

**Additional problems for 'Issues for further thought and exercises',
Chapter 2**

1. What consonant clusters (sequences of consonants) beginning with stops are found at the beginning of words in English? Can they also occur at the end of words? If not, what are the most similar types of consonant clusters at the end of words? What do you notice about the two sets?
2. Consider the pairs *great ape* vs. *grey tape* and *nitrate* vs. *night rate*. Do you think the first and second member of each pair are distinguished in normal speech? If so, how would you explain the phonetic and/or phonemic difference(s)? Can you think of other pairs like these?
3. Which of the following is easier to read, the sentence with only the written consonants, or with only the written vowels? (i) *Th frmr klls th dcklng.* (ii) *e ae i e ui.* Can you think of an explanation for the difference in interpretability of the two versions?
4. Examine the following data from the hypothetical language Ngank. There are 29 phones: [p, p^h, b, t, t^h, d, k, k^h, g, q^h, ɠ, β, φ, h, m, n, ŋ, ɳ, r, ʀ, ɽ, a, ɑ, i, ɪ, ɨ, e, u, ʊ]. How many phonemes are there? List the phonemes and their allophones, and write each word in phonemic transcription. What are the rules for the realisation for each phoneme?

[p ^h ark]	'sun'	[p ^h ubah]	'one'	[t ^h ɪdɑŋ]	'good'
[rʉudɠɑ]	'girl'	[k ^h ark]	'food'	[φɑɠu]	'brains'
[φera]	'man'	[narabi]	'to die'	[narɑɠu]	'dumb'
[k ^h erɠam]	'arm'	[ŋank]	'tongue'	[maβɑh]	'vomit'
[rɪdba]	'boy'	[ŋarap]	'five'	[ŋiβɑɽ]	'head'
[ɳuβɑɽ]	'leg'	[φark]	'water'	[ŋeriɠu]	'foot'
[k ^h ɑβɑ]	'island'	[riβi]	'ground'	[k ^h araŋ]	'urine'
[ɑβiŋ]	'snake'	[ŋaŋgi]	'person'	[φageɽ]	'day'
[iɠuh]	'dog'	[marɑɠu]	'idle'	[ŋerk]	'woman'
[iɠu]	'meat'	[ŋɑŋu]	'people'	[ŋiɳu]	'to eat'
[q ^h uβɑh]	'to swim'	[φedak]	'to walk'	[p ^h uɽ]	'paper'

Hint: begin by listing the suspicious pairs (and triplets) of phones. Then check their distribution.

5. In Danish /p/ and /k/ are quite heavily aspirated at the beginning of words, more so than in English. What does this mean in terms of VOT? The apical stop /t/ is often pronounced as an apical affricate \sqrt{ts} when it precedes the high front vowel, though otherwise it is usually heavily aspirated. How would you account for this?

2 Additional problems for Chapter 2

6. In writing, as in speech, we find different shapes of the “same” letters, and we might use the term allograph for letters that are alternative representations of a single grapheme (letter corresponding to phoneme). What sorts of variation do you find, and what factors condition the variants? See if you can write realisation rules accounting for the variation. What other factors are relevant in handwriting, as illustrated by your written version of *The quick brown fox jumps over the lazy dog*?
7. Make a recording of an example sentence from Question 2 in the textbook (p. 53) in ordinary everyday speech, and transcribe it as accurately as you can. Mark in prosodic features of intonation and stress. Try repeating the exercise for more casual speech and more formal (or careful) speech. What differences do you notice in the different styles? How do the transcriptions you produced in Question 2 compare to the transcriptions from the actual spoken utterances?