Appendix Three: Phonology Questionnaire

Caveat: This questionnaire is not intended to be even nearly exhaustive. It is simply a list of some suggestions from my own fieldwork as to what I have found useful. It is not really for beginners, however. I intend it to serve as a framework, a useful prod, for writing detailed phonologies of languages, something missing from most grammars (though the detailed phonologies of the OUP x series, edited by Jacques Durand is a useful model). Like all questionnaires, as Nikolaus Himmelmann has pointed out to me, this one has the disadvantage of asserting categories when in fact many of the categories themselves need to be argued for and established independently. So it certainly isn't meant to be followed slavishly. Hopefully, however, it will provide useful suggestions for the 'phonologically challenged' fieldworker.

1. Segmental phonology
1.1. List the distinctive segments of the language. Give rules of allophonic distribution. Summarize the (articulatory) phonetic realization of each segment.
1.2. What are the nonallophonic restrictions on the distribution of these segments? For example, do any segments appear exclusively in loan words? Are any subject to sociolinguistic or cultural restructions (e.g. "Do not use /x/ in the presence of foreigners")? Are there differences in the segmental inventory according to gender (e.g. men use /s/ where women use /h/ or variation in points of articulation between women and men)?
1.3. Are some segments restricted as to which word class they may appear in (e.g. /b/ only in Nouns and Adjectives)?

2. Syllabic structure
2.1. What are the syllable types (e.g. CCV, CV, CVC, etc.)?
2.1.1. Describe any restrictions on syllable distribution. Are some syllables allowed only in word/phrase-final position (or medial or initial)?
2.1.2. Discuss the evidence for these syllables.
2.1.2.1. Phonotactics:
    Are consonant sequences allowed? Where? Do allowable consonant clusters vary according to where they appear in the word (e.g. **st** only in word-initial position, but **ts** in word-final position)? Are there any restrictions as to the type of vowel/semivowel which may precede/follow consonant clusters?
    Are there word-final consonants?
    Are vowel sequences permitted? Where? Do allowable vowel clusters vary according to where they appear in the word (e.g. **ai** only in word-initial position, but **ia** elsewhere)? Are there any restrictions as to the type of consonant or semivowel which may precede or follow specific vowel clusters?
    How many vowels or consonants may appear in a single cluster, if clusters are allowed? In adjacent vowels are there restrictions on vowel features (e.g. all the vowels have the same value for height, roundedness, etc.)? Are some sequences banned (e.g. **aa**)?
2.1.2.2. Phonetic evidence
    Is there phonetic evidence in favor of syllables (e.g. chest pulses)?
2.1.2.3. Do native speakers segment words into syllables in slow speech?

2.1.2.4. Do phonological rules crucially refer to syllable structure, e.g. stress placement, nasal spreading, tone distribution, etc., as in (i) and (ii):

      (i) Stress the rightmost (C)VC or (C)VV syllable in the word, otherwise stress the penult?

      (ii) Lower tautosyllabic, adjacent high tones to mid tones in (C)VV syllables.

2.2. Interpretation of glides

2.2.1. Do semi-vowels, such as [y] and [w], appear in both or either syllable-initial and syllable-final positions?

2.2.2. If the language allows vowel sequences and semi-vowels, may the first vowel be [i] or [u]?

2.2.3. In vowel or semi-vowel sequences, are any of the following orders prohibited? Preferred? (X and Y are variables and thus may represent any segment type):

      X *iy* Y
      X *yi* Y
      X *uw* Y
      X *wu* Y
      X *yu* Y
      X *uy* Y
      X *wi* Y
      X *iw* Y
      etc.

2.3. What are the allowable sequences of segments within the syllable, according to their articulatory classification or generalizable acoustic properties? For example, are there ordering restrictions such as the following (just as a few suggestions):

      (i) The onset of a syllable may begin with any consonant, but the second member of a complex onset must come from a more restricted class of segments (e.g. voiced continuant)?

      (ii) In a complex nucleus, the first vowel must be a high vowel.

      (iii) In a complex coda, the order of consonants is more (or less) restricted than in complex onset.

      (iv) The order of consonants in the coda is the mirror-image of the order in the onset.

      (v) etc.

2.4. If the nucleus contains a diphthong, can it also contain another vowel?

2.5. If the language has CVC syllables, can V be a diphthong? If so, are there any restrictions on the following C?

3. Tone

3.1. Does the language have contrastive pitches which distinguish lexical meanings of words?

3.2. Do contrastive pitches have a fairly constant F_0 or does their F_0 rise or fall or 'undulate' significantly?

3.3. If F_0 of pitches varies, yet is significant in distinguishing lexical items, does the variation correlate with position in the word, preceding or following segments, preceding or following pitches, or the word's position in the sentence or discourse?

3.5. Can consonants bear tone or only vowels? Which consonants? Under what circumstances (e.g. 'w and y bear tone following a rule of asyllabification').

3.6. Does consonant voicing affect tone? How?

3.7. Does vowel quality affect tone? How?

3.8. Can tone patterns of individual words vary arbitrarily or do there appear to be *tonal melodies* assigned on words or classes of words (e.g. High Low Mid for one class of nouns, HLH for another, LHL, etc.)? Do the tonal melodies change according to the number of syllables?

3.9. What happens to a tone if its associated segment is deleted? For example, does the tone delete or appear on another syllable?

3.10. If the language does not allow contour tones (those with an underivable but constant change in pitch, e.g. rise and fall) on short vowels or sequences can they arise from morphological or phonological processes? Consider the Piraha example in (i):

      (i)   tíi   Ɂísitoí Ɂogabagaí → tíi   Ɂísitŏogabagaí

             I   egg   want

      In the case of (i), in normal speech the direct object and the form form a close phonological unit, deleting a verb-initial glottal stop and the noun-final vowel. Notice that the tone does not disappear, however. In the example in (i) no mark over a vowel indicates low tone and the acute accent marks high tone. The wedge over the first /o/ to the right of the arrow indicates that it bears both a low tone and high tone simultaneously. This is in my analysis the result of the high tone remaining even after its original vowel host, /i/, has been deleted. This is otherwise prohibited in the language.

3.11. Can a tone ever *shift* to the right or the left in a word? Across words? Can one tone ever replace another, e.g. in (i) immediately above?

3.12. Is there complementary distribution among the tones, e.g. H → M/___ L

3.13. Are the frequency distances between tones (especially in a language with three or more tones) fairly constant or are some tones closer in frequency than others (e.g. tone Mid and tone High being closer in average frequency than tone M and tone L, in a three tone system)? Is frequency distance affected by how many different tone levels are present in a given word or phrase?

3.14. Is tone affected by phrasal intonation? How?

3.15. Does the language have other channels of discourse that exploit *linguistic* tone, e.g. whistle speech, drum communication, hum speech, etc. Please describe this in detail, as well as the social/cultural restrictions on its use.

4. Intonation

4.1. What is the most common intonational pattern (e.g. rising, falling, fall-rise, rise-fall, etc.) at the end of utterances?

4.2. How are different intonational patterns distinguished? By end points? By beginning and end points? By relative height of the entire intonational phrase? By beginning, middle, and end points?

4.3. What functions does intonation serve? For example, does it distinguish:
    syntactic phrasal types (e.g. interrogative, declarative)?
    illocutionary acts (e.g. indirect request vs. direct request)?
    other?
4.4. Is intonation affected by tone, stress, syllable patterns, or other phonological phenomena? How?
4.5. Does intonation affect tone, stress, syllable patterns, or other phonological phenomena? How?
4.6. What is the largest grammatical unit for which you can identify a distinct intonational pattern? Phrase? Sentence? Paragraph? Discourse?
4.7. Does intonation serve to unite two or more phrases in parataxis?
4.8. Can intonation mark subordination/superordination relations between clauses?
4.9. Are there *step accent*s in the language, i.e. where the highest pitch of one intonational contour appears immediately prior to the stressed syllable, which itself bears a relatively low pitch? Are other correlations between stress and intonation placement observed? Describe these carefully, paying attention to the syntax, semantics, and pragmatics of the utterances as you do so.
4.10. What are the quantitative variations allowed in basic intonational contours? That is, can the same contour appear with more or less prominence by manifesting greater pitch distances between its distinctive points? When? What is the F_0 evidence like?
4.11. Is it more common for frequency to decline at the end of utterances? How many syllables or words are in the domain of this declination? Is there an accompanying rhythm (slow down, speed up, etc.)?
4.13. How can the different intonational contours be affected in their overall ranges of pitch, amplitude, duration, etc. by different ways of speaking, e.g. 'speaking up', whispering, etc.?
4.14. How is intonation manifested across different prosodic channels (e.g. whistle speech)?

5. Stress
5.1. Are some syllables in the language more prominent (for example, by using more acoustic energy, e.g. louder, higher pitch, longer, etc.) than others?
5.2. Do such syllables appear in every word?
5.3. Is this prominence predictable? How?
5.4. Are there different patterns of prominence on different classes of words, e.g. nouns vs. verbs (if there are, describe them)? Or is it constant across all lexical categories?
5.5. Are there secondary (tertiary, quaternary, etc.) stresses?
    For example: mu*ltipli**ca***tion
                 2ary   1ary
5.5.1. Do n^{ary} stresses occur at regular intervals? How are these intervals determined (e.g. every other syllable in the word from left-to-right, etc.)
5.5.2. Can primary or secondary (etc.) stresses ever appear on adjacent syllables in a word or phrase?
5.5.3. Does the stress of one word/syllable ever seem to move away from the stress of another word when it would otherwise be adjacent? Which of the otherwise adjacent

stresses shifts, the one on the left or the one on the right? (e.g. *Thir*'teen + 'wo*men* → 'Thir*teen* 'wo*men*)?

5.6. Are 'heavy' syllables more frequently stressed than nonheavy syllables (e.g. (C)VC, (C)VV, vs. (C)V)? Under what circumstances, if any, can a lighter syllable bear primary stress if primary stress is normally restricted to heavy syllables?

5.7. What are the acoustic correlates of stress (e.g. loudness, pitch, length)? Are the correlates constants or variable across utterances or across speakers?

5.8. Do any (morpho)phonological processes interact with stress in a systematic way? What is the nature of this interaction (e.g. segmental lenition, voicing, vowel harmony, vowel reduction, etc.)?

5.9. If heavy syllables bear stress, what happens if the syllable-final consonant or vowel of the stressed heavy syllable is deleted?

5.10. If stress shifts for any reason, in which direction does it shift, leftwards or rightwards? Is its 'final destination' predictable in such stress shifts? How?

5.11. Does stress behave identically in longer and shorter words or utterances?

5.12. Is there any evidence of native speaker sensitivity to stress, such as correcting you misplacement of it, tapping on stressed syllables as the say the word (Ladefoged, Ladefoged, and Everett ()), etc.?

5.13. How does (or does) stress interact with tone? Does stress shift also cause tone shifts? Does stress placement perturb (raise, lower, metathesize, etc.) tones?

6. Morphophonology

6.1. Do affixes affect stress or tone patterns in words?

6.2. Do the affixes which do and not not affect stress (if there are such distinctions among affixes) fall into natural semantic, phonological, or morphosyntactic classes (e.g. syllable structure, inherent tone, prefixes vs. suffixes vs. infixes, derivational vs. inflectional, etc.)?

6.3. Do segmental rules (e.g. devoicing, assimilation, vowel-harmony, deletion, etc.) affect affix shapes? Which and how? Again, what are the differences between affixes which are affected vs. those which are not?

6.5. Does the language have clitics? (Like affixes, these are phonologically dependent on another word, never appearing alone. Unlike affixes, a single clitic can appear on a wide variety of word types, e.g. N, V, A, P).

6.6. Do these clitics appear in various locations within the sentence or do they cluster in a given position?

6.6.1. If clitics appear in different positions, does their placement depend on phonological (e.g. stress) or syntactic (e.g. a clitic must appears on the word to the immediate left of the word with which it forms a syntactic consituent. Consider English, where ()s = phonological boundary and []s = syntactic boundary: ([I]['ll) (go)].

6.6.2. If clitics cluster in a given position, which clitics may cluster and where this takes place in the phrase or sentence (e.g. 'all clitics expressing tense and mood appear following the first constituent of the sentence).

6.7. Are some phonological processes peculiar to particular types of affixation (e.g. prefixation, suffixation, infixation, simulfixation, circumfixation, etc.)?

6.8. Is there reduplication?
6.8.1. Is reduplication monosyllabic, disyllabic, or larger or smaller (e.g. a single vowel, consonant, or mora)?
6.8.2. Do the consonant-vowel sequences in the reduplicated morphemes follow a constant order and shape for all reduplicated affixes?
6.8.3. Are there subregularities of CV order (e.g. CVC) for one type of reduplication and others (e.g. CVVC) for others?
6.8.4. Does reduplication interact with any other phonological processes, e.g. stress, nasalization, vowel-harmony, etc.?

7. Other prosodies
7.1. Do any other phonological elements take a domain larger than individual segments? Some possibilities are: aspiration, nasalization, labialization, voicing, vowel features, and so on.
7.2. Do such elements take larger domains only under certain circumstances? That is, can they 'spread' to surrounding phonological material?
7.2.1. In what direction can they spread?
7.2.2. What can trigger this spreading?
7.2.3. What can block this spreading, e.g. 'nasalization spread is blocked when it reaches a voiceless consonant).

Is there a minimal word size (e.g. no word in isolation can be less than two moras in length)?