

**Vowel Phonemes**  
**Positional Occurrences**

	Initial		Medial		Final			Total	
								vowels	phonemes
a	32	11.2 %	178	62.2 %	76	26.6 %	286	33.9 %	16.2 %
e	8	6.4 %	71	57.3 %	45	36.3 %	124	14.7 %	7.0 %
i	—	—	125	64.4 %	69	35.6 %	194	22.9 %	11.0 %
o	6	5.2 %	58	50.0 %	52	44.8 %	116	13.7 %	6.6 %
u	2	1.6 %	97	77.6 %	26	20.8 %	125	14.8 %	7.1 %
<b>Total</b>	<b>48</b>	<b>5.7 %</b>	<b>529</b>	<b>62.6 %</b>	<b>268</b>	<b>31.7 %</b>	<b>845</b>	<b>100.0 %</b>	<b>47.9 %</b>

Figure 132

**Vowel Phonemes**  
**Tongue Position**

	High		Mid		Low			Total	
								vowels	phonemes
a					286		286	33.9 %	16.2 %
e			124				124	14.7 %	7.2 %
i	194						194	22.9 %	11.0 %
o			116				116	13.7 %	6.6 %
u	125						125	14.8 %	7.1 %
<b>Total</b>	<b>319</b>	<b>37.7 %</b>	<b>240</b>	<b>28.4 %</b>	<b>286</b>	<b>33.9 %</b>	<b>845</b>	<b>100.0 %</b>	<b>47.9 %</b>

Figure 133

**Vowel Phonemes**  
**Points of Articulation**

	Front		Central		Back			Total	
								vowels	phonemes
a							286	33.9 %	16.2 %
e	124						124	14.7 %	7.0 %
i	194						194	22.9 %	11.0 %
o					116		116	13.7 %	6.6 %
u					125		125	14.8 %	7.1 %
<b>Total</b>	<b>318</b>	<b>37.6 %</b>	<b>286</b>	<b>33.9 %</b>	<b>241</b>	<b>28.5 %</b>	<b>845</b>	<b>100.0 %</b>	<b>47.9 %</b>

Figure 134

**The Plosive Consonants**  
**Points of Articulation**

	Initial		Medial		Final		Total	
Labials	99	58.2 %	68	40.0 %	3	1.8 %	170	33.1 %
Alveolars	51	41.8 %	61	50.0 %	10	8.2 %	122	23.7 %
Palatals	34	37.8 %	50	55.5 %	6	6.7 %	90	17.5 %
Velars	31	23.5 %	61	46.2 %	40	30.3 %	132	25.7 %
<b>Total</b>	<b>215</b>	<b>41.8 %</b>	<b>240</b>	<b>46.7 %</b>	<b>59</b>	<b>11.5 %</b>	<b>514</b>	<b>100.0 %</b>

Figure 135

**The Plosive Consonants**  
*(including nasals)*  
**Points of Articulation**

	Initial		Medial		Final		Total	
Labials	127	52.7 %	96	39.8 %	18	7.5 %	241	37.7 %
Alveolars	67	40.9 %	82	50.0 %	15	9.1 %	164	25.6 %
Palatals	44	42.7 %	53	51.5 %	6	5.8 %	103	16.1 %
Velars	31	23.5 %	61	46.2 %	40	30.3 %	132	20.6 %
<b>Total</b>	<b>269</b>	<b>42.0 %</b>	<b>292</b>	<b>45.6 %</b>	<b>79</b>	<b>12.4 %</b>	<b>640</b>	<b>100.0 %</b>

Figure 136

**The Plosive Consonants**  
**Voiceless versus Voiced**

	Initial		Medial		Final		Total	
Voiceless	134	35.7 %	182	48.6 %	59	15.7 %	375	73.0 %
Voiced	81	58.3 %	58	41.7 %	—	—	139	27.0 %
<b>Total</b>	<b>215</b>	<b>41.8 %</b>	<b>240</b>	<b>46.7 %</b>	<b>59</b>	<b>11.5 %</b>	<b>514</b>	<b>100.0 %</b>

Figure 137

**The Plosive Consonants**  
*(including nasals)*  
**Voiceless versus Voiced**

	Initial		Medial		Final		Total	
Voiceless	134	35.7 %	182	48.6 %	59	15.7 %	375	58.6 %
Voiced	135	50.9 %	110	41.5 %	20	7.6 %	265	41.4 %
<b>Total</b>	<b>269</b>	<b>42.0 %</b>	<b>292</b>	<b>45.6 %</b>	<b>79</b>	<b>12.4 %</b>	<b>640</b>	<b>100.0 %</b>

Figure 138

### The Fricative Consonants

(including affricates)

#### Points of Articulation

	Initial		Medial		Final		Total	
Labiodentals	1	8.3 %	3	25.0 %	8	66.7 %	12	4.3 %
Alveolars	20	11.8 %	124	73.4 %	25	14.8 %	169	60.6 %
Palatals	14	29.8 %	33	70.2 %	—	—	47	16.8 %
Velars	4	44.4 %	5	55.5 %	—	—	9	3.2 %
Laryngeal	38	90.5 %	4	9.5 %	—	—	42	15.1 %
Total	77	27.6 %	169	60.6 %	33	11.8 %	279	100.0 %

Figure 139

### The Fricative Consonants

(including affricates)

#### Voiceless versus Voiced

	Initial		Medial		Final		Total	
Voiceless	19	14.8 %	76	59.4 %	33	25.8 %	128	45.9 %
Voiced	58	38.4 %	93	61.6 %	—	—	151	54.1 %
Total	77	27.6 %	169	60.6 %	33	11.8 %	279	100.0 %

Figure 140

### The Consonant Phonemes

#### Points of Articulation

	Initial		Medial		Final		Total	
Bilabials	127	52.7 %	96	39.8 %	18	7.5 %	241	26.2 %
Labiodentals	1	8.3 %	3	25.0 %	8	66.7 %	12	1.3 %
Alveolars	87	26.1 %	206	61.9 %	40	12.0 %	333	36.2 %
Palatals	58	38.7 %	86	57.3 %	6	4.0 %	150	16.3 %
Velars	35	24.8 %	66	46.8 %	40	28.4 %	141	15.4 %
Laryngeal	38	90.5 %	4	9.5 %	—	—	42	4.6 %
Total	346	37.6 %	461	50.2 %	112	12.2 %	919	100.0 %

Figure 141

## The Consonant Phonemes

### Voiceless versus Voiced

	Initial		Medial		Final		Total	
Voiceless	153	30.4 %	258	51.3 %	92	18.3 %	503	54.7 %
Voiced	193	46.4 %	203	48.8 %	20	4.8 %	416	45.3 %
<b>Total</b>	<b>346</b>	<b>37.6 %</b>	<b>461</b>	<b>50.2 %</b>	<b>112</b>	<b>12.2 %</b>	<b>919</b>	<b>100.0 %</b>

Figure 142

## The Consonant Phonemes

### Manner of Articulation

	Initial		Medial		Final		Total	
Stops	215	41.8 %	240	46.7 %	59	11.5 %	514	55.9 %
Fricatives	77	27.6 %	169	60.6 %	33	11.8 %	279	30.4 %
Nasals	54	42.8 %	52	41.3 %	20	15.9 %	126	13.7 %
<b>Total</b>	<b>346</b>	<b>37.6 %</b>	<b>461</b>	<b>50.2 %</b>	<b>112</b>	<b>12.2 %</b>	<b>919</b>	<b>100.0 %</b>

	Initial		Medial		Final		Total	
Stops	269	42.0 %	292	45.6 %	79	12.4 %	640	69.7 %
Fricatives	69	28.7 %	153	63.8 %	18	7.5 %	240	26.1 %
Affricates	8	20.5 %	16	41.0 %	15	38.5 %	39	4.2 %
<b>Total</b>	<b>346</b>	<b>37.6 %</b>	<b>461</b>	<b>50.2 %</b>	<b>112</b>	<b>12.2 %</b>	<b>919</b>	<b>100.0 %</b>

	Initial		Medial		Final		Total	
Stops	215	41.8 %	240	46.7 %	59	11.5 %	514	55.9 %
Fricatives	66	34.9 %	105	55.6 %	18	9.5 %	189	20.6 %
Affricates	8	20.5 %	16	41.0 %	15	38.5 %	39	4.2 %
Nasals	54	42.8 %	52	41.3 %	20	15.9 %	126	13.7 %
Lateral	3	5.9 %	48	94.1 %	—	—	51	5.6 %
<b>Total</b>	<b>346</b>	<b>37.6 %</b>	<b>461</b>	<b>50.2 %</b>	<b>112</b>	<b>12.2 %</b>	<b>919</b>	<b>100.0 %</b>

Figure 143