isa	kni	lli	mel
erw	ffs	goa	hos	igr	isb	ksh	llo	mem
esc	fia	goi	hou	igs	isc	lad	lls	men
ese	fie	gov	hri	iho	ise	lai	llu	mer
esh	fig	gra	hte	ike	ish	lam	llw	mes
esi	fil	gre	htl	ild	isi	lap	lly	met
esp	fin	gri	hun	ile	ism	lar	loc	mid
ess	fit	gro	hur	ili	iso	las	log	mig
est	fle	gua	hwe	ill	isp	lat	lon	mil
esu	flo	gui	iab	ilo	isr	lav	loo	min
eta	flu	gul	iag	ils	iss	law	lop	mir
etc	fol	hab	ial	ilt	ist	lay	lor	mis
ete	for	haf	ian	ilu	ita	lco	los	mit
eti	fra	hal	ias	ima	itc	lde	lot	mna
etr	fro	ham	iat	ime	ite	ldi	lou	mne

TABLE II-F (Continued)

mmi	nec	nsi	oil	org	paj	pro	rek	roa
mmu	ned	nsm	oin	ori	pan	pte	rel	rob
mol	nee	nso	oir	ork	par	pth	rem	roc
mom	neg	nst	oke	opl	pas	pti	ren	rod
mon	nel	nsu	ola	orm	pat	pub	rec	roh
mor	nen	nsw	old	orn	pay	pul	rep	rok
mos	neo	nta	ole	orp	pea	pun	rer	rol
mot	ner	nte	oli	orr	pec	put	res	rom
mou	nes	nti	oll	ors	ped	pur	ret	ron
mov	net	ntl	clo	ort	pee	pus	rev	roo
mpa	nex	nto	clu	ory	pel	pyi	rew	rop
mpe	nfe	ntr	olv	osa	pen	que	rfe	ror
mph	nfi	nts	oma	ose	peo	qui	rfu	ros
mpi	nfl	nty	omb	osi	per	quo	rga	rot
mpl	nfo	nua	ome	oso	pet	rab	rge	rou
mpo	nfu	nui	omi	oss	pha	rac	rhe	rov
mpr	nge	num	omm	ost	phe	rad	ria	row
mps	ngh	nur	omp	ota	phi	raf	rib	roy
mpu	ngi	nus	ona	otc	pho	rag	ric	rpe
mul	ngs	nva	ond	ote	phy	rai	rid	rpr
mum	nia	nve	one	oth	pic	rak	rie	rps
mur	nic	nvi	onf	oti	pil	ram	rif	rqu
nab	nie	nvo	ong	ott	pin	ran	rig	rra
nac	nim	nwi	oni	oub	pir	rap	rim	rre
nad	nin	nxi	ono	ouc	pis	rar	rin	rri
nal	nio	nyt	ons	oud	pit	ras	rio	rro
nam	nis	cac	ont	oul	pke	rat	rip	rru
nan	nit	oad	onv	oun	pla	ray	ris	rse
nap	niz	oar	ope	oup	ple	rba	rit	rsh
nar	nju	oat	oph	our	pli	rbe	riv	rsu
nat	nka	oba	opl	ous	ply	rce	riz	rta
nca	nks	obj	opo	out	poe	rch	rke	rte
nce	nna	oce	opp	ova	pol	rci	rks	rth
nch	nno	oci	opr	ove	pon	rcr	rla	rti
nci	nod	ock	opy	ovi	poo	rde	rld	rts
nco	nor	oda	ood	owa	por	rds	rli	rtu
ncr	nos	odo	ocf	owd	pos	rdy	rma	ruc
nct	nov	odu	ool	owe	ppa	rea	rme	rue
ncy	noy	ody	oom	owi	ppe	reb	rmi	run
nde	npa	ofa	oon	ows	ppi	rec	rmo	rup
ndi	nqu	off	oos	oxe	ppl	red	rms	rus
ndo	nro	ofs	ora	oya	ppo	ree	rmu	rva
nds	nsa	ogn	orb	oye	ppr	ref	rna	rve
ndu	nsc	ogr	orc	pao	pra	reg	rne	rvi
ndy	nse	ohi	ord	pad	pre	rei	rni	rvo
nea	nsf	oic	ore	pai	pri	rej	rnt	rwr

TABLE II-F (Continued)

ryi	sio	sue	tio	uan	unf	vab	wil	zed
sab	sis	suf	tie	uar	ung	vai	wim	zer
sai	sit	sui	tif	uat	uni	val	win	zes
sak	siv	sul	tig	ubd	unk	van	wit	zin
sal	siz	sum	til	ubi	unp	var	won	ct'
san	ske	sup	tim	ubj	unq	vas	wor	c's
sas	ski	sur	tin	ubl	uns	vat	wra	dn'
sbu	sli	sus	tio	ubr	unt	vau	wre	d's
sca	sly	swe	tir	ubs	unw	ved	wri	er'
sce	smi	swi	tis	ubt	uot	vel	wsh	e's
sch	sna	sym	tit	uca	upe	vem	xam	fs'
scl	snf	tab	tiv	uce	upk	ven	xce	g's
sco	sod	tac	tle	uch	upl	ver	xch	io'
scr	sof	tag	tly	uci	upp	ves	xcu	k's
scu	soi	tai	tof	uck	upt	vey	xed	ld'
sea	sol	tal	tom	uct	ura	vic	xer	le'
sec	sop	tam	ton	ued	urc	vid	xhi	ng'
sed	sor	tan	tor	uen	ure	vie	xio	n't
sel	sou	tar	tot	uep	urg	vio	xis	rk'
sem	spa	tat	tou	ues	uri	vir	xle	rs'
sen	spe	tbo	tpa	uff	url	vis	xpa	r's
seq	spi	tch	tra	uid	urn	vit	xpe	sn'
ser	spl	tea	tre	uil	urr	voi	xpl	t's
ses	spo	tec	tri	uin	urs	vol	xpo	e-i
set	sre	ted	tro	uip	urv	vor	xte	e-u
sev	sse	tee	tru	uir	usa	vot	yal	f-t
sew	ssi	tel	try	uit	usc	wag	yar	h-w
sfo	sso	tem	tte	ula	use	wal	yol	ke-
sha	ssu	ten	tti	uld	ush	wan	yed	lf-
she	sta	ter	tth	ule	usl	war	yho	ll-
shi	stb	tes	tts	ull	usp	was	yin	l-s
sho	ste	tex	tua	ulp	uss	way	yla	re-
shr	sti	thd	tue	ult	ust	wde	yle	-st
sib	sto	the	tul	uma	ute	wei	yma	te-
sic	stp	tho	tum	umb	uth	wer	yme	th-
sid	str	ths	tur	ume	uti	wes	ymp	-ic
sig	sts	thw	tut	ump	uto	wfu	yti	-to
sil	stu	thy	tyl	una	utr	whi	yzc	-up
sim	sua	tia	uad	unc	utt	wid	zat	-wh
sin	sub	tib	ual	und	uty			

TABLE II-G

THREE-LETTER SEQUENCES FOUND IN SEVENTH THOUSAND RANK (5,993-7,029)
OF MOST COMMON WORDS, ARRANGED IN ALPHABETICAL ORDER

Total Number of Sequences. . . . 6,063

Number of Different Sequences. . 1,842

aba	ain	ape	aud	bin	cap	ckw	dab	dke
abb	air	aph	aug	bis	car	cky	dag	dle
abe	ais	api	aun	bit	cas	cla	dam	dli
abi	ait	apo	aup	bla	cat	cle	dan	dly
abl	ake	app	aus	ble	cau	cli	dap	dme
abo	akf	apt	aut	bli	cav	clo	dat	dmi
aca	aki	ara	ava	blo	cee	clu	day	dol
acc	aks	arb	ave	blu	cco	coa	dca	dom
ace	ala	arc	avi	bly	cea	cod	dcl	don
ach	alc	ard	avo	bmi	ced	coi	dde	dop
ack	ale	are	awa	boa	cee	col	ddl	dor
acq	alf	arg	awf	bod	cef	com	ddy	dou
acr	alg	ari	awn	bog	cei	con	dea	dra
act	ali	ark	axi	boo	cel	coo	deb	dre
acu	alk	arl	aye	bor	cem	cor	dec	dri
ada	all	arm	ayi	bou	cen	cos	ded	dro
adc	alo	arn	aza	box	cer	cot	def	dry
add	alp	aro	azo	bra	ces	cou	del	dsc
ade	als	arq	bae	bre	cha	cov	dem	dsi
adi	alt	arr	bak	bri	che	cqu	den	dua
adj	alu	ars	bal	bro	chi	cra	dep	duc
adm	aly	art	ban	bru	cho	cre	deq	dug
adn	ame	ary	bar	bse	chu	cri	der	dul
ado	ami	asa	bas	bse	cia	cro	des	dum
ads	amm	asc	bat	bst	cid	cta	det	duo
adu	amo	ase	bbr	bts	cif	cte	dev	dva
adv	amp	asi	bea	bug	cil	cti	dge	dwe
ady	ams	asp	bed	bui	cin	cto	dgi	dwo
afe	ana	ass	bee	bul	cio	ctr	dia	dyi
aff	anc	ast	beg	bum	cip	cts	dic	eab
afl	and	asu	bel	bun	cir	ctu	die	eac
aft	ang	atc	ben	bur	cis	cub	dif	ead
age	ani	ate	ber	bus	cit	cuf	din	eaf
agg	ank	ath	bes	but	ciz	cui	dir	eag
agi	ann	ati	bet	bvi	ckb	cul	dis	eak
agu	ans	ato	bey	cab	cke	cum	dit	eal
aid	ant	ats	bib	cad	ckh	cur	diu	eam
aig	anu	att	bid	cal	cki	cus	div	ean
ail	anv	atu	bil	cam	ckl	cut	djo	ear
aim	aor	auc	bim	can	cks	cyc	dju	eas

TABLE II-G (Continued)

eat	eis	epu	exi	fri	goo	hir	iel	inm
eau	eiv	equ	exp	fro	gor	hit	iem	inn
eav	eiz	era	ext	fte	got	hly	ien	inq
eba	eke	erc	eya	fti	gov	hme	ier	ins
ebr	ehe	erb	eys	fts	gow	hog	ies	int
ebt	ela	erd	fac	ful	gra	hol	iet	inu
eca	eld	ere	fai	fun	gre	hon	iev	inv
ece	ele	erf	fal	fur	gri	hop	iew	iob
ech	elf	erg	fam	fus	gro	hor	ife	iog
eci	eli	eri	fan	gag	gst	hos	iff	iol
eck	ell	erl	far	gai	gth	hot	ifi	iou
ecl	elo	erm	fas	gal	gua	hou	ift	ion
eco	elp	ern	fat	gan	gue	how	ify	ipa
eer	els	erp	fea	gar	gui	hre	iga	ipe
ect	elv	err	fec	gat	gul	hro	igh	ipl
ecu	ely	ers	fen	gdo	gum	htf	igi	ipp
ede	ema	ert	fer	geb	gur	hts	ign	ips
edg	emb	eru	fes	ged	gus	hur	igo	ipt
edi	eme	erv	fet	gee	hab	hus	ike	iqu
edl	emi	ery	ffe	gem	had	hut	iki	irc
edu	emo	esa	ffi	gen	hak	hys	ild	ire
eec	emp	esc	ffo	geo	hal	iab	ile	iri
eed	ems	ese	ffs	ger	ham	ial	ili	irl
eem	ena	esh	ffy	ges	han	ian	ill	irm
een	enc	esi	fia	get	hap	iar	ilm	iro
eep	end	eso	fic	gge	har	iat	ilt	irr
eer	ene	ess	fid	ggi	hat	ibe	ily	irs
ees	eng	est	fie	ggl	haz	ibi	ima	irt
eet	enh	eta	fig	ggr	hea	ibl	imb	isa
eef	eni	ete	fil	ght	hed	ibr	ime	isb
eff	enl	eti	fin	gib	hei	ibu	imi	isc
efi	enn	etr	fir	gin	hel	ica	imm	ise
efl	enr	ets	fit	gio	hem	ice	imo	isf
efo	ens	ett	fix	gir	hen	ici	imp	ish
efr	ent	euc	fla	gis	hep	ick	ims	isi
efs	enu	eva	fle	giz	her	ico	ina	isl
eft	eog	eve	fli	gla	hes	ics	inb	ism
efu	eon	evi	flo	gle	het	ict	inc	iso
ega	epa	evo	flu	gli	hfu	ida	ind	isp
ege	epe	ewa	fly	glu	hib	idd	ine	iss
egg	eph	ewl	fol	gly	hic	ide	inf	ist
egi	epi	ews	fon	gne	hie	idi	ing	isu
egl	epl	exa	foo	gni	hif	idl	inh	ita
ego	epo	exc	for	gnm	hil	ids	ini	itc
egr	epr	exe	fou	goa	hin	ied	inj	ite
eir	eps	exh	fra	gon	hip	ief	ink	ith

TABLE II-G (Continued)

iti	lab	lig	lve	mou	ned	nks	nvi	ome
ito	lac	lik	lvi	mov	nee	nla	nwi	omi
itr	lad	lim	lyp	mpa	neg	nli	oac	omm
its	lai	lin	lys	mpe	nel	nly	oad	omo
itt	lak	lio	mac	mpi	nem	nme	oal	omp
itu	lam	lip	mad	mpl	nen	nne	oar	oms
ity	lan	liq	mal	mpo	ner	nni	oat	ona
ius	lap	lis	man	mpr	nes	nno	obe	onc
iva	lar	lit	mar	mps	net	nob	obl	ond
ive	las	liv	mas	mpt	nev	noc	obo	one
ixe	lat	liz	mat	msh	new	nog	obs	onf
ixi	lau	lki	max	mst	nex	nom	obv	ong
iza	law	lla	mha	mud	ney	non	oca	oni
ize	lax	lle	mbe	muf	nfa	nor	oce	onm
izi	lay	llf	mbi	mul	nfe	not	ock	ono
izo	laz	lli	mbl	mus	nfi	nou	ocu	ons
jac	lca	llm	mbr	nab	nfl	nov	oda	ont
jec	lde	llo	mea	nad	nfo	now	ode	onv
jif	lde	lls	mec	nal	nfu	npl	odi	ood
joi	ldi	llu	med	nam	nga	npr	odu	ook
jud	ldm	lly	mel	nan	ngd	nqu	ody	ool
jum	lds	lme	mem	nar	nge	nro	ofi	oom
jur	lea	lms	men	nas	ngi	nsa	ofc	oon
jus	lec	loc	mec	nat	ngl	nse	oft	oop
kbo	led	log	mer	nae	ngr	nsh	oga	oos
ked	lee	loi	mes	nav	ngs	nsi	ogg	oot
kee	lef	loo	met	nba	ngt	nsc	ogi	ope
keh	leg	lop	mic	nbo	ngu	nsp	ogr	opi
kel	lei	los	mid	ncc	nhe	nst	ogu	opo
ken	lel	lot	mie	nch	nho	nsu	oid	opp
ker	lem	lou	mil	nci	nia	nta	oil	ops
kes	len	lov	mim	ncf	nic	ntr	cin	opt
ket	ler	low	min	nco	nie	nth	oje	opu
kfa	les	loy	mis	ncr	nif	nti	oke	ora
kha	let	lph	mit	nct	nig	ntl	oki	orc
kho	lev	lpl	miz	ncu	nim	ntr	ola	ord
kie	lex	lte	mme	ncy	nin	nts	old	ore
kil	lfa	lti	mmi	nda	nio	nua	ole	org
kin	lfo	lty	mno	nde	nis	nui	oli	ori
kle	lge	lua	mod	ndi	nit	num	oll	ork
kme	lia	luc	mol	ndk	niv	nuc	olo	orm
kni	lib	lue	mom	ndl	niz	nup	ols	orn
kno	lic	lul	mon	ndo	nju	nus	olu	oro
kra	lid	lum	moo	ndr	nke	nut	olv	orp
kwa	lie	lun	mor	nds	nki	nva	oma	orr
kwe	lif	lus	mot	neo	nkn	nve	omb	ors

TABLE II-G (Continued)

ort	pen	pub	rem	rog	rva	sig	sub	tho
orw	per	pul	ren	roi	rve	sin	sud	thr
ory	pes	pur	rep	roj	rvi	sio	sue	tia
ose	pet	put	rer	rok	rwa	sis	suf	tic
osi	pev	puz	res	rol	ryi	sit	sui	tie
osp	pha	qua	ret	rom	sab	siv	sul	tif
oss	phe	que	rev	ron	sac	siz	sum	til
ost	phi	qui	rew	roo	saf	skr	sun	tim
ota	pho	quo	rfe	rop	sag	sla	sup	tin
otb	phs	rac	rga	ros	sal	sle	sur	tio
ote	phy	rad	rge	rot	san	slo	sus	tip
oth	pic	raf	rgr	rou	sar	sly	swa	tir
oti	pil	rag	rgu	rov	sat	sme	swe	tis
oto	pin	rai	rgy	row	say	smi	swi	tit
ots	pip	ral	ria	rpa	sba	smo	syr	tiv
ott	pir	ran	rib	rpe	sbu	sne	tab	tiz
oub	pis	rao	ric	rpl	sca	soc	tac	tla
ouc	pit	rap	rid	rpo	sci	sol	tag	tle
oug	pla	rar	rie	rqu	sco	som	tai	tly
oul	ple	ras	rif	rra	scr	son	tak	tma
oun	pli	rat	rig	rre	scu	sor	tal	tme
oup	plo	rau	ril	rri	sea	sou	tan	tne
ouq	plu	rav	rim	rro	sec	spa	tap	toc
our	poi	ray	rin	rry	sed	spe	tar	tog
ous	pol	raz	rio	rsa	see	spi	tat	tok
out	pon	rbe	rip	rse	sei	spo	tau	tol
ova	poo	rbi	ris	rsh	sek	spr	tba	tom
ove	pop	rbo	rit	rsi	sel	squ	tch	ton
owa	por	rbu	riv	rsp	sem	ssa	tea	too
owe	pos	rce	riz	rst	sen	sse	tec	tor
owi	pot	rch	rke	rsu	sep	ssi	ted	tot
own	pou	rci	rkm	rta	ser	ssm	tee	tou
ows	ppe	rco	rla	rte	ses	sso	teg	tow
oxc	ppi	rcu	rlo	rth	set	ssp	tel	tpo
oyi	ppo	rde	rls	rti	sfi	ssu	tem	tra
pac	ppr	rdi	rma	rtm	sha	sta	ten	tre
pai	pra	rdw	rme	rtn	she	ste	ter	tri
pal	pre	rea	rmi	rts	shi	sti	tes	tro
par	pri	rec	rms	rtu	shm	stl	tet	tru
pas	pro	red	rna	rtv	sho	stm	tfo	try
pat	pru	ree	rni	ruc	shu	sto	tfu	tta
pea	pta	ref	rns	rug	sib	stp	tha	tte
pec	pte	reg	roa	rui	sic	str	the	tti
ped	pti	reh	roc	rum	sid	sts	thf	ttl
peg	pts	rei	rod	run	sie	stu	thi	ttr
pel	ptu	rel	rof	rus	sif	sua	thl	tua

TABLE II-G (Continued)

tub	uds	ume	ura	utt	viv	wra	zed	-en
tud	ued	umm	urb	uzz	voi	xam	zen	-ha
tum	uee	ump	uro	vab	vol	xca	zer	-pi
tun	uen	ums	urd	vac	vot	xce	zes	-se
tur	uer	una	ure	vag	wab	xcu	zin	-to
tus	ues	unb	uri	vai	wad	xec	zle	-we
tut	uet	unc	urn	val	wai	xem	zon	-ye
twi	uff	und	urp	van	wal	xer	zor	at'
uae	ugg	une	urr	vas	wam	xes	zsl	dn'
ual	ugh	unf	urs	vat	war	xhi	d-p	en'
uar	ugs	ung	usb	vea	was	xho	dy-	er'
uat	ugu	uni	usc	ved	wat	xim	ee-	es'
uba	uid	unk	use	veg	wea	xin	e-e	e's
ube	uil	unl	ush	vel	wee	xpe	e-y	k's
ubl	uin	unn	usi	ven	wel	xpo	ft-	ls'
ubm	uir	unp	usk	ver	wer	xpr	ll-	ne'
ubs	uis	unq	usl	ves	wfu	xtr	l-s	n's
ubt	uit	uns	usn	vet	who	yar	o-w	nt'
uca	ula	unt	usp	via	wic	ycl	nd-	nt'
uce	ulb	unw	uss	vic	wil	yea	nt-	nt'
uch	ule	uof	ust	vie	win	yer	re-	nt'
uck	ull	uct	uta	vig	wis	yin	t-d	ok'
uco	ulo	uou	ute	vin	wit	ypt	t-h	on'
uct	ult	upe	uth	vio	woo	yri	to-	rs'
udd	ulu	upi	uti	vir	wor	ysi	to-	r's
ude	ulv	upp	utl	vis	wly	zar	y-t	ts'
udg	umb	uqu	utr	vit	wns	zat	-da	t's

Procedure 3. Preparation of Lists of Sequences Found in Each M Not Already Encountered in Previous M's.

Appendix A, pages 194 to 232 of The Basic Vocabulary of Business Letters, contains the 5,226 most-used words of the Horn-Peterson list in order of frequency as determined by the weighted frequency. To obtain the materials for Procedures 3 and 4, each word in order of weighted frequency from the list was analyzed for new sequences not met in previous words. A copy of all sequences, listed alphabetically in Table I, pages 15-22, and copies of Tables II-A, II-B, II-C, II-D, II-E, II-F, II-G, the sequences listed by M's, furnished check lists for previously met sequences.

Each word in order of listing was divided into all its three-letter sequences. The letter sequences were checked against the listings in Tables I and II. If a new sequence not previously checked was met, the third letter of the sequence was underlined and the sequence checked on the check lists along with the number of the M in which the sequence was met for the first time. This was carried on for each word in order of successive weighted frequency rank until the 5,226 most-used words of the Horn-Peterson list were covered.

Since Appendix A of the Horn-Peterson list carries the ranking only through the 5,226 most-used words, it was necessary to rank the sixth and seventh M from the alphabetical listing.

This ranking was accomplished by typing on adding machine paper every word with the symbol of 6 or 7 (denoting thousand rank) from the alphabetical list of Horn and Peterson. The weighted frequency was typed along with the word. Next, the adding machine tape was cut so that each entry was separated. The weighted frequencies running from 13 to 6 were classified by numbers from 13 to 6; then all words having the same weighted frequency were alphabetized as was done by Horn and Peterson for the first 5,226 words. Weighted frequency numbers from 13 to 9 were in the sixth M; from 8 to 6 were in the seventh M. Next, the words from the slips were typed in order on adding machine paper starting with the 13's, 12's, 11's, etc., down through the 6's. This list furnished sixth and seventh M rank of words of the Horn-Peterson list in order of frequency as determined by the weighted frequency. This list was analyzed in a continuation of the process listed for the first 5,226 words.

The alphabetical check list of all combinations then gave symbols 1 through 7 standing for the M in which the combination was first met. The alphabetical check list of sequences with symbols 1 through 7 was typed on adding machine paper, cut into separate entries, classified by M's, alphabetized for each M and typed into tables by M's--Tables III-A, III-B, III-C, III-D, III-E, III-F, pages 61-67.

Findings 3

The purpose of analyzing each M of words for sequences not

found in previous M's is twofold: first, to determine the actual sequences that are new in each additional M; second, to determine if sequences found in the first M are the same sequences that are found in the second through the seventh M of the Horn-Peterson list.

Tables III-A through III-F, pages 61-67, give the sequences in each M (second through seventh M) not found in previous M's. The following chart summarizes the total of new sequences from Table III, the number of different and the total sequences from Table II, and the number of words in each M.

<u>M Group</u>	<u>No. of New Sequences</u>	<u>Percent of Total</u>	<u>No. of Different Sequences</u>	<u>Total Sequences</u>	<u>No. of Words</u>
1st M	1304	43.4	1304	4009	1003
2nd M	493	16.4	1494	4928	1000
3rd M	335	11.2	1592	5330	1001
4th M	293	9.7	1730	5885	1083
5th M	246	8.2	1819	6388	1139
6th M	163	5.4	1545	4425	766
7th M	173	5.7	1842	6063	1041
TOTAL	3007	100.0			

In the first M words of the Horn-Peterson list, there are 1,304 different sequences out of 4,009 total sequences. Yet there are only 1,703 additional different sequences out of 33,019 total sequences in the second through the seventh thousand

rank. Such figures as shown in the chart on the preceding page emphasize the importance of the repetition of certain sequences in the make-up of words.

The 1,304 three-letter sequences in the first M words are 43.4 percent of the 3,007 sequences found in the total 7M words. This would signify that the first M words contain many of the sequences that go to make up the words in the second through the seventh M. The first 2M of the Horn-Peterson list cover 60 percent of the different sequences found in the total 7M words; the first 3M cover 71 percent; the first 4M cover 80.6 percent; the first 5M cover 88.8 percent; and the first 6M cover 94.2 percent.

TABLE III-A

THREE-LETTER SEQUENCES FOUND IN THE SECOND THOUSAND RANK (1,004-2,003)
 OF MOST COMMON WORDS NOT ENCOUNTERED IN THE FIRST THOUSAND RANK
 Number of new Sequences. . . . 493

abi	blo	ddl	emp	gal	iga	lki	nfe	oos
acq	bmi	deb	enj	gas	ilk	loy	ngi	oot
acr	bod	dev	enu	gat	ilt	lpf	nim	opt
adl	bci	dgi	eon	ghl	ilu	lse	niv	opu
ado	bor	die	epe	gho	ilw	ltr	njo	orc
afe	bra	dil	epi	goe	ims	lty	nme	orl
aff	bro	dio	eps	gol	imu	lua	non	oro
ags	bru	diu	erf	gov	ior	lub	noc	orp
ahc	bsc	dne	erk	gna	ipa	lur	nor	ors
aig	bse	doc	erw	gnm	ipe	lus	npa	osp
aly	bst	dog	esa	gua	ira	lys	nsa	osu
ama	btl	doo	esn	gue	iri		nsf	oto
ane	bur	dop	etc		irl		nuf	ott
apa		dro	eto		iro	mag	nus	oup
aph		dry	ets	hai	isk	mbi	nvi	ovi
arb	cab	dua	etv	hau	isp	mel	nyo	owa
asa	cap	dul	ewa	hay	isu	mec		oxe
asc	ccu		ews	hie	ium	mid		oxi
asy	cee		exe	hle	iva	miu	obb	oye
atc	chu	eab	exh	hly	ixe	miz	obi	oys
atm	cif	eak	eyo	hoe		mob	obj	
ato	cil	eam	eys	hog		mod	obs	
atr	cip	eap		hte	joi	mot	oce	pal
ats	ckl	eau		htl	jou	mov	ocu	pam
aul	cli	ebr	fam	hty	joy	mph	ode	pat
aut	cof	ebt	fas	hus		mpr	odu	pel
awi	cot	eby	fau			mps	ody	pes
awn	cow	ecr	fea		kel	mse	ofi	pet
axe	cqu	edn	feb	iab	kep	mum	ofc	pfu
aye	cro	eds	fed	ian	kid	mut	oft	phl
	cry	eea	fel	iar	kly	mys	ogr	pic
	ctf	eei	ffa	ibi			ogu	pip
bag	ctr	ees	fix	ibr			oid	pit
bar	cts	efr	fal	ick	lcc	nar	oil	plo
bat	ctu	egg	fly	idd	ldr	nch	oke	plu
bbe		ehi	foc	idi	ler	ncy	cls	pok
bea		eho	fra	idu	lia	ndn	olv	poo
beh	dai	elc	fru	ief	lim	nei	omb	pop
bey	dam	els	fts	ier	lip	nen	omo	pou
bin	dde	elt	fus	iet	lke	net	oof	ppy

TABLE III-A (Continued)

pta	ris	rsa	seq	tch	typ	unn	wal	yar
pts	riz	rsi	sew	tec		unp	wea	yed
pty	rks	rtl	sfe	tep		uns	wet	yee
pul	rld	rua	sfy	tfi	uab	unu	wic	yel
pum	rlo	rub	sic	tfu	uai	upe	wid	yon
	rmo	rue	sil	thl	ubb	urg	wif	yon
	rna	rug	siv	tia	ubm	usl	wns	ype
rap	rnm	rui	sli	tie	ubs	uss	wom	yse
rar	rno	rwi	slo	tig	uca	usy	won	ysi
raw	rns	ryi	sly	tli	uce	utf	wsp	
ray	roc		sme	tof	uck	uth		
roi	rod		sci	ton	uen	utl		zed
rdl	ref	sac	sou	top	ufa	uto	xcl	
rdu	rog	saf	spa	tov	uga	utt	xec	
reb	rok	sag	spi	tse	uic	uyi	xed	ar'
reh	rol	san	spl	tst	ule		xes	en'
rec	ros	sap		ttr	uma		xha	ny'
rer	row	sca		tty	ump	vil	xim	r's
rfe	rox	sce	tab	tut	unf	vit		sn'
rgi	rpr	scu	tax	twi	ung	vou		y's

TABLE III-C

THREE-LETTER SEQUENCES FOUND IN THE FOURTH THOUSAND RANK (3,005-4,087)
OR MOST COMMON WORDS NOT ENCOUNTERED IN THE FIRST THREE THOUSAND RANK
Number of New Sequences. 293

abr	coo	fle	irn	lov	nva	rho	tiz	xer
acu	cra		irr	lry	nwh	rik	tlo	xib
adm	cta		irt	lte	nyb	riu	tmo	xts
adu		gau	iru	luc	nze	rka	toe	
agg		gea	itn	lun		rkm	tpo	
aho	dab	geo	ivo	lvi		rml		yag
aka	dau	gga	izi	lye	oap	rmu		ybe
aks	deq	ggs			oco	rpa	uet	ybi
aln	dex	ghb			odi	rru	uge	yer
anq	dha	gif	jaw	mah	oga	rsu	ugs	yie
anv	dme	gio	jew	mba	ogi	rsy	uid	ypi
anw	dmi	glo	jur	mbu	ois	rud	ulk	ywh
apl	dru	gno	juv	mly	oko	rur	umu	
apo	dsh	gui		mms	olf	rut	unj	
arf	dso			moo	olk	rye	unr	ce-
atf			kab	msh	onp	ryw	uou	e-p
awe		hab	key	mul	ony		ups	f-a
ayb	eag	haf	kgr		onz		ury	o-c
ayo	eba	hbo	kir		opr	sba	usb	o-d
	eda	hco	kma	nai	orh	scl	utc	p-t
	eec	heo	kni	ndh	osa	sle	utm	so-
bak	eev	hev	kou	ndm	otm	smi	uve	to-
bbi	efl	hhe	kra	ndr	owd	sno	uye	up-
bbo	ehe	hho		nel	oyi	sms		-ad
bir	eim	hni		nfa		soa		-ca
bow	eki	hoi	lag	nfu		std	vag	-da
buc	elr	hun	lap	nil	pav	stp	vas	-pr
bud	enf		ldm	nju	pef		vag	-to
bun	eor		ldn	nke	phi		vet	
	eoq	iag	ldo	nlo	pia	taf	voc	
	erg	ibb	lee	nol	pse	tap		ek'
cea	erp	ieu	leu	nre		tas		es'
chm	esk	ifl	lex	nsh		tau	wag	h's
chn	eso	ift	lks	nsm	rca	too	wde	k's
cig	eum	inj	llm	nso	rcl	tda	wov	oy'
ckg	eya	ino	lme	ntu	roo	tfo	wre	th'
ckr		ipl	lnu	nuc	rfo	the		
cod	fab	ipr	lob	nur	rgo	thh	xou	ys'

TABLE III-D

THREE-LETTER SEQUENCES FOUND IN THE FIFTH THOUSAND RANK (4,088-5,226)
 OF MOST COMMON WORDS NOT ENCOUNTERED IN THE FIRST FOUR THOUSAND RANK
 Number of New Sequences. . . . 246

abn	civ	fis	imm	mok	poe	sud	urb	uze
acy	coh		iqu	mop	pog	sus	uro	
adc	coy		isd		pru	syn	utg	
adh	ctn	ggr	itm		pun		utp	zon
aer	cuf	gib		nad	pwa		uum	zor
afl	cui	gid		ndk	pyi	tav	uys	
agn	cuu	gie	jac	nia		tgo	uze	
agu		gil	jam	nkf		thf		ar-
aiv		git	jel	nla	rak	thm		ll-
alc	dag	giz	jer	nog	raz	tib	vab	l-k
amm	dal	gli		noi	rbl	tai	vea	ow-
arp	dea	gor		nsc	rbu	toi	vig	r-b
arv	dhe		kfu	nsl	rhe	tos		st-
asn	diz		kil		rle	tpu		t-d
asb	dja	hef	ksm		rnt	tsc	wav	w-u
asp	dke	hfu		oac	roz	tum	wiv	-by
auc	dvo	hio		obv	rpe		wly	-du
auz		hma	lax	oem	ryd		wni	-kn
awy		hoc	laz	oet		uad	woe	-up
axa	edd	hov	lbo	oho		ubi	wpo	
aze	egs	hst	lbs	ola	sau	udd	wra	
azo	eke	htf	lfi	omf	sbe	uer	wye	d's
	elb	htn	liq	onj	sdi	uiv		e's
	emn	hum	lug	oru	seb	ulb		ey'
bby	enl		lyz	oso	sey	ulf	xat	ff'
bnc	eny			otw	sky	ulu	xin	f's
btf	eog	ico		oty	sna	ulv	xpa	ht'
buf	eos	ido	meh	oud	sne	uma	xti	ld'
bum	etr	igg	mfo		sot	unq		nt'
bvi	ewp	igo	mia		sph	uor	yal	or'
	eyi	igs	mne	phe	spu	upa	yda	re'
		iki	mni	phs	ssm	upw	ynd	rs'
oak	fek	imn	moi	pio	ssn	upy	ypo	t's

Procedure 4. Preparation of Word List Containing All Three-Letter Sequences Found in 7M Words.

In Procedure 3, pages 57-58 , each of the M's in order of weighted frequency of the 7M words of the Horn-Peterson list was analyzed for three-letter sequences not found in the preceding M or M's. It was stated in Procedure 3 that if a new sequence, not previously checked on the check lists, was met, the third letter of the combination in the word was underlined in the book. This meant that each word that had one or more new combinations was underlined in one or more places.

In procedure 4, each word underlined one or more times in Procedure 3 had a check mark placed in front of the word. Starting with words of the highest weighted frequency, each word in order that had a check mark was listed. Tables IV-A, IV-B, IV-C, IV-D, IV-E, IV-F, IV-G, pages 71-84 , that resulted from this procedure contain the list of words in order of weighted frequency taken from the 7M words that have sequences not met in words of higher weighted frequency ranking according to the Horn-Peterson list. The words found in the first, second, third, fourth, fifth, sixth, and seventh M were separated.

Findings 4

The total list of 1,929 words in Tables IV-A through IV-G contains all three-letter sequences found in the 7M words. The

list of 676 words for the first M contains all three-letter sequences found in the first M words. The list of 348 words in the second M contains all the new sequences found in the second M, not contained in the first M words. The list of 252 words in the third M contains all the new sequences found in the third M not contained in the first 2M words, etc., for each of the remaining M of the total 7M words of the Horn-Peterson list. The following chart gives a summary of this information.

	<u>Total No.</u>	<u>Shorter List</u>	<u>Omitted Words</u>	<u>% Omitted</u>
First M	1003	676	327	32.6
Second M	1000	348	652	65.2
Third M	1001	252	749	74.8
Fourth M	1083	212	871	80.4
Fifth M	1139	186	953	83.6
Sixth M	766	126	640	82.2
Seventh M	1037	129	908	87.6
TOTAL 7M	<u>7029</u>	<u>1929</u>	<u>5100</u>	

The chart reveals that approximately 32.6 percent, or three out of every ten words, may be omitted in the first M words. In the second M, 65 percent may be omitted. In the third M, 75 percent may be omitted. In the fourth M, 80 percent of the words may be omitted. The fifth M omits 84 percent of the words. The sixth M omits 82 percent, and the seventh M omits 88 percent. The rate of increase in word omission becomes slower with later M's which is consistent with the findings for fewer new sequences. From the entire list of 7,029 words, 72.2 percent may be omitted

and all the three-letter sequences can be presented in a list of 1,929 words. That is, 27.6 percent of the total 7,029 words will cover all the three-letter sequences in the 7,029 words. The 676 words (Table IV-A, pages 71-74) contain all sequences in the first M of the Horn-Peterson list. An additional 348 words (Table IV-B, pages 75-76) contain all the new sequences found in the second M; an additional 252 words (Table IV-C, pages 77-78) contain all the new sequences found in the third M; an additional 212 words (Table IV-D, pages 79-80) for the fourth M; 186 words (Table IV-E, pages 81-82) for the fifth M; 126 words (Table IV-F, page: 83) for the sixth M; and 129 words (Table IV-G, page: 84) for the seventh M.

It is apparent that practice on the list of words containing three-letter sequences in the first M words (Table IV-A) furnishes practice on the three-letter sequences in many other words in the second through the seventh M rank of the Horn-Peterson list. Practice on the words in each succeeding M (Tables IV-B through IV-G) furnishes practice on more three-letter sequences until in the seventh M there are only 129 words that have new three-letter sequences not previously met.

TABLE IV-A

WORDS CONTAINING ALL THREE-LETTER SEQUENCES FOUND IN FIRST THOUSAND RANK (1-1003) OF MOST COMMON WORDS
Total Number of Words.676

the	account	possible	believe
and	know	got	department
you	just	work	line
for	make	over	therefore
that	day	number	cannot
your	much	may	forward
have	copy	company	making
will	made	present	new
are	same	before	payment
not	also	hope	sir
order	yours	business	future
this	well	sending	material
with	find	only	book
but	them	being	days
all	glad	two	able
was	shipment	balance	best
very	return	after	trust
had	see	appreciate	state
from	information	regarding	feel
one	price	service	soon
time	check	more	further
received	give	first	next
get	amount	enclosing	through
please	advise	reply	above
been	receipt	interest	bill
letter	what	shall	case
can	enclosed	today	last
would	note	too	again
she	come	office	statement
when	were	must	care
about	credit	satisfactory	think
they	thank	should	each
any	how	returned	upon
which	herewith	like	list
some	however	year	want
has	other	their	given
attention	wish	covering	way
matter	did	favor	returning
there	say	stock	reference
send	him	thanking	call
kindly	take	who	request
good	date	necessary	these

IV-A (Continued)

such	back	advance	most
special	promptly	name	does
remittance	delay	try	suggest
mail	understand	boy	delivery
three	money	forwarded	keep
use	sorry	items	second
write	bank	bad	assure
course	opportunity	placed	immediate
goods	whether	separate	later
size	complete	against	probably
hear	attached	anything	bed
few	recent	great	found
pleasure	regret	greatly	getting
desire	school	claim	duplicate
right	connection	entirely	lot
following	sales	high	seems
unable	going	look	consider
past	books	short	paper
referring	because	instructions	error
shipped	better	additional	discount
until	giving	early	shipping
without	supply	done	indeed
prompt	contract	still	collection
taken	general	convenience	together
month	its	doubt	customer
week	city	called	gentlemen
old	small	open	inquiry
cost	accept	express	address
report	having	wrote	answer
charge	during	correct	asked
writing	position	condition	purchase
paid	subject	notice	doing
orders	direct	years	charged
little	always	merchandise	certainly
invoice	ago	copies	oblige
furnish	need	long	proper
remain	full	original	asking
might	reason	large	sell
once	ask	bring	total
yet	several	sample	why
another	big	catalog	help
put	both	enough	settlement
interested	value	careful	expense
replying	acknowledge	while	accordance
since	own	wire	near
expect	change	already	policy
records	file	people	unless
man	offer	into	mind
place	freight	either	correspondence

IV-A (Continued)

quite	serve	out	thanks
rather	instead	Friday	quality
far	market	terms	hot
calling	shipments	transportation	figures
meet	perhaps	effect	room
weeks	building	property	various
sold	signed	manager	checks
particular	advantage	experience	July
approval	local	grade	usual
meeting	tell	exchange	commission
truly	equipment	available	issued
dozen	run	extra	allowed
saw	fully	increase	carried
page	considerable	fall	extension
although	quote	opinion	life
months	sheet	parts	lots
relative	adjustment	package	April
memorandum	Sunday	everything	accordingly
addressed	situation	hands	machine
arrange	buy	awaiting	whole
handle	left	yes	county
between	deal	notes	national
regular	definite	obtain	reading
cash	January	representative	appear
personal	Saturday	yesterday	average
trouble	standard	similar	public
coming	down	touch	sufficient
point	arrangement	committee	leave
different	blank	farm	length
entire	held	entitled	examination
issue	trade	gone	inasmuch
morning	including	job	ourselves
house	home	effort	quantity
draft	purpose	means	assume
advertising	season	properly	don't
earliest	due	board	previous
hold	except	white	dollars
cases	territory	bit	informed
handling	division	article	working
secure	style	suit	mailing
something	co-operation	things	practically
basis	box	cancel	floor
bills	spring	December	around
proposition	times	November	water
anxious	include	impossible	fun
concerning	learn	telegram	trip
beg	view	half	railroad
insurance	envelope	results	makes
follows	never	sizes	those

IV-A (Continued)

period	successful	payable	coat
demand	told	system	courtesy
said	western	advisable	judgment
telephone	communication	start	liberty
exception	undoubtedly	continue	mortgage
success	association	color	placing
heavy	checking	almost	salesman
firm	decide	arrived	coal
June	field	method	college
night	Tuesday	study	booklet
bond	evidently	attorney	bulletin
law	power	benefit	checked
October	stamped	blue	common
whatever	talk	current	costs
circumstances	outside	started	organization
estimate	decision	details	realize
raise	description	moment	single
notify	explanation	occasion	weight
came	fair	piece	loan
exactly	gave	save	certificate
failed	town	eye	financial
parcel post	annual	yourself	higher
summer	beginning	ground	inconvenience
rush	enable	September	fat
Thursday	third	permit	apparently
district	deducted	street	distribution
indicate	satisfactorily	volume	front
satisfied	August	hesitate	needed
somewhat	absolutely	paying	went
type	specified	volume	the
provide	submitted	volume	the
bearing	submitted	volume	the
brought	submitted	volume	the
agency	submitted	volume	the
submitted	submitted	volume	the
facts	submitted	volume	the
kept	submitted	volume	the
thoroughly	submitted	volume	the
approximately	submitted	volume	the
gladly	submitted	volume	the
usually	submitted	volume	the
otherwise	submitted	volume	the
experimented	submitted	volume	the
overlooked	submitted	volume	the
payment	submitted	volume	the
also	submitted	volume	the
facts	submitted	volume	the

TABLE IV-B

WORDS CONTAINING ALL THREE-LETTER SEQUENCES FOUND IN SECOND THOUSAND RANK (1,004-2,003) OF MOST COMMON WORDS NOT ENCOUNTERED IN FIRST THOUSAND RANK

Total Number of Words. . . .348

branch	rule	manufacturers	wife
dispose	difficulty	avenue	drawing
Wednesday	force	outlined	fast
iron	kid	drop	pipe
running	motor	program	previously
signature	watch	transfer	privilege
yards	boxes	ahead	catalogues
investigation	duly	attractive	block
labor	conversation	brown	cry
pretty	actual	net	foot
schools	else	readily	overdue
arrival	impression	top	pleasant
sets	capacity	agency	principal
bottom	carrying	anyone	church
disappointed	children	claims	daily
per cent	library	fix	moving
needs	message	gross	oil
proof	middle	model	popular
added	putting	stamps	south
delayed	boys	unpaid	unusual
doors	university	music	goes
premium	dealers	club	quickly
provided	product	feature	afternoon
shortly	railway	weather	damage
type	commercial	works	hog
pounds	specified	splendid	misunderstanding
bearing	allowance	bureau	shoes
brought	possibility	corporation	avoid
space	secretary	felt	hardly
submitted	education	occurred	proceed
facts	consequently	paragraph	company's
kept	authority	profit	neither
thoroughly	keeping	throughout	none
approximately	broken	tomorrow	slip
gladly	charging	drawn	doctor
monthly	inability	family	invitation
otherwise	true	transaction	providing
superintendent	young	warehouse	traffic
overlooked	buying	cities	compliance
government	absence	dry	outstanding
plus	crop	individual	perfect
fault	outfit	prior	acquainted

IV-B (Continued)

couple	pattern	welcome	drafts
easily	sketch	dog	protection
salesmen	someone	inclined	rubber
limited	desirable	bags	thereby
nor	often	cotton	built
prospects	fruit	ascertain	pamphlet
safe	kindness	federal	observe
agreeable	journal	involved	procure
employees	patronage	liability	automobile
refused	pictures	chair	competition
wide	society	coats	happy
earlier	busy	renewal	radio
February	cow	sugar	unsatisfactory
truck	fixed	column	wholesale
acceptance	hay	die	facilities
acknowledging	poultry	gray	pump
beyond	talking	myself	joy
reduced	treatment	speak	object
develop	world	year's	urge
easy	enclosure	across	combination
egg	subscription	cheaper	women
elsewhere	valuable	exclusive	fly
likely	steps	frame	slightly
ordinary	surprised	furthermore	voucher
heretofore	cashier	himself	boiler
permanent	exhausted	jobbers	soil
gold	chief	mighty	discussed
behind	failure	returns	doesn't
bringing	itemized	haven't	empty
clerk	namely	essential	medium
conference	satisfy	rug	straighten
milk	seeing	loose	thereon
talked	ton	stove	adopted
executed	coffee	affairs	analysis
newspaper	doubtless	control	gallon
substitute	receipts	joint	indebtedness
thus	depend	straight	body
wet	authorized	assignment	compelled
electric	flat	battery	enjoy
carbon	gas	respectfully	slow
familiar	helpful	hopes	twice
inclusive	inquiries	scale	fairly
taxes	minimum	spoke	poor
hospital	towns	attorneys	refrigerator
mutual	cream	cabinet	risk

TABLE IV-C

WORDS CONTAINING ALL THREE-LETTER SEQUENCES FOUND IN THIRD THOUSAND RANK (2,004-3,004) OF MOST COMMON WORDS NOT ENCOUNTERED IN FIRST TWO THOUSAND RANK

Total Number of Words. . . . 252 ✓

advertisement	chamber	girls	surplus
appointment	export	project	tariff
behalf	knew	promptness	tonnage
bookkeeping	magazines	woman	pupils
post office	maps	bridge	text
sad	spirit	coast	asks
survey	accrued	commands	destroy
fixtures	break	didn't	enthusiastic
galvanized	industrial	exhibit	genuine
hardware	instrument	fresh	majority
illustrations	men's	northwestern	whatsoever
rooms	signs	pocket	congratulate
mud	assuming	status	hogs
nap	comparison	worthy	holds
pig	debtor	professor	likewise
Christmas	domestic	beautiful	offset
rapidly	frankly	courteous	safety
numerous	accident	o'clock	snow
standpoint	bankruptcy	bay	soft
bolts	fuel	candy	studying
largely	mixed	employment	via
neglected	owner	helps	workers
register	agriculture	today's	afraid
rights	quiet	drive	anyway
roads	criticism	flour	auditor
wonderful	depot	altogether	clause
bid	physical	ceiling	compiled
can't	speed	customer's	economical
engineering	traveling	household	fiber
wood	brass	laws	helped
development	diameter	science	membership
square	requisition	surface	stockholders
vacation	sash	tonight	supreme
reducing	width	useful	thereafter
solid	fence	adapted	bids
timber	influence	debit	classification
weekly	affidavit	furnace	crops
stay	degree	honor	cylinder
announcement	duty	lamp	economy
cup	endorsement	private	game
minutes	engaged	push	grateful
stuff	existing	statistics	label

IV-C (Continued)

miscellaneous	mechanical	argument	ultimo
odd	valley	capable	withdraw
ruling	willingness	dimensions	psychology
thousands	underwear	elevator	slips
devoted	accompanying	fancy	all right
expiration	army	gratifying	annoyance
level	everyone	headquarters	baby
mislaid	experiment	isn't	carton
pardon	helping	pads	coils
reputation	illness	self-explanatory	enroute
thereof	lighting	tubes	incurred
uniform	maximum	language	justly
weighing	phase	decline	recognize
highway	renewed	distinctly	remedy
assembly	specimens	establishment	silver
bonus	tip	everybody	somebody
easier	toy	fry	switch
encouraging	typewriter	gun	telegrams
growth	magic	jar	dig
kitchen	navy	negotiations	gay
lake	oxfords	reservation	high school
capable	anybody	located	handouts
firmly	much	ly-	jewelry
husband	cedar	screwdriver	knit
live	couldn't	ribbon	perforated
servantile	locks	eye	pebbles
neighborhood	direction	heralding	personal
street	eventually	vice-president	petardons
principles	overalls	was found	bits
anywhere	valves	was't	truth
commodities	panel	where	midfield
falls	permal	equipment	harquet
forthcoming	selena	brass	'logs'
gloves	speaks	nails	without
allergic	theory	coat	compressive
unpleasant	transmission	formal	hopeful
questionnaire	valves	friendship	ivory
valuable	zipper	allocation	jewels
clever	ahead	leaker	any
adequate	fabrics	drudge	look
columns	glove	eloped	monogamy
rugs	guide	unhappy	paring
directograms	platform	irregular	salvage
apology	soap	appropriately	self-addressed
breakage	staff	but	yield

TABLE IV-D

WORDS CONTAINING ALL THREE-LETTER SEQUENCES FOUND IN FOURTH THOUSAND RANK (3,005-4,087) OF MOST COMMON WORDS NOT ENCOUNTERED IN FIRST THREE THOUSAND RANK

Total Number of Words.212

attachment	consolidated	walnut	circle
authorizing	crude	abeyance	continuous
briefly	daughter	adaptable	deceased
crowd	habits	forgotten	flag
drums	hundreds	gradually	linoleum
enjoying	maple	overcome	logical
installments	meanwhile	reciprocate	maybe
layout	seeking	resort	outlook
powder	technical	strike	proposal
resulted	trifle	eggs	religious
shaft	up-to-date	injury	remarkable
steamship	withhold	rural	taught
buyers	buckram	workmanship	witness
speech	jaw	canvass	auditorium
admit	nursery	embarrassing	carriage
confused	shirts	excuse	enforce
controversy	wages	expectations	fairness
cups	accumulate	faculty	gears
dependable	anybody	lockout	handsome
firmly	bunch	lye	jewelry
husband	cedar	moreover	knit
lieu	couldn't	ribbon	performed
mercantile	desks	rye	potatoes
neighborhood	disclose	testimony	pursuant
utmost	eventually	vice-president	secondhand
principles	exercise	vocational	texts
anywhere	outcome	week's	truth
commodities	panel	woven	withheld
folks	payroll	amendment	banquet
forthcoming	seldom	bronze	boys'
gloves	speaks	code	citizens
mileage	theory	cook	comprehensive
nonpayment	transmission	formula	hopeful
questionnaire	velvet	friendship	ivory
reimburse	whichever	allotment	juvenile
sleeves	abroad	banker	key
adequate	fabrics	drayage	luck
columns	globe	elapsed	mahogany
rugs	guide	emergency	paving
advantageous	platform	irregular	salvage
apology	soap	appropriation	self-addressed
breakage	staff	bud	yield

TABLE IV-D Continued

ladies'	postdated	baggage	index
background	scarf	baking	jobbing
drawers	shelving	birth	locomotive
flexible	sirup	bow	postpone
gift	telegraphic	bulk	rebate
golf	unfavorable	cigars	scrap
hoist	unloaded	corrugated	skirt
luncheon	unreasonable	criticisms	smooth
month's	vegetable	everywhere	task
overpayment	waybill	guage	typical
piano	wrench	ignored	unjust
hammer	snapped	ball	partry
knives	tactile	bumpers	aircraft
legitimate	toilet	canoes	asparagus
marble	typographical	chocolate	biograph
soleure	vacuum	conjunction	gain
output	adhere	conveying	chorus
petroleum	adjacent	debtor's	cloud
telegraphed	alcohol	electrify	correctness
viewpoint	apologize	fulfill	crossed
widow	bigger	harvest	cut
wrapped	brain	inadequate	culverts
axe	buys	jan	curriculum
perwade	carpet	loyalty	delighted
stenographer	shimmy	medal	deep
advocate	shrill	miniature	disturb
analyze	suspicious	map	fulfill
approached	everyday	masse	following
adhesive	fashion	netary public	gilt
baseball	fish	occupy	glazed
balbe	flux	postscript	good will
carburetor	gauss	prout	can't
carelessness	geography	press	kill
carriers'	indemnity	punched	larger
civil	jurisdiction	query	limp
comfortable	legs	safekeping	lobby
corduroy	lightning	shovels	participating
coy	liquid	sky	occupation
dispute	magneto	standardized	occupying
eligible	obvious	stave	outgoing
enlarge	ocean	striking	paragraph
entertainment	rescue	sudden	post-see
equivalent	thankful	syndicate	pattinets
expansion	thief	united	rig
freshman	wave	translation	pioneer
handshaker	accuracy	questionably	real estate
		upward	reveal

TABLE IV-E

WORDS CONTAINING ALL THREE-LETTER SEQUENCES FOUND IN FIFTH THOUSAND RANK (4,088-5,226) OF MOST COMMON WORDS NOT ENCOUNTERED IN FIRST FOUR THOUSAND RANK

Total Number of Words. . . .186

aggregating	jelly	aerial	vigorously
apologies	leaflets	agent's	wedding
child's	negligence	asphalt	woe
conscientious	overhead	attorney's	X ray
elbow	owning	boxing	arithmetic
embarrassment	plug	broadcasting	jersey
frozen	receivable	buff	poetry
hammer	snapped	bumpers	abnormal
human	textile	census	asparagus
legitimate	toilet	chocolate	blacksmith
marble	typographical	conjunction	cake
moisture	vacuum	conveying	chorus
output	adhere	debtor's	commitments
petroleum	adjacent	electrotype	correctness
telegraphed	alcohol	fulfill	creosote
viewpoint	apologize	harvest	cuff
widow	bigger	inadequate	culverts
wrapped	brake	jam	curriculum
zone	buys	loyalty	delightful
persuade	carpet	medal	deny
stenographer	chimney	miniature	disturb
advocate	circuits	mop	faithful
analyze	doubtful	noise	follow-up
approached	everyday	notary public	gilt
asbestos	fashion	occupy	glazed
baseball	fish	postscript	good will
bulbs	flax	proud	hasn't
carburetor	gauze	prune	kill
carelessness	geography	punched	lawyer
carriers'	indemnity	query	liquor
civil	jurisdiction	safekeeping	lobby
comfortable	legs	shovels	notwithstanding
corduroy	lightning	sky	occupation
coy	liquid	standardized	occupying
dispute	magneto	staves	outgoing
eligible	obvious	striking	paragraphs
enlarge	poems	sudden	past-due
entertainment	razors	syndicate	petticoats
equivalent	thankful	taxation	pigs
expansion	theft	translation	pioneer
freshman	wave	unquestionably	real estate
handkerchief	accuracy	upward	reveal

TABLE IV-E (Continued)

rigid	slowly	tonight's	vestibule
sauce	smoke	tubing	waiver
scarlet	somehow	tumbler	well-known
semiannual	swivel	turntable	yardage
sheriff's	there's		
plaintiff's	whereof	weight	manuscript
absorb	whisperer	worth-while	midst
admirably	visions	writh-up	all-work
anytime	writing's	wisdom	overcrowded
appendix	and	with	patriotism
apparently	odor	wishers	peruse
ask	outright	wrenchshaft	picnic
beam	people's	wrench	proofs
barber	piston	wheeling's	rejected
birthday	postpaid	policyholders	reconstrue
bob	presumably	postulate	sales
bug	prohibit	prize	sales
burial	pro rata	roll-up	storekeeper
bylaws	pulp	roll-up	subdivision
clerk's	retailing	roll-up	subtracted
consultation	re-its	roll-up	transformer
criticizing	reservoir	roll-up	upset
cubic	right of way	roll-up	varied
cycle	shrinkage	roll-up	violates
depth	sidewalk	roll-up	weathered
diagnosis	file	roll-up	wheeling's
disbursements	winning	roll-up	wheeling's
disregard	switchboard	roll-up	witness
drafting	sympathy	roll-up	fieldman
drawn	tabulation	roll-up	geography
embodying	tracks	roll-up	half-tone
fellowship	unfiled	roll-up	goals
fertilizer	underwriters	roll-up	late
hog	unwilling	roll-up	sole
inventory	vault	roll-up	stall
likelihood	virtue	roll-up	paper
		roll-up	philosophy

TABLE IV-F

WORDS CONTAINING ALL THREE-LETTER SEQUENCES FOUND IN SIXTH THOUSAND RANK (5,227-5,992) OF MOST COMMON WORDS NOT ENCOUNTERED IN FIRST FIVE THOUSAND RANK

Total Number of Words. . . .126

plaintiffs'	make-up	weighs	manuscript
absorb	marquissette	worth-while	midst
admirably	millions	write-up	millwork
anytime	morning's	antenna	overcrowded
appendix	nod	butts	patriotism
awfully	odor	chokers	peruse
axle	outright	crankshafts	picnic
bacon	people's	crotch	proofs
barber	piston	mechanic's	rejected
birthday	postpaid	policyholders	remembrance
bob	presumably	acetylene	sake
bug	prohibit	algebra	soda
burlap	pro rata	all-steel	storekeeper
bylaws	pulp	alphabetical	subdivision
clerk's	rebuilding	auspices	subtracted
consultation	re-ice	celebration	transformer
criticizing	reservoir	computed	upkeep
cubic	right of way	corps	verbal
cycle	shrinkage	default	violets
depth	sidewalk	defiance	westbound
diagnosis	silo	demurrage	architect's
disbursements	swimming	dragging	blueprint
disregard	switchboard	dyed	citrus
drafting	sympathy	enrolled	fieldman
drayman	tabulation	giant	geometry
embodying	trunks	ginghams	half-tone
fellowship	uncalled	glued	goats
fertilizer	underwriters	hardy	jute
keg	unwilling	immigration	mole
lavatory	vault	insofar	ckeh
likelihood	virtue	lubricating	pajama
		madras	philosophy

TABLE IV-G

WORDS CONTAINING ALL THREE-LETTER SEQUENCES FOUND IN SEVENTH THOUSAND
RANK (5,993-7,033) OF MOST COMMON WORDS NOT ENCOUNTERED IN FIRST
SIX THOUSAND RANK

Total Number of Words. . . .129

abandon	newly	diem	hardwood
adjoining	nobody	dweller	housekeeping
apportionment	outlay	eucalyptus	inbound
backward	partner	extraordinary	incubator
bibliography	peg	gowns	infants'
billfolds	pongee	horizontal	integrity
biscuit	postponement	inheritance	interspace
bouquet	present-day	laundry	jiffy
boxcar	quartet	overlook	khaki
breakfast	queen	taupe	left-hand
briefs	radius	three-year	logging
debts	revival	abbreviated	lucky
decade	root beer	affixing	Mimeograph
dug	seized	allowable	muff
embroidery	shift	amongst	muskrat
energy	someone's	bogus	puzzled
evergreens	stooping	broadsides	ready-to-wear
exempt	swamped	calculated	re-enter
football	that's	celluloid	seriousness
hand't	tuberculosis	conflict	shepherd
hand-picked	unknown	cookies	shut
hazard	unpleasant	dummies	solely
helpless	wade	duofold	struggle
inaugurate	welfare	excavation	suspicion
jump	well-secured	exhorts	syringe
kingdom	workmen's	films	token
knobs	arbitrary	forceful	unbalanced
knocked	bimonthly	frauds	union suit
landscape	blackboard	girls'	unlikely
leisure	book's	glucose	unprinted
misspelled	broadcloth	grapevines	wildcat
muddy	chiffon	greenhouse	
neckwear	cleanup		

CHAPTER III

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. English words apparently have certain basic three-letter sequences that recur frequently. Only a part of the possible three-letter sequences are used in the 7,029 words.

(a) Out of the total number of sequences found (37,028), the number of different sequences was 3,007; yet out of a possible 21,952 different sequences, only 3,007 different sequences were found.

2. Many sequences of three letters in the first M words of the Horn-Peterson list recur frequently in words of the other 6M.

(a) The 1,304 different sequences in the first M are 43.5 percent of the 3,007 different sequences in the 7M.

(b) Only 1,703 new sequences are found in the 6M beyond the first M.

3. Because of the repetitions of three-letter sequences in words, a short list of words will contain every three-letter sequence found in 7M words.

(a) The method used in this study yielded a list of 1,929 words that contain all the three-letter sequences in 7M words, thus permitting the omission of 5,100 words.

(b) The largest number of the 1,929 words (676 words) are found in the first M. The second M contains 348 new words; third M, 252; the fourth M, 212; the fifth M, 186; the sixth M, 126; the seventh M, 129.

Recommendations

On the basis of the data reported, the following recommendations are made:

1. That further research be made to see if practice on the 1,929 words found in this study in whole or in part that contain all the three-letter sequences found in 7,029 words gives the mastery necessary to type other words containing the same three-letter sequences.

2. That typewriting copy be constructed from these 1,929 words in whole or in part that contain all the three-letter sequences found in 7,029 words.

3. That further research be made to see if copy based on the 1,929 words in whole or in part would result in time economy in the teaching of typewriting.

4. That further research be made to see if practice on the 3,007 different sequences found in 7,029 words would furnish good supplementary drill exercises for the teaching of typewriting.

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