APPENDIX B

FREQUENCY DISTRIBUTIONS OF ENGLISH TRIGRAPHS

Frequency distributions of English trigraphs appearing in 50,000 letters of government plaintext telegrams.

Table B-1. The 56 trigraphs appearing 100 or more times, arranged according to their absolute frequencies, accompanied by the logarithms of their assigned probabilities.

	F	L_{10} (F)	L_{586} (F)		F	L_{10} (F)	L_{586} (F)		F	L_{10} (F)	L_{586} (F)
ENT	569	2.76	.99	TOP	174	2.24	.82	EIG	135	2.13	.79
ION	260	2.41	.88	NTH	171	2.23	.82	FIV	135	2.13	.79
AND	228	2.36	.86	TWE	170	2.23	.82	MEN	131	2.12	.78
ING	226	2.35	.86	TWO	163	2.21	.81	SEV	131	2.12	.78
IVE	225	2.35	.86	ATI	160	2.20	.81	ERS	126	2.10	.78
TIO	221	2.34	.85	THR	158	2.20	.81	UND	125	2.10	.78
FOR	218	2.34	.85	NTY	157	2.20	.81	NET	118	2.07	.77
OUR	211	2.32	.85	HRE	153	2.18	.80	PER	115	2.06	.76
THI	211	2.32	.85	WEN	153	2.18	.80	STA	115	2.06	.76
ONE	210	2.32	.85	FOU	152	2.18	.80	TER	115	2.06	.76
NIN	207	2.32	.85	ORT	146	2.16	.80	EQU	114	2.06	.76
STO	202	2.31	.84	REE	146	2.16	.80	RED	113	2.05	.76
EEN	196	2.29	.84	SIX	146	2.16	.80	TED	112	2.05	.76
GHT	196	2.29	.84	ASH	143	2.16	.80	ERI	109	2.04	.76
INE	192	2.28	.83	DAS	140	2.15	.79	HIR	106	2.03	.75
VEN	190	2.28	.83	IGH	140	2.15	.79	IRT	105	2.02	.75
EVE	177	2.25	.82	ERE	138	2.14	.79	DER	101	2.00	.74
EST	176	2.25	.82	COM	136	2.13	.79	DRE	100	2.00	.74
TEE	174	2.24	.82	ATE	135	2.13	.79				

Table B-2. The 56 trigraphs appearing 100 or more times, arranged in alphabetic order by their first letters, then by absolute frequencies, accompanied by the logarithms of their assigned probabilities.

	F	L_{10} (F)	L_{586} (F)		F	L_{10} (F)	L_{586} (F)		F	L_{10} (F)	L_{586} (F)
AND	228	2.36	.86	GHT	196	2.29	.84	REE	146	2.16	.80
ATI	160	2.20	.81					RED	113	2.05	.76
ASH	143	2.16	.80	HRE	153	2.18	.80				
ATE	135	2.13	.79	HIR	106	2.03	.75	STO	202	2.31	.84
								SIX	146	2.16	.80
COM	136	2.13	.79	ION	260	2.41	.88	SEV	131	2.12	.78
				ING	226	2.35	.86	STA	115	2.06	.76
DAS	140	2.15	.79	IVE	225	2.35	.86				
DER	101	2.00	.74	INE	192	2.28	.83				
DRE	100	2.00	.74	IGH	140	2.15	.79	TIO	221	2.34	.85
				IRT	105	2.02	.75	THI	211	2.32	.85
ENT	569	2.76	.99					TEE	174	2.24	.82
EEN	196	2.29	.84	MEN	131	2.12	.78	TOP	174	2.24	.82
EVE	177	2.25	.82					TWE	170	2.23	.82
EST	176	2.25	.82	NIN	207	2.32	.85	TWO	162	2.21	.81
ERE	138	2.14	.79	NTH	171	2.23	.82	THR	158	2.20	.81
EIG	135	2.13	.79	NTY	157	2.20	.81	TER	115	2.06	.76
ERS	126	2.10	.78	NET	118	2.07	.77	TED	112	2.05	.76
EQU	114	2.06	.76								
ERI	109	2.04	.76	OUR	211	2.32	.85	UND	125	2.10	.78
				ONE	210	2.32	.85				
FOR	218	2.34	.85	ORT	146	2.16	.80	VEN	190	2.28	.83
FOU	152	2.18	.80								
FIV	135	2.13	.79	PER	115	2.06	.76	WEN	153	2.18	.80

Table B-3. The 56 trigraphs appearing 100 or more times, arranged in alphabetic order by their second letters, then by absolute frequencies, accompanied by the logarithms of their assigned probabilities.

	F	L_{10} (F)	L_{586} (F)		F	L_{10} (F)	L_{586} (F)		F	L_{10} (F)	L_{586} (F)
DAS	140	2.15	.79	SIX	146	2.16	.80	ERS	126	2.10	.78
				EIG	135	2.13	.79	ERI	109	2.04	.76
EEN	196	2.29	.84	FIV	135	2.13	.79	IRT	105	2.02	.75
VEN	190	2.28	.83	HIR	106	2.03	.75	DRE	100	2.00	.74
TEE	174	2.24	.82								
WEN	153	2.18	.80	ENT	569	2.76	.99				
REE	146	2.16	.80	AND	228	2.36	.86	EST	176	2.25	.82
MEN	131	2.12	.78	ING	226	2.35	.86	ASH	143	2.16	.80
SEV	131	2.12	.78	ONE	210	2.32	.85				
NET	118	2.07	.77	INE	192	2.28	.83				
PER	115	2.06	.76	UND	125	2.10	.78	STO	202	2.31	.84
TER	115	2.06	.76					NTH	171	2.23	.82
RED	113	2.05	.76					ATI	160	2.20	.81
TED	112	2.05	.76	ION	260	2.41	.88	NTY	157	2.20	.81
DER	101	2.00	.74	FOR	218	2.34	.85	ATE	135	2.13	.79
				TOP	174	2.24	.82	STA	115	2.06	.76
IGH	140	2.15	.79	FOU	152	2.18	.80				
				COM	136	2.13	.79	OUR	211	2.32	.85
THI	211	2.32	.85								
GHT	196	2.29	.84	EQU	114	2.06	.76	IVE	225	2.35	.86
THR	158	2.20	.81					EVE	177	2.25	.82
				HRE	153	2.18	.80				
TIO	221	2.34	.85	ORT	146	2.16	.80	TWE	170	2.23	.82
NIN	207	2.32	.85	ERE	138	2.14	.79	TWO	163	2.21	.81

Table B-4. The 56 trigraphs appearing 100 or more times, arranged in alphabetic order by their third letters, then by absolute frequencies, accompanied by the logarithms of their assigned probabilities.

	F	L_{10} (F)	L_{586} (F)		F	L_{10} (F)	L_{586} (F)		F	L_{10} (F)	L_{586} (F)
STA	115	2.06	.76	THI	211	2.32	.85	TER	115	2.06	.76
				ATI	160	2.20	.81	HIR	106	2.03	.75
AND	228	2.36	.86	ERI	109	2.04	.76	DER	101	2.00	.74
UND	125	2.10	.78								
RED	113	2.05	.76	COM	136	2.13	.79	DAS	140	2.15	.79
TED	112	2.05	.76					ERS	126	2.10	.78
				ION	260	2.41	.88				
IVE	225	2.35	.86	NIN	207	2.32	.85	ENT	569	2.76	.99
ONE	210	2.32	.85	EEN	196	2.29	.84	GHT	196	2.29	.84
INE	192	2.28	.83	VEN	190	2.28	.83	EST	176	2.25	.82
EVE	177	2.25	.82	WEN	153	2.18	.80	ORT	146	2.16	.80
TEE	174	2.24	.82	MEN	131	2.12	.78	NET	118	2.07	.77
TWE	170	2.23	.82					IRT	105	2.02	.75
HRE	153	2.18	.80	TIO	221	2.34	.85				
REE	146	2.16	.80	STO	202	2.31	.84	FOU	152	2.18	.80
ERE	138	2.14	.79	TWO	163	2.21	.81	EQU	114	2.06	.76
ATE	135	2.13	.79								
DRE	100	2.00	.74					FIV	135	2.13	.79
				TOP	174	2.24	.82	SEV	131	2.12	.78
ING	226	2.35	.86								
EIG	135	2.13	.79								
				FOR	218	2.34	.85	SIX	146	2.16	.80
NTH	171	2.23	.82	OUR	211	2.32	.85				
ASH	143	2.16	.80	THR	158	2.20	.81				
IGH	140	2.15	.79	PER	115	2.06	.76	NTY	157	2.20	.81