

TABLES OF VOWEL AND CONSONANT PHONEMES

Vowel Phonemes
Positional Occurrences

Initial			Medial		Final		Total		
								vowels	phonemes
<i>a</i>	7	6.7 %	60	57.7 %	37	35.6 %	104	34.9 %	17.6 %
<i>e</i>	1	3.8 %	8	30.8 %	17	65.4 %	26	8.7 %	4.4 %
<i>i</i>	4	4.5 %	41	46.1 %	44	49.4 %	89	29.9 %	15.1 %
<i>o</i>	1	4.0 %	14	56.0 %	10	40.0 %	25	8.4 %	4.2 %
<i>u</i>	—	—	38	70.4 %	16	29.6 %	54	18.1 %	9.2 %
Total	13	4.4 %	161	54.0 %	124	41.6 %	298	100.0 %	50.5 %

Figure 59

Vowel Phonemes
Tongue Position

High		Mid		Low		Total		
							vowels	phonemes
<i>a</i>				104	104	34.9 %	17.6 %	
<i>e</i>		26			26	8.7 %	4.4 %	
<i>i</i>	89				89	29.9 %	15.1 %	
<i>o</i>		25			25	8.4 %	4.2 %	
<i>u</i>	54				54	18.1 %	9.2 %	
Total	143	48.0 %	51	17.1 %	104	34.9 %	50.5 %	

Figure 60

Vowel Phonemes
Points of Articulation

Front		Central		Back		Total		
							vowels	phonemes
<i>a</i>			104		104	34.9 %	17.6 %	
<i>e</i>	26				26	8.7 %	4.4 %	
<i>i</i>	89				89	29.9 %	15.1 %	
<i>o</i>				25	24	8.4 %	4.2 %	
<i>u</i>				54	54	18.1 %	9.2 %	
Total	115	38.6 %	104	34.9 %	79	26.5 %	50.5 %	

Figure 61

The Plosive Consonants
Points of Articulation

	Initial		Medial		Final		Total	
Labials	35	52.3 %	31	46.2 %	1	1.5 %	67	39.3 %
Alveolars	16	41.0 %	18	46.2 %	5	12.8 %	39	22.9 %
Palatals	9	28.1 %	22	68.8 %	1	3.1 %	32	18.9 %
Velars	14	43.8 %	17	53.1 %	1	3.1 %	32	18.9 %
Total	74	43.5 %	88	51.8 %	8	4.7 %	170	100.0 %

Figure 62

The Plosive Consonants
(including nasals)
Points of Articulation

	Initial		Medial		Final		Total	
Labials	47	50.0 %	39	41.5 %	8	8.5 %	94	44.8 %
Alveolars	21	43.7 %	22	45.9 %	5	10.4 %	48	22.8 %
Palatals	12	33.3 %	23	63.9 %	1	2.8 %	36	17.1 %
Velars	14	43.7 %	17	53.2 %	1	3.1 %	32	15.3 %
Total	94	44.8 %	101	48.1 %	15	7.1 %	210	100.0 %

Figure 63

The Plosive Consonants
Voiceless versus Voiced

	Initial		Medial		Final		Total	
Voiceless	57	42.8 %	68	51.2 %	8	6.0 %	133	78.3 %
Voiced	17	45.9 %	20	54.1 %	—	—	37	21.7 %
Total	74	43.5 %	88	51.8 %	8	4.7 %	170	100.0 %

Figure 64

The Plosive Consonants
(including nasals)
Voiceless versus Voiced

	Initial		Medial		Final		Total	
Voiceless	57	42.8 %	68	51.2 %	8	6.0 %	133	63.3 %
Voiced	37	48.0 %	33	42.9 %	7	9.1 %	77	36.7 %
Total	94	44.8 %	101	48.1 %	15	7.1 %	210	100.0 %

Figure 65

The Fricative Consonants
(including affricates)
Points of articulation

	Initial		Medial		Final		Total	
Labiodentals	—	—	—	—	2	100.0 %	2	2.4 %
Alveolars	8	22.9 %	25	71.4 %	2	5.7 %	35	42.7 %
Palatals	4	21.1 %	14	73.6 %	1	5.3 %	19	23.2 %
Velars	3	75.0 %	1	25.0 %	—	—	4	4.9 %
Laryngeal	18	81.8 %	4	18.2 %	—	—	22	26.8 %
Total	33	40.2 %	44	53.7 %	5	6.1 %	82	100.0 %

Figure 66

The Fricative Consonants
(including affricates)
Voiceless versus Voiced

	Initial		Medial		Final		Total	
Voiceless	9	37.5 %	11	45.8 %	4	16.7 %	24	29.2 %
Voiced	24	41.5 %	33	56.8 %	1	1.7 %	58	70.8 %
Total	33	40.2 %	44	53.7 %	5	6.1 %	82	100.0 %

Figure 67

The Consonant Phonemes
Points of Articulation

	Initial		Medial		Final		Total	
Bilabials	47	50.0 %	39	41.5 %	8	8.5 %	94	32.2 %
Labiodentals	—	—	—	—	2	100.0 %	2	0.7 %
Alveolars	29	35.0 %	47	56.6 %	7	8.4 %	83	28.4 %
Palatals	16	29.1 %	37	67.3 %	2	3.6 %	55	18.9 %
Velars	17	47.2 %	18	50.0 %	1	2.8 %	36	12.3 %
Laryngeal	18	81.8 %	4	18.2 %	—	—	22	7.5 %
Total	127	43.4 %	145	49.7 %	20	6.9 %	292	100.0 %

Figure 68

Voiceless versus Voiced

	Initial		Medial		Final		Total	
Voiceless	66	42.0 %	79	50.3 %	12	7.7 %	157	53.8 %
Voiced	61	45.2 %	66	48.9 %	8	5.9 %	135	46.2 %
Total	127	43.4 %	145	49.7 %	20	6.9 %	292	100.0 %

Figure 69

Manner of Articulation

	Initial		Medial		Final		Total	
Stops	74	43.5 %	88	51.8 %	8	4.7 %	170	58.3 %
Fricatives	33	40.2 %	44	53.7 %	5	6.1 %	82	28.0 %
Nasals	20	50.0 %	13	32.5 %	7	17.5 %	40	13.7 %
Total	127	43.5 %	145	49.7 %	20	6.8 %	292	100.0 %

	Initial		Medial		Final		Total	
Stops	94	44.8 %	101	48.1 %	15	7.1 %	210	71.9 %
Fricatives	28	39.4 %	39	55.0 %	4	5.6 %	71	24.4 %
Affricates	5	45.5 %	5	45.5 %	1	9.0 %	11	3.7 %
Total	127	43.5 %	145	49.7 %	20	6.8 %	292	100.0 %

	Initial		Medial		Final		Total	
Stops	74	43.5 %	88	51.8 %	8	4.7 %	170	58.3 %
Fricatives	26	45.6 %	27	48.4 %	4	7.0 %	57	19.5 %
Affricates	5	45.5 %	5	45.5 %	1	9.0 %	11	3.7 %
Nasals	20	50.0 %	13	32.5 %	7	17.5 %	40	13.7 %
Lateral	2	14.3 %	12	85.7 %	—	—	14	4.8 %
Total	127	43.5 %	145	49.7 %	20	6.8 %	292	100.0 %

Figure 70