Manual for Preparing Linguistics 103 Term Projects

Prepared by faculty of the Department of Linguistics at UCLA

Revised and edited by Bruce Hayes

Version 1.9, December 2, 2013

Contents

Chapter 1   Preface

This booklet is intended as a complete guide to preparing a Linguistics 103 term project. The project is unusual in the UCLA undergraduate linguistics program in that its content is largely fixed, and the quality of the result depends — in part — on how closely the student follows a well-established procedure. In collating all the material I have into a single manual, I hope to facilitate the learning of this procedure.

To say that Linguistics 103 projects are done following a procedure does not mean that the projects are intellectually undemanding or suppress your creativity. The fact that every project is done with a new speaker means there is always plenty of room for original work: much of your job is to observe your consultant's speech carefully and note things that diverge from your reference sources, as well as any allophonic patterns that are of interest. Every speaker is different and provides new opportunities for linguistic description.

Credits: some of the manual was written entirely by myself, but many of the items are my own edited versions of material shared with me by other UCLA faculty. Of these the primary donor is Prof. Patricia Keating, from whom I learned how teach the course in the 1980's. Chapter 4 descends from an original by Forrest Fordyce, long ago a Linguistics 103 teaching assistant and now at Glendale Community College. The work has also benefited from discussions with other UCLA faculty who teach or taught the course: Sun-Ah Jun, Megha Sundara, Kie Zuraw, and the course's inventor, the late Peter Ladefoged.

Bruce Hayes
October 2013

Chapter 2   Term Paper Assignment

Write a term paper of about ten pages, illustrating the sounds of some language that you yourself cannot fluently speak.[1] The paper should be based on the speech of a fluent native speaker of the target language, whom you will recruit to serve as your consultant. Include with your paper a CD that illustrates the sounds of the language, as spoken by your consultant.

The goal of the project is to give you an opportunity to practice your skills of listening to and transcribing the speech sounds of a language other than English or your native language. You will also get experience working with phonemes and allophones, in extracting facts from a reference source, in working with a native speaker consultant, and in writing up an original research paper.

For a sample paper and other information about the project, see Chapter 4 of this document.

Here are the steps involved in a Linguistics 103 term project. The notations for WEEKS show a recommended schedule for working on the project without having a frantic rush at any one time.

1. **WEEKS 1-2**. Choose a speaker and language for your project. Do not use a speaker who has already been studied, and do not use a language you speak fluently. I will give extra consideration to projects on languages that are less familiar or more difficult (e.g. tone languages). Be sure that your consultant is a native speaker who still speaks the language fluently,[2] and has some time to work with you.[3] The speaker should be able to come to the Linguistics Department to make a recording; this will produce a recording that is much easier to transcribe. It helps if both you and the consultant can read the orthography (spelling system) of the language. For more advice on picking your speaker, see Chapter 2 of this manual.

2. **WEEK 3**. Find a **reference source** (by which I mean a published book or journal article) on the phonetics of the language, or (if nothing is available) on some closely related language. You want something that lists and describes the sounds of your language, ideally including a description of all the variants of each sound in different contexts.

It's possible that a good source has already been found and place on reserve in Powell. You can take it out for a couple hours and Xerox what you need. To consult the Linguistics 103 reserve list, visit http://catalog.library.ucla.edu/cgi-bin/Pwebrecon.cgi?PAGE=rbSearch&DB=local/ and select this course.

---

[1] It's ok if you have some limited knowledge, either from childhood exposure or classroom instruction.

[2] A native speaker is one who learned the language no later than early childhood and has continued to have the opportunity to speak the language since then.   One way to check for purposes of this course is to ask: "Do native speakers of your language think you speak with an accent?"

[3] Ideally: I. Session 1, one hour, draft word list II. Session 2, 45 minutes, revise the list III. recording, 20 minutes in Campbell Hall.   Less is possible in a pinch.

If that doesn't work out, try this: (a) *Patterns of Sounds* by Ian Maddieson, on reserve in Powell, which contains charts of the phonemes and references to books, for many (but not all) languages. (c) *The World's Major Languages* (ed. by Bernard Comrie), on reserve, has short sketches and references for about 50 languages. (d) *Handbook of the IPA*, on reserve, with phonetic sketches of 29 languages; (e) textbooks that teach the language; (e) The UCLA online library catalog (http://catalog.library.ucla.edu); (f) Google Scholar (http://scholar.google.com/) and Google Books (http://books.google.com). The latter source usually won't give you the whole book, but you can then get the book from the library.

You must use at least one authentic **peer-reviewed** source, by which I mean: something that appeared in a published book or scholarly journal. Sometimes amateur web sources (like Wikipedia) can be very good, and you may use them to *supplement* your main research. But I think it is important to get practice in finding traditional sources, which I why I am emphasizing them.

The better the published material you find, the less time you'll have to spend with your consultant. But don't try to read every book in the library. They are bound to disagree with each other, and you will get confused. What you want is to find is a *good* source (i.e. careful and detailed), rather than conduct a fishing expedition.   Feel free to bring sources to my office hours (M 2-3, Thr. 2-3 and by appt.) and I will assess them for you.

Dictionaries usually don't have a systematic presentation of the sound system, but they certainly can be helpful for finding relevant words. The UCLA library has many, many foreign language dictionaries.

The earlier you look for your reference sources, the less likely you will find all the material you want already checked out of the library.

When you don't find a book on the library shelf, don't despair! Often, it's checked out to another reader, and you can have it called in from them. From the catalog screen, click the Request An Item button and follow instructions from there. Also, it is sometimes possible to get hard-to-obtain stuff on interlibrary loan (http://www2.library.ucla.edu/service/ill.cfm).

For more on finding reference sources, see Chapter 5 of this manual.

3. **WEEKS 4 AND 5**. Make a tentative list of the phonemes of the language, their allophones, and lots of words illustrating them (including vowels, consonants, and suprasegmentals). Make sure you understand phonemes and allophones before you do this.[4] Your list should include minimal pairs or sets for phonemes where possible. Use as a model the lists used in language demonstrations in class. The list should be short, and should work by this formula:

- Illustrate the consonants with a minimal set.
- Illustrate the vowels with a minimal set.

---

[4] A study source: http://www.linguistics.ucla.edu/people/hayes/103/HayesOnPhonemes.pdf.

- Illustrate the tones (if any) with a minimal set
- Provide a small set of words illustrating allophones
- A sentence that includes several words from the list

If your reference source does not describe allophones (or even if it does), study Chapter 8: of this manual.

Since at this point you are preparing a list to work on with your consultant, you should have *extra* examples, since some words are bound not to work out. The more work you do now, the more efficiently you can spend the time you have with your consultant. Every linguist regards consultant time as precious!

For more on preparing your word list, see **Error! Reference source not found.** of this manual.

4. **WEEKS 6 AND 7**. Once you have a tentative word list, you can meet with your consultant. Go over the list with your consultant in one or more preliminary sessions, noting with IPA just how *your* consultant pronounces the words you have assembled. You may ask the consultant to help in finding more or better example words. Be opportunistic: if you notice things in your consultant's speech now, you can include relevant words on your list and thus in your paper.

Consider the consultant as the authority on the language. Do not try to convince him/her to pronounce things the way the book has them, and do convince him/her that you want a normal, everyday pronunciation. Consultants are sometimes afraid that their native dialect is not "good enough" for what you "want," and that your book must be "right."

If you have the time, it usually helps a lot to go home, work on an improved list, and meet with your speaker again. Be aware that most languages vary quite a bit from dialect to dialect, and don't let differences between your consultant's speech and your reference source startle you. What you want to achieve is an accurate description of your consultant's speech, NOT a rehash of your reference source. In fact, accurate description of these differences (when they occur) is one hallmark of a good term paper.

A copy of your draft word list is due in class on **Mon. 11/11**

5. **WEEK 8**. Make a final, written version of the list, choosing from your long original list a shorter list of words that illustrate just the phonemic contrasts and the significant allophones. As in the class demonstration, start with examples of the basic sounds, then move on to interesting allophones. For difficult, unusual, or other interesting sounds, add extra words in minimal pairs with more usual sounds. For example, use minimal pairs to prove that a particular place of articulation in your language really is distinct from the other places of articulation. You might want to think of it this way: use your final list (and the recording of your consultant reading it) to prove to me that the book's description of the sounds is right (or wrong) for this particular speaker.

The **length limit** for the list is as follows: number of segmental phonemes, plus number of stress and tone contrasts, plus 25%. Examples: American English (in the *IPA Handbook* analysis) has 39 segmental phonemes and phonemic stress; so (39 + 1) x 1.25 = 50 words. Cantonese (in the IPA Handbook analysis) has 42 segmental phonemes and 9 tones, so (42 + 9) x 1.25 = 64 words.

Be sure you and your consultant have agreed on how the words are to be written for the recording session: native orthography, romanization, or whatever.

6. Arrange an appointment for your consultant to come to the Linguistics Department to make a recording. When the time comes for this, all arrangements will be handled in class.

The recording will normally be made on a CD in .wav format, which you turn in with your paper. For full directions on how to make the recording, see Chapter 12 of this manual. The procedure varies from quarter to quarter, so you I suggest that you wait for the quarter-specific version of this chapter to be prepared and posted.

7. **WEEK 9**. Listen to your recording and make a careful phonetic transcription. Your transcription should reflect the actual pronunciations on your recording, and will be graded as such. Compare the two pronunciations on the recording with each other (very often, they're not the same, and you get credit for noticing this). Also, compare your consultant's pronunciation with what you had expected when you made up your list. You can improve your transcription in delicate places by using acoustic software, which will be demonstrated in class.

If you don't have a computer equipped for sound, you can go to the CLICC Lab in Powell and borrow headphones. (Nowadays, decent ear buds are pretty afforadable, though.)

Please do **not** attempt to rearrange the words in a new order; stick with the order you recorded them. (Trust me — I've seen plenty of projects sink into chaos when people have tried to do this.)

For more on transcribing your recording, see Chapter 13 of this manual.

9. **WEEK 10**. Write the paper. The complete term paper will include

a. The recording, uploaded to https://ccle.ucla.edu/course/view/13F-LING103-1.

b. Vowel and consonant charts, in standard format, showing the phonemes. Place the charts within the text, at the most relevant spot. Include your allophones on the chart as well, using a different color or in parentheses to distinguish them.

c. A transcription, with a phonemic transcription as well as a narrow phonetic one (indicating the sounds that the consultant actually produced when making this recording), and English glosses; and if possible, an orthographic version in the language's own writing system. It is very important that the transcription have the *same word order* as the recording, since the transcription is graded by listening to the recording.

d. The transcriptions should appear embedded within a written account of the phonetic characteristics of the language, including the name and background of the consultant, the language, where it is spoken, comments on the distribution of sounds, detailed descriptions of unusual sounds, or remarks about conflicts with your reference source. Please "interleave" transcriptions and text; see the sample paper (Chapter 4 of this manual) for how to do this.

e. Xerox or print the reference source from which you got your data and include this copy. If this is more than ten pages, Xerox just the ten most important pages.

f. Use the upload facility https://ccle.ucla.edu/course/view/13F-LING103-1 to send me the sound file. Also, please use the same web site to transmit an electronic copy of your paper to me (in word-processor format, not pdf).

The paper should be fairly closely related to the Linguistics 103 course material. So, don't waste your space with a long introduction covering background on the language, and avoid repeating naïve or imprecise terminology from your source material.

Papers will be graded (by your prof.) on the following basis: focus on speaker rather than reference sources, accuracy of transcription, knowledge of course material, organization, clarity and correctness of writing.[5] Points are awarded for bravery, in particular, for going out on a limb in seeking an accurate and detailed description of your own speaker.

For more information on writing up your term paper, see 0, Chapter 15 and Chapter 16 of this manual.

Deadlines:

There are three separate deadlines.

- A *preliminary report* on the term project, 2% of the final grade. Mon. 10/28
- A preliminary version of your *recording script*, 2% of the final grade. Mon. 11/11
- The paper itself. Monday 12/9

---

[5] Please do write the paper in standard scholarly prose; it's meant to be practice in writing this way. For hints, see Chapter 16.

Chapter 3   How to pick a Linguistics 103 term project speaker/language

1. Your speaker should be an *authentic* speaker, who learned the language at his or her mother's/father's knee and still speaks it regularly.

2. Your speaker should be available to make a recording in a sound booth at the UCLA Linguistics Department.

3. You can't fluently speak the language (it's ok if you remember some from your childhood, or took it in school).

4. Your speaker should want to help you and be free to spend some time in elicitation *before* you make the recording. Size up your loved ones carefully; they may love you but find the job so disagreeable that they are bad consultants anyway. Often what is more important is that the speaker be truly interested in their own language and want to share it with you.

5. It's nice to do a little-studied language—in grading I tend to reward initiative. But this shouldn't be your main criterion.

Chapter 4   Sample term paper: "The Phonetics of Noisiveletian"

4.1   Noisiveletian

Noisiveletian is the national language of Noisivelet, and as such is spoken by about 2 million people. Possibly an additional 100,000 people in neighboring Dnaloidar speak Noisiveletian as a second language (Smith, 1997). Noisiveletian is a Tsacdaorbic language of the Aidemic family, and is closely related to Dnaloidarese within the Tsacdaorbic subgroup.

Charles Noisivelo, my consultant for this paper, is a native speaker of Noisiveletian. He was raised in Noisitown, the capital city of Noisivelet, and is a speaker of the Noisitown dialect, which is the standard form of Noisiveletian. He also speaks English. He is currently an undergraduate at UCLA, and has been in the U.S. for the past two years. Although he mainly speaks English now, he does speak Noisiveletian regularly when Skyping with his parents at home in Noisivelet.

I used just one source in preparing this paper, Smith (1997). Most of the examples were taken from Smith, though there were a few words that Charles didn't know, so I got him to think of phonetically similar words by himself. In general, Charles seems to speak a dialect of Noisiveletian rather like the Smith dialect, but with an important difference noted below.

4.2   Consonants

Noisiveletian has ten consonant phonemes, shown in the chart below. The chart also includes (in parentheses) some allophones that will be described later in the paper.

		Labial-velar	Bilabial	Dental	Alveolar	Palatal	Retroflex	Velar	Uvular
stops	voiceless		p		t	c		k	q
fricatives	voiced		(β)			(ʝ)		(ɣ)	(ʁ)
nasal	voiced			(ð)		ɲ			
taps and flaps	voiced				ɾ		(ɽ)		
approximants	central	w				j			
	lateral				l		(ɭ)		

The consonants are shown in word-initial position before the vowel /a/. The first five items of the word list illustrate the voiceless stop consonants, which are the bilabial /p/, the alveolar /t/, the palatal /c/, the velar /k/, and the uvular /q/. The examples below are given in the order they occur on the recording. Note that except where otherwise indicated, the phonemic form of these words is identical with the phonetic transcription given. The last item on each list gives the words in standard Noisiveletian orthography.

1. ['páɾì] 'speak'   *pari*
2. ['tá] 'goat'   *ta*
3. ['cá] 'sincerity'   *kya*
4. /kadi/ ['káðì] 'home'[6] *cadi*
5. ['qá] 'colorless'   *qa*

The next four items in the word list illustrate four of the other consonants, /ɾ/, /l/, /w/, and /j/:

6. ['ɾá] 'furious'   *ra*
7. ['lá] 'flying'   *la*
8. ['wá] 'plane'   *wa*
9. ['já] 'chocolate'   *ya*

The last consonant in the inventory is the single nasal phoneme, which is described by Smith (1997) as being an alveolar /n/. Despite this description, Charles clearly says a palatal nasal ([ɲ]) instead, in all phonetic contexts. The items below are given to support this claim about place of articulation. These examples show the nasal in several phonetic contexts (e.g. position in the word; preceding and following vowel) but in all of these cases the pronunciation is of a palatal, not an alveolar, nasal. Thus Noisiveletian is an unusual language in having its only nasal consonant at the palatal place of articulation.

10. ['ɲá]   'but, yet'   *na*
11. ['tɾíɲo]   'brand of drain cleaner' *trino*
12. ['àɲpá]   'truth'   *anpa*
13. ['flùɲ]   'rodent species'   *flun*

4.3 Vowels

There are four vowel phonemes in Noisiveletian, shown in the following chart:

		Front unrounded	Central unrounded	Back rounded
High	(upper)	i		u
	(lower)			ʊ
Low			a	

---

[6] The [ð] in this word is an allophone; see section 4.5 below.

The next set of words in the word list illustrates these four vowel phonemes.

14. [ˈpíp]	'vanilla'		*pip*
15. [ˈpáp]	'strawberry'		*pap*
16. [ˈpúp]	'pistachio'		*pup*
17. [ˈpʊ́p]	'coffee'		*poup*

All of the vowels are easily distinguished from one another, with the exception of /u/ and /ʊ/. Examples 16 and 17 above form a minimal pair proving that /u/ and /ʊ/ are separate phonemes. Further minimal pairs are the following:

18.	[ˈtʊ́]	'lemming'	*tou*
19.	[ˈtú]	'turnip'	*tu*
20.	[ˈpʊ́]	'axle'	*pou*
21.	[ˈpú]	'meditation'	*pu*

Noisiveletian also has two diphthongs, formed by combining /a/ with either /i/ or /ʊ/:

22.	[ˈpáíp]	'chocolate'	*paip*
23.	[ˈpáʊ́p]	'sherbet'	*paoup*

In Noisiveletian, stress always falls on the first syllable of a word. Therefore no special items illustrating stress are included in the word list, since the pattern is illustrated by every word.

4.4   Tones

In Noisiveletian, tone is phonemic: every vowel bears either a High or a Low tone. Below I give minimal sets, first for the two possible monosyllables, then for every logically possible disyllabic combination.

|			
24.	[ˈɲá]	'mother'	*na*
25.	[ˈɲà]	'horse'	*na*
26.	[ˈɲòmò]	'buy'	*nomo*
27.	[ˈɲómò]	'sit'	*nomo*
28.	[ˈɲòmó]	'sell'	*nomo*
29.	[ˈɲómó]	'shout'	*nomo*

4.5   Allophones

Possibly because of the small number of phonemes, most phonemes of Noisiveletian have several allophones. Thus the inventory of phonemes does not give a fair indication of the variety of segment types that are found in Noisiveletian.

First consider the stop consonants. The consonant chart lists five voiceless stop consonants, but no voiced consonants and no fricatives. In fact, however, each voiceless stop has as an allophone a voiced fricative between two vowels. This kind of variation is reminiscent of the fricative allophones of *voiced* stops in Spanish.   Below, I give the phoneme in slant brackets, and the allophones (that is, the phonetic transcription) in square brackets. Note that while [t] is alveolar, its allophone [ð] is dental.

30. /áp/   [ˈáp]   'apple'   *ap*
31. /ápá/   [ˈáβá]   'jug'   *apa*

32. /ìt/   [ˈìt]   'spoon'   *it*
33. /ìtà/   [ˈìðà]   'funnel'   *ita*

34. /àk/   [ˈàk]   'quince'   *ak*
35. /àkó/   [ˈàɣó]   'bed'   *ako*

36. /úq/   [ˈúq]   'tree'   *uq*
37. /úqú/   [ˈúʁú]   'tree-dative'   *uqu*

Furthermore, final consonants may be released or unreleased, apparently in free variation. Notice, for example, that of the two repetitions of item #14, the first has a final released [p], but the second has a final unreleased [p̚]. Charles said that the released [p] seems to him to be the allophone that more suited to careful speech; this perhaps explains why he first said a released /p/, then an unreleased one; the less careful variant is more suitable for when the listener already knows what the speaker is saying.

The free variation in releasing final stops is shown in the following spectrogram of #14:

[p   í   p]   [p   í   p˺]
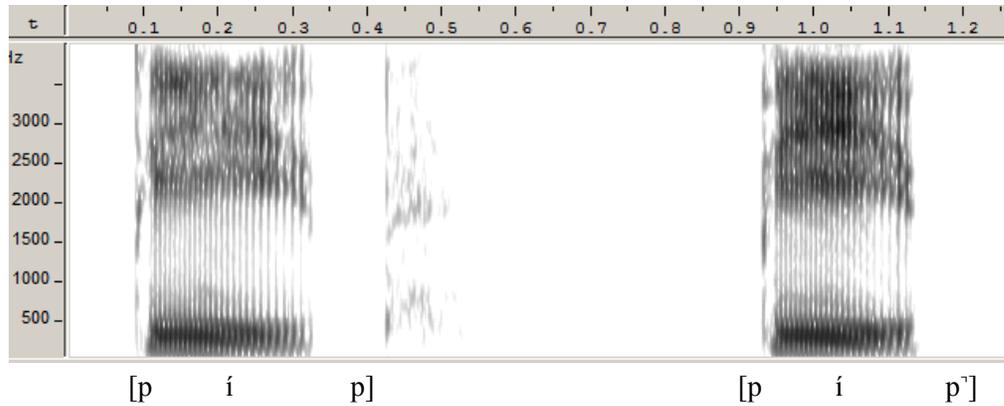
The release of the first word-final [p] is plainly visible. The spectrogram also shows that initial voiceless stops are unaspirated; I measured the VOT's of the two initial [p]'s as 21 and 18 msec., respectively.

To sum up, each voiceless stop phoneme has as allophones a released voiceless stop, an unreleased voiceless stop, and a voiced fricative.

The two liquids of Noisiveletian are mainly alveolar in their place of articulation, but each has one retroflex allophone, that is, [ɽ] and [ɭ], which occurs after the high back vowel /u/. Perhaps the backing of the tongue for this vowel makes the retroflex place of articulation easier to produce. Examples which illustrate the alveolar variants after /i/ and /a/, and the retroflex variants after /u/, are given below:

38. /piɾ/   ['pìɾ]   'grapefruit'   *pir*
39. /puɾ/   ['púɽ]   'cucumber'   *pur*
40. /pàl/   ['pàl]   'mango'   *pal*
41. /púl/   ['púɭ]   'rambutan'   *pul*

There are vowel allophones as well in Noisiveletian. All of the vowels have nasalized allophones: when a vowel occurs before the nasal consonant [ɲ], it is nasalized. If a diphthong occurs next to a nasal consonant, only the second half of the diphthong, which is closest to the nasal, is nasalized. Examples of nasalized allophones are as follows:

42. /áɲ/   [ɐ̃́ɲ]   'kiwi fruit'   *an*
43. /àìɲ/   [àĩ̀ɲ]   'lemon'   *ain*

Additional variations in vowel quality can be observed in the items on the word list. For instance, in stressed position I think the high vowels /i/ and /u/ sometimes diphthongize just a little a bit, as [i͡i] and [u͡u] respectively. (See for instance the first repetition of items 28 and 29, which sound diphthongized to me.) There does not seem to be any systematic pattern behind this variation, and no source that I consulted mentioned allophonic variation in vowel quality.

4.6   Sentence

At the end of the recording (#44) is a Noisiveletian sentence, which Charles and I made up so it would contain some of the words described above. I give the sentence first in phonemic, then in phonetic form.

/kàtíɲʊ̀	ɲáítìpìlìtáɲá	páɾìùlù,	ɲá	ètìkurʊ̀	íɲìkìtáɲá	páɾìùlù/
[ˈkàðíɲʊ̀	ˈɲáíðìβìlìðáɲá	ˈβáɾìùɭù,	ɲá	ˈèðìɣúɽʊ̀	ˈíɲìɣìðáɲá	ˈβáɾìùɭù]
home-dative	Noisiveletian	speak-1-singular	but	school-dative	English	speak-1-sg.

'At home I speak Noisiveletian, but at school I speak English'
Katinu naitipilitana pariulu, na etikurou inikitana pariulu.

I was intrigued to notice that the [β] allophone of /p/, which (it will be recalled) occurs between vowels, is found *even when the vowels are in separate words*, as in [ˈɲáíðìβìlìðáɲá ˈ**β**áɾìùɭù] 'Noisiveletian speak'. Compare the same verb in #1 above, [ˈpáɾì] 'speak', where there is no preceding vowel and so we get [p] instead.

Reference

Smith, Allyson Q. (1997). *A Grammar of Noisiveletian*. New York: Perishing Press.

Chapter 5   Searching for reference sources

5.1   Goal

The goal of library research for the Ling. 103 term project is *limited*: you want a basic description of the sounds of your target language, ideally with many example words.   An explanation of the writing system (letter-to-sound correspondence) is also helpful.   Typically this material is only about 5-25 pages in print. Material of this sort exists for many languages; in fact, it is usually one of the first things that gets done when a language is first studied and described.

You do **not** want: history of the language, in-depth analysis of the phonology, studies of the syntax, discussion of the society in which the language is spoken, etc., etc. You also do not want multiple parallel sources. Usually, just one good one suffices to get your paper going. In fact, most of the information you are going to get you will come from your speaker, not your reference source; and people have been known to do good projects with no reference source at all.

5.2   Who will see your reference source?

I will. I am asking you to Xerox up to ten pages (the ten most relevant) of your source and hand it in with your paper.

5.3   The "Must-Have-Peer-Reviewed" policy

I require students to include at least one reference source that has passed scholarly peer review. Peer review means that the material is inspected and approved by other scholars before it appears. You may assume that published books and journal articles (including those downloaded from the web sites of printed journals) have passed peer review. I will expect your Xeroxed source material to be peer-reviewed material, not Wikipedia or similar non-peer-reviewed Web sources.

My two reasons are: (a) to encourage you to make a distinction between peer-reviewed and non-peer-reviewed sources; (b) to get you to learn the (now endangered) skill of library research.

If you get stuck, and I find I can't help you, I will give you authorization to use a non-peer-reviewed source.

5.4   When to start

"Soon" would be a good idea. Sadly, the basic descriptive material on many commonly studied languages has been lost from the UCLA libraries. You may have to go with Interlibrary Loan, which takes time. Also, sometimes material has to be recalled from another user, and it takes time for this material to come back to the circulation desk.

5.5   Where to Search

I endorse everything Margarita Nafpaktitis said in her excellent class presentation. She is right to try reserves first, then use more general library sources.

Reserves: http://catalog.library.ucla.edu/cgi-bin/Pwebrecon.cgi?PAGE=rbSearch&DB=local, picking Hayes B P under **Instructor**. This has fairly good quality, pre-selected items, though not for all all languages.

Library catalog at **http://catalog.library.ucla.edu**. Suppose, for instance, you were doing a 103 term project on Hausa (Chadic, Nigeria). You could find suitable material as follows:

Get on the Internet and go to the catalog. In the window labeled **in:** select **Subject List**, then type strings like these in the search window:

Hausa language
Hausa language grammar
Hausa language phonology
Hausa language textbooks
Hausa language dictionaries

At the same time, open up a word-processing file, so you can copy and paste the best stuff that you're finding.

If you're getting an overwhelming amount of material, try the more specific headings. Another strategy to follow if there's too much stuff is: go for the most recent material; it's usually but not always of better quality.

In the Hausa search being discussed, I found that searching on "Hausa language grammar" gave some promising leads. Among them were:

Author/Name: Cowan, J. Ronayne.
Title: Spoken Hausa / J. Ronayne Cowan, Russell G. Schuh.
Published/distributed: Ithaca, N.Y. : Spoken Language Services, c1976.

Location: College Library
Call Number: PL8232 .C838s
Status: Not Checked Out

Location: YRL
Call Number: PL8232 .C838s
Status: Not Checked Out

Author/Name: Abraham, Roy Clive.
Title: The language of the Hausa people.
Published/distributed: London : University of London Press, [c1959]

Location: YRL
Call Number: PL8232 .A15l
Status: Not Checked Out

Going into the YRL, I found them both on the shelf. Naturally, I also browsed the neighboring books in the same region (PL8232).

Books in the YRL are often misshelved. If you can't find what you were looking for, search in the nearby areas of the shelves. For instance, I found the Abraham book about two feet to the right of where it was supposed to be.

When I opened the books, I found that Abraham seemed to have too little detail. Another work I found, specifically on Hausa phonology, seemed a bit too theoretical, and didn't have a section that just gave the basic facts, which is what I wanted.

Then I checked Cowan and Schuh, and found that I had "hit the jackpot": very clear, good descriptions of the sounds using familiar terminology, and best of all, lots of *minimal pairs* (for example, pairs of words that differ only in having High vs. Low tone; or long vs. short vowels, etc.). The symbols were not all IPA, but they were close.[7]

My one worry about Cowan and Schuh was that there might not be enough example words. So I also checked out one of the dictionaries, and planned to consult it along with my consultant as an extra resource if the words in Cowan and Schuh turn out not to be enough.

5.6   California Digital Library, Interlibrary Loan, And SRLF

Many UCLA books are housed in the **Southern Regional Library Facility** (SRLF). They can be delivered to you in just one business day, so don't hesitate to request these; you click on **Request an item** from the menu bar at the top of the UCLA Catalog screen.

Beyond UCLA you can find books in the WorldCat, at http://firstsearch.oclc.org/WebZ/FSPrefs?entityjsdetect=:javascript=true:screensize=large:sessio nid=fsapp4-45675-hmrxajlo-byqo4x:entitypagenum=1:0. Such books can be requested by **interlibrary loan**. For how to do this, go to http://www2.library.ucla.edu/service/2450.cfm. Interlibrary loan typically takes a couple weeks.

5.7   Web access to peer-reviewed literature

A fair amount of peer-reviewed material originally published in print is appearing on line. I have found these to be excellent resources for my own research: they offer the efficiency of computer search, but they feature peer-reviewed material.

---

[7] Your TA or I can help you translate non-IPA symbols; see also *Phonetic Symbol Guide* by Pullum and Ladusaw, on reserve in Powell.

- Google Books: http://scholar.google.com
- Google Scholar: http://scholar.google.com
- JSTOR (scholarly journals, scanned and downloadable): http://www.jstor.org/search/

Google books usually gives you just a snippet of what you want, but once you know what's there, you can get the real book from a library.

5.8   Accessing the library from home?

The UCLA library system pays real money for scholarly web resources that you can't get as an ordinary web-browsing person. If you're not using Bruin On Line web services, you won't get all the scholarly goodies that your fees are paying for, unless you first visit: http://www.bol.ucla.edu/services/proxy/. By using a "proxy server", as this page describes, you get yourself "inside" the UCLA web system, and therefore can access all of the UCLA-funded web material.

Chapter 6   The role of phonology in a Linguistics 103 term paper

Ling. 103 term papers involve only very basic concepts of phonology, but the effective use of these concepts is critical.

6.1   Review of phonemes

It's essential that you understand the idea of phonemes. These are taught in Linguistics 20, but I suggest you also read the Rogers text pp. 44-47, the posted supplementary reading at http://www.linguistics.ucla.edu/people/hayes/103/hayesonphonemes.pdf, and, if you like, the following parable.

6.1.1   *The parable of the magic bricks*

"In a mythical land long ago and far away, there were no people, no buildings, no trees, nothing but green grass on the ground and small, short walls made with magic bricks. The bricks came from a distant brickworks that had produced them in exactly 30 different colors, all of which were used by the ancient bricklayers who had built the walls. Being magical, the bricks changed their colors slightly depending on their position in the wall and the identity of neighboring bricks. For example, every red brick took on a purplish tinge when located immediately to the right of a blue brick. Every white brick looked somewhat pink if it occurred to the left of a red brick. Every blue brick appeared with blue and white stripes, whenever it was the rightmost brick of a wall. And so on. Figuring out what types of bricks were in a wall was tricky, because whoever made the walls cast a magic spell on them such that if you tried to remove a brick, the entire wall would vanish in a puff of smoke.

Peter, Susan, Edmund, and Lucy, siblings and undergraduate linguistics students, entered the land of brick walls hoping to research their structure. Two problems confronted them: it was impossible to visit the ancient brickworks, and the walls could not be disassembled. Thus, their analysis of the brick inventory had to be carried out solely by observing the walls and engaging in careful reasoning. Using the techniques they had been taught in linguistics classes,[8] the siblings patiently deduced the 30 kinds of bricks produced in the factory, and the rules by which they changed their appearance when combined into walls. Eventually, they determined that every wall in the magic land could be derived from the 30 basic brick types, along with the set of rules they had established for how bricks vary by context."

I think this parable has most, but not all, of what is needed to understand phonemes: brickemes at the factory, allobricks, rules deriving the observed form of allobricks. It also is meant to illustrate that phonemes are analytical abstractions, not directly observable in the phonetic data. Peter and his siblings never got to visit the brick factory, but they managed to figure out the brickemes without having done so.

---

[8] In particular, they kept a sharp lookout for minimal pair walls (identical except for one single brick); and they kept track of the environments in which each kind of brick occurred (e.g., striped blue and white bricks always occurred at the end of a wall; plain blue bricks never did).

6.2   Why use phonemes in a 103 term paper?

We're doing *linguistic* phonetics, meaning we're interested in speech sounds not as mere gestures of the speech articulators, but as a vehicle for communication. The sounds are used to form morphemes, words and sentences — the meaningful units of language. So, when we organize a phonetics term paper around the phoneme inventory, we are focusing on the minimal set of sound units (consonants, vowels, tones) out of which the basic meaningful units of language are built.

When these minimal sound units are vowels and consonants, we speak of *phonemes*. When (in a tone language) they are tones, we speak of *tonemes*. But the analysis for tonemes is essentially the same as for vowels and consonants: there is a limited set of tonemes; they have variants called allotones; you can write rules that derive the allotones.

One other item can be phonemic: stress. Thus in Spanish [ˈpeso] is a unit of currency; [peˈso] is 'he/she weighed'. They are distinct words, a minimal pair distinguished by stress.

6.3   Tailoring the phonemic description to your own speaker

Remember that your 103 project is supposed to be a characterization of the speech of *your* speaker — a kind of phonetic portrait. This means that the phonology that serves as the basis for your description should, in so far as possible, be the phonology of your speaker and not the phonology of the reference source.

The phonemes for any one speaker are found by applying the standard procedures for phonemic analysis (taught in Linguistics 20) to data from that speaker. Recall that these procedures include the collection of minimal pairs and finding phonetically similar sounds that are in complementary distribution or free variation. Now, you won't have the time to work out this phonology in full, but if you have reasonably good luck, the phonology that appears in your reference source will be close enough that you'll be able to close the gap. Here are cases where you'll have to close the gap yourself.

- First, if a phoneme is listed in your reference source but *your speaker never says this sound*, then it can't be a phoneme for that speaker. For example, suppose that a reference source says that /ɔ/ is a phoneme of English, and gives minimal pairs like *caught* [kɔt] */cot* [kɑt], *law* [lɔ] */la* [lɑ]. Suppose that your speaker actually says [kɑt] for *caught*, [kɑt] for *cot*, [lɑ] for *law*, and [lɑ] for *la*, and similarly for similar words. In such a situation, it would be wrong to say that that /ɔ/ is a phoneme for your speaker — your speaker simply doesn't have /ɔ/. In this particular case it simply doesn't matter what the reference source says, since your reference source was written using data from different speakers.[9]

---

[9] In a case like this, it would be sensible to use a bit of space in your paper to prove that your speaker doesn't have /ɔ/ as a phoneme: your paper could say that according to your sources /ɑ/ and /ɔ/ are different phonemes, and

- Second, if the *phonetic characterization of a sound* is different for your speaker than from in the reference source, and there is no allophonic variation, then it follows that your speaker has a (slightly) different phoneme than the reference source says. For example, if your reference source says that English /l/ is alveolar, but your speaker always says a dental [l̪], then we conclude that the phoneme itself is different for your speaker —your speaker has the phoneme /l̪/. It would be wrong to say that your speaker has [l̪] as an allophone of /l/, because from the "phonetic portrait" point of view, there was never any justification in the first place for saying your speaker has /l/ as a phoneme. In practice, what this means is that you want to avoid a setup in which the source provides the phoneme and your speaker provides the allophone. If your speaker always says a sound in a particular way, that's the phoneme for your speaker.

6.4   Why minimal pairs and sets?

Minimal pairs demonstrate that two sounds can serve as the sole distinction between words and thus belong to different phonemes. For example, from English *pin* [pɪn], *bin* [bɪn], we deduce that /p/ and /b/ must be separate phonemes.

In principle, you could locate every pair of phonemes and include a minimal pair for each. But this is too time-consuming. In a language with 40 phonemes this would be 780 minimal pairs! So, instead we save time by finding minimal sets, like this one for English vowels.

heed	[ˈhid]			*who'd*	[ˈhud]
hid	[ˈhɪd]			*hood*	[ˈhʊd]
hey'ed	[ˈhejd]	*herd*	[ˈhɚd]	*hoed*	[ˈhowd]
head	[ˈhɛd]	*HUD*	[ˈhʌd]	*hawed*	[ˈhɔd]
had	[ˈhæd]			*hod*	[ˈhɑd]
hide	[ˈhajd]	*how'd*	[ˈhawd]		

From a minimal set, we can pull out a minimal pair for every pair of phonemes; thus it is a very efficient way of providing all the minimal pairs. Typically, one provides a minimal set for consonants, for vowels, and (in a tone language) for tones. If stress is phonemic, one provides a minimal pair like the Spanish one given above.

6.4.1   Near-minimal pairs and sets

Sometimes the inventory of words in a language simply fails to provide a minimal set. Often this happens for particular phonemes that happen to be rare and so just don't get much

---

you would include in your recording your speaker's (identical) renditions of *caught* and *cot* to show that she doesn't have /ɔ/.

"chance" for minimal pairs with other phonemes. Indeed, exactly this is case for the English vowel set given above. I managed, by using somewhat dubious words like *who'd*, to include almost all the vowels in the set, but for the very rare diphthong [ɔj] there simply is no word like *hoid* that can do the job.

The standard procedure here is to find *near*-minimal pairs or sets. Since we don't have a member of the [h ___ d] set for /ɔj/, we might pick *void* [ˈvɔjd] or *Hoyt* [ˈhɔjt] instead. There is something of an art to this; for instance, it is probably more sensible to use *void* than *Hoyt* because vowels tend to be influenced by a following consonant more often than a preceding one. You can think of the procedure in a rather lawyerly way: what would *convince a skeptic* who wanted to claim that [ɔj] is an allophone of some other phoneme? The fact that *void* is so similar to a true minimal-set word (hypothetical [ˈhɔjd]) means it's quite unlikely that our hypothetical opponent would be able to think of a rule that could derive [ɔj] from some other phoneme of English.

What is particularly tricky is if a phoneme has a **skewed distribution** so that there is no hope of finding even a vaguely similar member of the near-minimal set. A classic case of this is English /ŋ/, which never occurs initially and thus could never participate, even remotely, in the minimal set consisting of *pie, buy, tie, die* etc. The sensible thing to do here is to find a small *secondary minimal set* involving similar phonemes, such as *sim*, *sin*, *sing*.

Main minimal set		**Secondary minimal set**	
pie	[ˈpaj]	*sim*	[ˈsɪm]
buy	[ˈbaj]	*sin*	[ˈsɪn]
…		*sing*	[ˈsɪŋ]
my	[ˈmaj]		
Nye	[ˈnaj]		
etc.			

The phonemes /m/ and /n/ would thus have main entries in the minimal set (*my*, *Nye*), but also extra entries for purposes of showing that /ŋ/ is distinct from them.

6.4.2   Tonal minimal sets

Here, we try to keep all the vowels and consonants the same, but change the tone. The most famous minimal set for tone in all of linguistics is the following quadruplet from Mandarin. Tones are given in the numerical equivalent to the IPA tone letters.

[ma 4]	'mother'
[ma 24]	'hemp'
[ma 214]	'horse'
[ma 51]	'scold'

Again, sometimes extra sets are needed; some Asian languages have special tones that occur only when their syllable ends in a stop; these need their own minimal set.

6.4.3   *Picking good frames for consonants and vowels*

Sometimes there are number of frames available. In such instances, I would suggest using a "phonetically neutral" frame; one where the context is unlikely to induce an unusual allophone. For consonants the environment "before [a]" (or some similar vowel) is often a good environment; [a] tends to be rather neutral and does not often affect consonants; higher vowels and rounded vowels more often trigger the presence of contextual allophones.

In the case of vowels, I would suggest not using a frame with a following nasal consonant. Typically, this will produce a nasalized allophone of the vowel, and in fact it is usually harder to distinguish vowels from each other when they are nasalized.

A general point is that when you're illustrating Phoneme X, you want to avoid a context where X often occurs (in other languages) as an allophone. Here are typical cases to watch for: for nasalized vowels, don't use contexts next to nasal consonants; for palato-alveolar and similar consonants, don't use contexts next to high front vowels; for voiced obstruents, don't use contexts next to a voiced obstruent; for [ŋ], don't use a context preceding a velar consonant. Such contexts are unconvincing to an experienced reader, who will immediately suspect that the sound is merely an allophone.

6.5   Features

Very often, languages have symmetrical phoneme inventories in which the very same phonetic dimension is used to distinguish whole series of vowels or consonants. Thus English has:

/p/	/t/	/k/
/b/	/d/	/g/

Phonetic descriptions can be briefer, more general, and more helpful if they take advantage of these symmetries. For instance, an English description might say "English stops show a phonemic contrast for voicing at all three places: bilabial, alveolar, and velar. In word-initial position, the voiceless stops are all aspirated." This featural description will make more sense to a reader than a wordy alternative that treats each pair of stops (p/b, t/d, k/g) separately.

6.6   Illustrating allophones

Every language has a huge number of allophones (at least, once we get to a fine level of detail) and it is hopeless to cover them all. Rather, you should be selective, picking out allophones that stand out to the ear (that is, large distance between separate allophones of the same phoneme) or that are interesting to you in some way. This is necessarily a judgment call and is the main area in which the project assignment invites you to be creative.

To illustrate an allophone, pick a word that has the allophone (in the appropriate environment), then a second word that is similar, but doesn't have the allophone (and doesn't have the environment). For example:

"Vowels in English are always nasalized when they appear before a nasal. Thus, the /ɛ/ in *den* (#42 on the recording) is realized as nasalized [ɛ̃], whereas the /ɛ/ of *dead* (#43) is realized as oral [ɛ]."

    42.   /dɛn/   [dɛ̃n]   *den*
    43.   /dɛd/   [dɛd]   *dead*

Sometimes your recording will suffice to demonstrate free variation allophones. This may happen when the first repetition of a word is different from the second, or when the pronunciation of the word in your example sentence is different from the pronunciations in the two forms pronounced alone. Example:

"Final stops are unreleased in more casual speech. In fact, this happened in #23 on the recording: [my speaker] produced the word *top* with a released [pʰ] the first time, but an unreleased [p̚] the second time.

    23.   /tɑp/   [tʰɑpʰ, tʰɑp̚]   *top*"

6.7   What sort of phonology should be left out of a 103 paper?

You should leave out all cases in which a phonological rule *turns one phoneme into another*. For example, the English past tense ending is basically /d/, and is heard as such in words like *slammed* [slæmd], *filled* [fɪld], or *barred* [bɑrd]. When the suffix is placed after a verb stem that ends in a voiceless consonant, the /d/ of the past tense is realized as [t], as in *passed* /pæs+d/ → [pæst], *helped* /hɛlp+d/ → [hɛlpt], *laughed* /læf+d/ → [læft].   Of course, /t/ exists independently as a phoneme of English, as in words like *mist* /mɪst/ [mɪst] or *apt* /æpt/ [æpt].

Rules that turn one phoneme into another are good potential topics for term projects in Linguistics 120A (Phonology I) but they are redundant in a phonetics term paper. Here, we just want to describe all of the phonemes and (some of) their allophones. It adds nothing to a *phonetic* description if we point out which phonemes are derived from other phonemes at a deeper level of representation.

Chapter 7   How reference sources describe phonemes and allophones

7.1   Dutch High Vowels

- William Z. Shetter (1993) *Introduction to Dutch*.   Noordhoff, Holland: Wolters.

7.1.1   *Shetter's descriptive table of vowels*

Note: Shetter is basing his description on spelling—*but* Dutch spelling is close to being phonemic (one letter/digraph per phoneme)

Vowel in Dutch Spelling	Example	Gloss	Notes
ie	*ziek*	'sick'	A high front vowel: rather short, like English *seek*
	hier	'here'	Has about the same quality as the above, but is about twice as long when before *r*.
oe	*boek*	'book'	A high back vowel, higher and shorter than in English *boot*
	boer	'farmer'	Has the same sound as the above, but like Dutch *ie*, is about twice as long before *r*.
uu	*minuut*	'minute'	A high front-rounded vowel: the tongue in the position for *ie* but the lips rounded as for *oe* (compare French *u*, German *ü*)
	buur	'neighbor'	This is the same vowel as the above, but like Dutch *ie* and *oe* it is nearly twice as long before *r*.

7.1.2   *For the term paper*

"The three upper high vowels of Dutch, /i/, /u/, and /y/, all have special allophones when they occur before /ʁ/. In particular, each of these vowels appears as long in this position.   The lengthened allophones are compared with the normal non-lengthened vowels in #52-57 on my recording:

52.   /zik/   [zik]   *ziek*   'sick'
53.   /hiʁ/   [hiːʁ]   *hier*   'here'
54.   /buk/   [buk]   *boek*   'book'
55.   /buʁ/   [buːʁ]   *boer*   'farmer'
56.   /miˈnyt/   [miˈnyt]   *minuut*   'minute'
57.   /buʁ/   [byːʁ]   *buur*   'neighbor'

In the speech of my consultant Jaap, the difference is not always "almost twice as long" as Shetter reports (see spectrograms below), but it is nevertheless clearly audible."

7.2   German /ʁ/

- Moulton, William (1962) *The Sounds of English and German.* Chicago: University of Chicago Press.

7.2.1   Moulton's Description

German /r/

1. Phonetic nature. German /r/ consists of several quite distinct allophones depending in part on the individual speaker and in part on the position of /r/ in the word. …

When /r/ is followed by a vowel, it is for most speakers a voiced dorso-uvular fricative …Uvular [ʀ] is articulated by raising the back of the tongue toward the uvula and the back of the velum, until a narrow slit-shaped opening is formed, and at the same time forcing the breath stream through this opening.

…When /r/ is not followed by a vowel, … [I'm simplifying a bit here] … the allophone used is a non-syllabic vowel, … a lower mid unrounded vowel between central and back; in sound it is much like the stressed vowel of English /ˈbʌt/ *but*. We shall symbolize it as [ʌ̯].

	Prevocalic	Postvocalic	
		Before consonant	Finally
Phonetically	[ˈfüːʀə]	[ˈfüːʌ̯t]	[ˈfüːʌ̯]
Phonemically	/ˈfüːʀə/	/ˈfüːʀt/	/ˈfüːʀ/
Spelling	führe	führt	für

7.2.2   For the term paper

"The /ʁ/ phoneme of German has two allophones. When it occurs before a vowel, it has the allophone [ʁ]. But if it precedes a consonant or it as the end of a word, then it appears as a mid back unrounded semivowel, which (following Moulton), I will transcribe as [ʌ̯]. The difference between the allophones is illustrated in #42-44 on my recording.

42.	/ˈfyːʁə/	[ˈfyːʁə]	*führe*	'lead-1 sg. pres.'
43.	/ˈfyːʁt/	[ˈfyːʌ̯t]	*führt*	'lead-3 sg. pres.'
44.	/ˈfyːʁ/	[ˈfyːʌ̯]	*für*	'for'

The distinction shows up quite clearly in Fritz's speech."

7.3   Siptár and Törkenczy on Hungarian

- Siptár, Peter and Miklós Törkenczy (2006) *Hungarian Phonology*. Oxford: Oxford University Press.

Transcription symbol	IPA-symbol *(if different)*	Orthographic symbol	Example	gloss
ɔ		a	agy	'brain'
aː		á	ágy	'bed'
ɛ		e	egy	'one'
eː		é	ért	'understand'
i		i	irt	'eradicate'
iː		í	ír	'write'
o		o	orr	'nose'
oː		ó	ól	'sty'
ö	ø	ö	öl	'kill'
öː	øː	ő	őr	'guard'
u		u	ujj	'finger'
uː		ú	úgy	'like that'
ü	y	ü	ügy	'affair'
üː	yː	ű	űr	'space'

Alas, no allophones— Siptár and Törkenczy's rules all turn phonemes into other, existing phonemes, beyond the scope of your project. But the *IPA Handbook* (on reserve, chapter by Tamás Szende), says:

"Short vowels are to some extent reduced (lax) in unstressed position; their long counterparts are realized as full (tense) vowels. Long vowels, especially high ones, shorten in unstressed closed syllables. The resulting vowel can be half-long or as short as a short vowel. A postvocalic /n/ usually nasalizes the preceding vowel."

"Word-level stress is fixed on the first syllable."

You can find the right sort of words and (since you now understand the orthography) hunt for them in a Hungarian grammar and dictionary. For instance, compare the "e" in *vesz* 'buy-present' with *venni* 'buy-infinitive.' (from Carol Rounds (2001): *Hungarian: An Essential Grammar*).

7.4   How to translate symbols?

- Read the author's phonetic description very carefully.
- Read Geoff Pullum and William Ladusaw (1996) *Phonetic Symbol Guide*, 2nd edition. University of Chicago Press. It has the non-IPA symbols as well as the IPA.

- Come to office hours (M 11-12, Thr. 2-3 and by appt.)

Chapter 8   Finding allophones when your reference source lists none

   If you are having trouble finding allophones, you can either (a) poke around for a better library source that might point out some; (b) look for some yourself. Here are some places where it is often fruitful to look. Bear in mind that some of these questions might not be applicable for your language, and that there is no guarantee that any given question will lead to allophones.

   a) Are velar consonants more front when they occur before front vowels?
   b) Do any consonants sound different (e.g. voiced, or made into a fricative) when they occur between two vowels?
   c) Do any consonants (especially taps, trills, and voiced fricatives) become voiceless in word-final position?
   d) When an [n]-like sound is placed before another consonant, does it assimilate in place of articulation?
   e) Do bilabial nasals assimilate to following labiodentals ([ɱ])?
   f) Are vowels longer before voiced consonants than before voiceless?
   g) Are vowels nasalized before nasals?
   h) Do vowels have the same quality when they are stressless? (Often they become less peripheral; that is, closer to the center of the vowel chart.) Are vowels somewhat longer when they are stressed?
   i) Do vowels sound shorter or more central when a consonant follows them in the same syllable?
   j) When a low tone is at the end of the word, does it fall slightly?

   Please do not try to answer all of these questions in your term paper. If your word list already has a fair number of allophones, you needn't answer any of them. The questions are provided mostly just to help out if your reference source is not useful enough in this area.

Chapter 9   The role of orthography

When you do your project on a language written with an alphabet, you may find you end up dealing with *three levels at once*:   orthography (spelling), phonemes, and allophones. It's the phonemes and allophones that play the starring role in your written-up term paper. However, it may also be very useful for you to study the spelling system as well — as a kind of unreported background activity.

Specifically, it is often the case that a spelling system has a clear relationship between letters and phonemes. By taking notes from your reference source, you can set up a convenient table for yourself that translates back and forth between letters and phonemes. Once you have such a table, it permits you to do several useful things:

- Look up words in a dictionary that satisfy the requirements of your word list.
- Read your reference source more effectively (you can read about letters in the source, but think phonemes to yourself).
- Present the words to your consultant on a recording script in a way that will be familiar and comfortable to them.

Of course, not all orthographic systems are equally useful for this purpose. For instance, English and French spelling both do a pretty horrible job of depicting phonemic form. Often, a spelling system reflects an earlier, conservative stage of the language that will not match up to how your consultant speaks. Character-based systems, such as that used for Chinese, will not be helpful for phonemic form, either.

If the spelling system of your target language uses a symbol set not familiar to you (for example, Chinese, Devanagari, Arabic, Cyrillic, Hebrew…) but you want to use it on your recording script, you can do one of three things: learn to write it yourself, find a font and learn to use it, or use 3 x 5 cards and ask your consultant to write down the words for you.

Chapter 10   Linguists and consultants: who is the expert?

You picked your consultant mostly on one particular basis: he or she is a native speaker of the language, who learned the language in childhood and speaks (some dialect of the language) with a native accent. Your goal is to describe the speech of your consultant accurately, using the methods taught in the course. Where your speaker differs from your reference source, you should describe your speaker, pointing out that it is different. In this sense, your consultant is the expert — he or she is the only source of data you have, and you need to rely on this source. On the other hand, it is likely that your consultant knows nothing of linguistics or phonetics. In this rather different sense, *you* are the only expert on the scene.

Let me try to illustrate this point with a metaphor. Suppose you are a portrait painter and it is your job to produce a very accurate portrayal in oils of President Obama. To your surprise, when you show up to the portrait session, the President looks rather different from the way he looks on television or printed sources. Your job, however, is to paint exactly what the President looks like, there on the spot; and not what other people think he looks like.

To continue the metaphor: I would imagine that our busy President knows essentially nothing about how to paint a portrait (how to prepare and mix oil paints, blend for color, execute various brushstrokes, capture light and shading, etc.). That part is your job, as an expert oil painter. It would be absurd to ask the President for help on these matters.

Now, back to phonetics and elicitation.

10.1   Things it's ok to ask your consultant

- "Please say the next word on the list."
- "Do you know this word?"
- "Can you think of a word that starts out sort of like [qa…]?"
- "Please say these two words one after the other. Do they sound identical to you?"
- "Does it sound all right to you to say the word for 'pony' like this: [qɨf], instead of [qəf]?"
- "Ok, so you don't say 'pony' as [qɨf] yourself. Do you ever hear other speakers of the language say it that way?"
- "I noticed that when you said the word for "vein" the first time, it came out like [ɸlɛp], and the second time like [ɸlɛp˺]. (Is the difference clear to you?) Do you have a sense of whether one version is formal and the other casual?"
- Please say the word for 'zebra', which is more or less like [tøm]. When you start out, and you touch your tongue to the roof of your mouth, are you actually touching your teeth, or not?"

10.2   Things it's probably not helpful to ask your consultant[10]

- "Can you think of any allophones in your language?"
- "Do you consider this distinction to be phonemic?"
- … etc., concerning any issues of linguistic analysis.
- "Does pitch rise on this syllable?" (Far better to measure it yourself.)

10.3   Things it's scientifically wrong to ask your consultant

- "Could you please say the word like I indicated so I can get done with my term paper?"
- "Could you please pretend that you know this word even though you don't?"

10.4   Things it's ethically wrong to do to your consultant

- Bully or threaten them to say what you want.[11]

10.5   Consultant delusions

Experienced linguists find that consultants often hold many beliefs about their own speech that are not true or unlikely to be true. This is why it is sensible to remember who is the expert, as noted above. Here are some frequent delusions.

- "The two sounds you just pointed out are identical." (Often happens for the allophones of a single phoneme; the consultant is attuned only to phonemic differences and can't hear allophones.)
- "I speak the standard dialect of my language," "I have no regional accent." (Often this is wishful thinking — the speaker has partly adjusted his/her regional dialect in the direction of the standard variety but is unaware that the adjustment is imperfect.)
- "To make this vowel properly you have to make it more nasal." (The typical pattern is that any property of vowels that a person doesn't understand is attributed to nasality.)
- "In the next province over from mine they say X." (Often a mere stereotype.)
- "My language/dialect is more beautiful than other languages/dialects." (Obviously there is unlikely to be an objective basis for this.)
- "My language is a very old language." (This is absurd; all languages evolve from earlier varieties and are thus in a sense the same age.)

Summing up: the professional standards of linguistics are designed to minimize the burden on the consultant, who can simply try to speak naturally and offer fairly straightforward intuitive judgments.[12] The job of recording the facts accurately is the job of the linguist.

---

[10] Unless they are a trained linguist, in which case you're getting help with your schoolwork. This is generally ok with me so long as you write up the paper yourself.

[11] Believe it or not, this has been known to happen.

[12] Note that this is *not* patronizing the consultant or treating him/her as a dummy. When I myself am asked to be a native-speaker consultant for English, I actually resent it a bit when people ask me simultaneously to serve analytically as a linguist; it brings the distraction of trying to do two jobs when I should be doing one.

Chapter 11   How to make your word list

11.1   Length

The **length limit** for your word is as follows: number of segmental phonemes, plus number of stress and tone contrasts, plus 25%. Examples: American English (in the *IPA Handbook* analysis) has 39 segmental phonemes and phonemic stress; so (39 + 1) x 1.25 = 50 words. Cantonese (in the *IPA Handbook* analysis) has 42 segmental phonemes and 9 tones, so (42 + 9) x 1.25 = 64 words.

11.2   Finding the words

You need to comb through your reference sources (perhaps including a dictionary) and find words that fit the following pattern.

11.2.1   Minimal or near-minimal sets

To find minimal or near-minimal sets, first make a phonetic chart of all the consonants in the usual layout, something like (for an imaginary language):

		Labial	*Alveolar*	*Palato-Alveolar*	*Palatal*	*Velar*
Stops	*voiceless*	p	t			k
	voiced	b	d			g
Affricates	*voiceless*			t͡ʃ		
	voiced			d͡ʒ		
Fricatives	*voiceless*	f	s			
Tap			ɾ			
Approximants	*lateral*		l			
	central	w			j	

Then find a minimal or near minimal set to illustrate all the consonants. Since the vowel /a/ (or something like it) is often common in a language, and tends not to produce special allophones, a good arrangement for your minimal set is consonants occurring initially before /a/. Here is an example (my pretend language has tones, marked in IPA with acute accents for high, grave accents for low). Notice that I've put the set more or less in "IPA order", following the arrangement of sounds on the IPA chart.

1. [pámà]   'goat'
2. [báfà]   'sincerity'
3. [tánà]   'tiptoe'
4. [dámà]   'tooth'
5. [t͡ʃáɾà]   'moon'
6. [d͡ʒámà]   'dwelling'

7. [kámé]   'sing in falsetto'
8. [gámà]   'friend (slang word)'
9. [fámà]   'transmigration'
10. [sámà]   'mother's younger brother'
11. [máɾà]   'color name (blue/green region of spectrum)'
12. [námà]   'nine'
13. [ɾámà]   'urine'
14. [jánà]   'call (as to an animal)'
15. [wámà]   'hope'

If a consonant doesn't occur initially, then make a set that compares with other consonants finally, like English *sim* [ˈsɪm], *sin* [ˈsɪn], *sing* [ˈsɪŋ].

Note that the above list is something of a fantasy: it's actually unusual for a language to include a perfect minimal set like this. Do the best you can, plugging in words that are similar to what would be need. For example, if your language didn't have a word like [sámà] for /s/ you could use something like [sámò].

You also need a minimal set for vowels. Vowels are probably a bit harder to hear before nasals, so that might be worth avoiding. The following set uses [l] as the following sound.

16. [pìlì]   'crust of rice left in bottom of pot after cooking'
17. [pèlì]   'perch'
18. [pálì]   'opium pipe'
19. [bólì]   'friend'
20. [púlì]   'bestow (used only in poetry)'

Observe that (in this hypothetical case) I couldn't find a word like [pólì] so I used [bólì] instead. The list follows a sort of IPA order, going counterclockwise around the vowel chart:
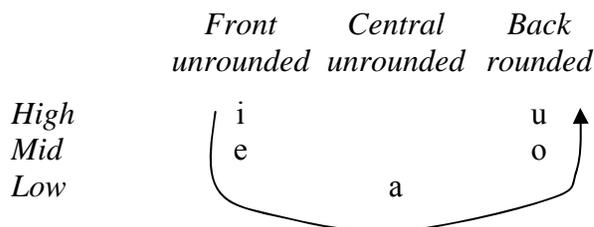
Lastly, if your language is a tone language, find a minimal set for tones. Since my hypothetical language has just high tone and low tone, this is pretty easy:

21. [má]   'mother'
22. [mà]   'horse'

Note that although this minimal pair is the main example for tone, I have transcribed tone on all the other examples. This is crucial, since tone is phonemic in this language. Please don't forget

to do this. (You can use the keyword method and your consultant to help get the tones right. Making pitch tracks with software may also help.)

If your language is a stress language, with phonemic stress, find minimal pairs or triplets. For English, a minimal pair is (more or less) *defer* [dɪˈfɚ] vs. *differ* [ˈdɪfɚ].

11.2.2 Selected allophones

Use your reference source, or failing that, look at Chapter 8 above, "Finding allophones when your reference source lists none". If your source has too many allophones to fit within the length limit (given in Chapter 2), then pick the ones you find most interesting.

To illustrate an allophone, include a word that has the phoneme with the environment for the allophone, and a very similar word that doesn't have the environment. In the final writeup, you will also want to give both the phonemic and the phonetic form of the word.

Example: nasalized [ɛ̃] is an allophone of /ɛ/ in English, so you would list the following:

	Phonemic transcription	*Phonetic transcription*
ten	/tɛn/	[tɛ̃n]
Ted	/tɛd/	[tɛd]

11.2.3 Backups

It's completely common for a linguist to come to the speaker with a set of possible words and find that they're not all useable.   Responses:

- "I don't know that word."
- "They use that word in the eastern province of my country, but I wouldn't ever say it myself."
- "That word appears in literature but I don't know how to pronounce it."
- "That word is embarrassing."

You can either have backup material on hand (like a dictionary) to fill the gaps that result, or you can come with backup words (for example, three different words that start with [pá…] for /p/. This depends on how much time you have, and how much time your consultant has to share with you.

Don't forget to jolly your consultant along. You want them to show up at recording time…

11.2.4 Sentence

The last item on your script will be a sentence. Get your consultant to make up a sentence that includes two or three of the words in the script. The purpose of this is that when you do your

transcriptions, you can compare isolation pronunciations with in-context pronunciations. Note that often in order to get a real sentence your speaker will have to include grammatical suffixes or prefixes, as shown below.

23. pámà   nì   má   tú   pìlì-sé   tánà-sì
     goat   of   Mother through   crust of rice-locative   tiptoe-past
     'Mother's goat tiptoed through the crust of rice.'

11.3   Word-processing your word list

It makes sense to prepare your word list with a word processor; your consultant will find it more legible and it will give you a head start in typing up your paper. You'll need an IPA font; for advice on this visit http://www.linguistics.ucla.edu/people/hayes/fonts/.

Chapter 12   How to make your recording

There are quite a few little things that help make a good recording, so read this carefully.

12.1   Can I record my speaker with my own equipment?

Yes, but you must also have a quiet location available for recording. If you make your recording with everyday life going on around you, it will produce a recording that is very hard to transcribe and frustrates your grader.   And do remember that no recording made in everyday-life surroundings can be as good as one made in a soundproof booth like the one in the Linguistics Department that we let you use.

In addition, you must use decent equipment. I strongly recommend that if you make your own recording, you should borrow a decent-quality microphone from the Linguistics Department. To do this, go to the main Linguistics office in 3125 Campbell Hall during business hours (M-F 8-12, 1-5).

UCLA Linguistics Department
Main Office

Third floor, Campbell Hall
(3125)
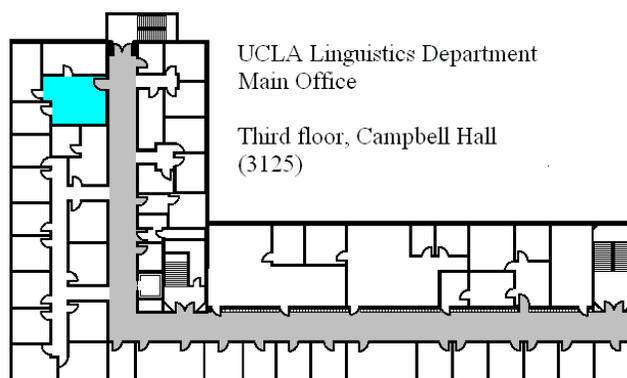
The Front Office Coordinator, Ms. Alejandra Garcia, will lend you one. You need to bring a photo ID (which Ale will scan) and a deposit of $5, which you get back when you return the microphone.

When recording, be sure to place the microphone in a location where it will not get puffs of breath from the speaker when (s)he says bilabial stops. Also, I suggest that you sit further from the microphone than your speaker does, because it's best to highlight your speaker's voice, not your own.

12.2   Recording at UCLA: making an appointment

Suppose, on the other hand, that you want to get the advantages of making a recording in the deep silence of a sound booth. For this, your speaker has to be willing to come to campus, preferably during business hours.

- You can make a recording **any time during 8th or 9th week**.
  - ➢ This works out to: **11/18-22, 11/25-27**

- Set up your appointment **on the Web**, by visiting:
  http://www.mysitecalendar.com/calendar.aspx?id0=pschbooth
- The recording booth is in **2226 Campbell**:
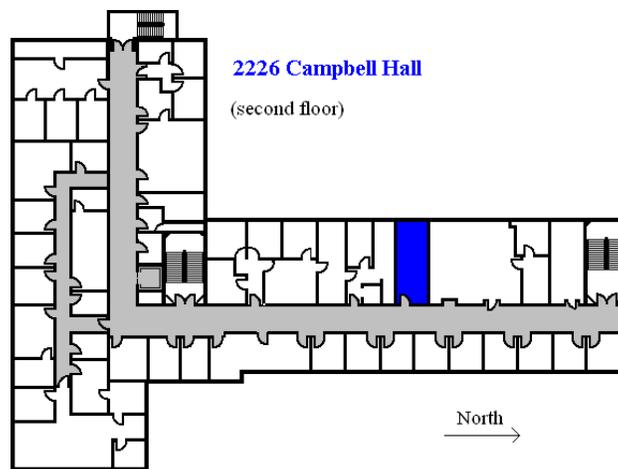
12.3   Recording help

- It's not that hard to do a recording yourself, and directions are posted on the wall of the
  sound booth (and a copy of those directions is given below). But it's sensible to do it
  when there is some backup help available.
- This quarter (Fall 2013), backup help is available these times:
  - ➢ Irene Chou (undergraduate lab assistant): Tuesdays and Thursdays after 6;
    Monday: after 3; Wednesday after 1; Friday: after 2. "Weekends I am pretty
    much available any time.". For all of these, please email Irene first:
    ichou@ucla.edu

- During business hours, the backup-help person is Mr. **Henry Tehrani**, the Phonetics
  Lab technician. His office is in 2101F Campbell Hall, the same floor as the booth.
  - ➢ Available hours: 8:30 to 5 daily; except not after 2:30 on 11/26
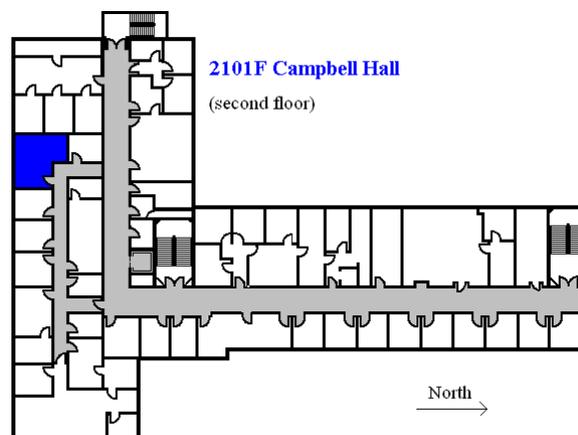
You can find him in person or give him a call at 310 825-5527.

- If you want to do a recording outside of business hours, the backup helper is the Phonetics Lab's undergraduate assistant, Ms. Irene Chou. Irene can also let you into the building. You have to contact her in advance; email ichou@ucla.edu.

  ➢ Available hours: Tuesdays and Thursdays after 6; Monday: after 3; Wednesday after 1; Friday: after 2. "Weekends I am pretty much available any time."

- If you miss the end-of-ninth-week recording deadline, please contact Mr. Tehrani or Irene Chou and ask him or her very nicely to help you anyway.

12.4   Arrange your word list in final form

- Look at whatever comments I make on your draft word list.
- Also, re-read the following chapters of the manual: Chapter 2 (original assignment), Chapter 4 (sample paper), Chapter 11 (how to make word list).

  ➢ This term paper manual is on line at:
  http://www.linguistics.ucla.edu/people/hayes/103/termprojectmanual/TermProjectManual.pdf

12.5   Recheck your final word list with your speaker

Before you make the recording, recheck the words you have chosen with your speaker to make sure that (s)he is happy with the list. Then, at the actual time of the recording, meet your consultant about **20 minutes (or more) before your actual recording time** so that (s)he can read over the complete list and become comfortable with it.

Agree with your speaker how you will cue the words. If your speaker is going to *read* the words from a written prompt, such as a typed list or cue-cards, make sure that s/he has practiced them enough so that you don't get a over-careful reading pronunciation. If you are planning to have the speaker give you the words from a spoken cue, make sure that s/he knows which word is wanted and does not give a synonym or a different form.

12.6   The recording protocol

If you borrow a microphone, you must share it with your speaker. If you go to the sound booth, there will be two microphones, labeled for speaker and linguist. Your part of the recording is to read the examples numbers and the English translations of the words. This is so the speaker doesn't have to switch back and forth between languages, which might affect their accent.

Your consultant should be seated comfortably, quite close to the microphone but not in a direct line with it (avoid aspiration noises). It is nice if you record yourself at a considerably lower volume than your speaker. On the recording, this will **highlight** the words to be transcribed. The English translations don't have to be very loud to be useful. So, in a one-microphone setup, sit farther from the microphone; in a two-microphone set up, adjust the recording levels appropriately. It's good to do a brief pre-check before plunging in.

The recording should begin with the following announcement describing what it is:

> "This recording was made at the UCLA Phonetics Laboratory on [...day, month, year...] by [...your name...] as an illustration for a Linguistics 103 term paper. The language is [...language name...] (mention specific dialect too if appropriate). The speaker is [...name...] from [...place and country...]."

You might find it useful to write out the exact words you are going to use, so that you do not stumble. Then the word list should be read. Here is the proper format:

You:	"One: 'pay'"
Speaker:	"[ˈpaɣo] ... [ˈpaɣo]"
You:	"Two: 'below'"
Speaker:	"[ˈbaxo] ... [ˈbaxo]"
You:	"Three: 'heel of shoe'"
Speaker:	"[ˈtako] ... [ˈtako]" etc.

Notice that there are two repetitions — useful for checking yourself, and also as a way of obtaining (accidental) free variation.

Don't go too slow—it's pretty excruciating for the grader to listen to a very slow recording. Have your speaker do the sentence last. At the end of the recording you should make the following announcement:

"This is the end of the recording."

A sample, imaginary recording (beginning only) can be heard at http://www.linguistics.ucla.edu/people/hayes/103/NoisiveletianRecordingBruceHayes.mp3.[13]

12.7   The recording setup at UCLA

Currently, this is located in Campbell 2226; see map above. Go into this office and enter the sound booth to your right.

You make your recording using the common, freely-downloadable program called **Audacity**, which is installed on a computer in the sound booth. There are headphone-mounted microphones for you and for your consultant. There is also a little box with knobs that set the sound levels on each of these microphones.

You should follow the directions posted on the wall. However, here are extra hints that may improve your recording.

---

[13] I need to redo this, because as of this year, Noisiveletian has become a tone language. But it will give you an idea of what to aim for.

- Make sure the speaker's microphone is fairly close to their mouth; within an inch or two, *but not in the pathway of exhaled air*. If they get in the air pathway, you'll get a booming noise during [p]'s that will wipe out the phonetic signal.

- As a first step in recording, *set the sound levels*: pretend you're already making a recording, and watch how large the waveforms are on the Audacity screen. These should be small blobs for each vowel uttered by you, and somewhat larger blobs for your speaker. Make sure you never let the blobs overflow the little waveform window — this will produce a horrible-sounding overload on the recording and make it hard to transcribe. Be a bit conservative in setting the levels, since every once in while your speaker might suddenly say a word loudly.

- When you're ready to record for real, get your speaker's permission and shut the door. This will make the room hotter and stuffier for a couple minutes, but it pays off in sound quality.

12.8   Obtaining your recording

No matter where you make your recording, it should be made and submitted in **.wav** format. Be sure to do this or you will run into a lot of trouble! (So: not mp3, not ogg, not CD track, not whatever isn't wav).

How to obtain possession of your recording:

- You can email it to yourself.
- You might also have a Dropbox account, which you can access remotely from dropbox.com (or other, similar "cloud" services).
- You can make a CD. The UCLA facility gives clear directions on the wall for how to save your recording as a CD. Follow these. Make sure to burn your CD in **data** format; if you make it in ordinary CD format, I will have to convert it back on my own machine, and will feel an unpredictable degree of annoyance. Once you have burned your CD, be sure to put your name on both the CD and the envelope it goes in.

Please do *not* try to take your recording away on a **thumb drive**. Unfortunately, the Laboratory staff have found that most student thumb drives have viruses on them! And we would like to keep the computers safe.

12.9   Keep your recording in original order

After you listen to your new recording, please do *not* try to rearrange the order of the words on your recording afterwards (say, by using some kind of software). Better just to use a sensible prose write-up to compensate for any defects in the script order.

I say this because the history of students trying to do this has been disastrous.   This is why it's good to have a sensible order of words on your recording script (like in the same paper) in the first place.

12.10 Appendix: the instructions for using the recording equipment at UCLA

How to record in Audacity

1. Look at the computer in the sound booth. Open Audacity from the desktop. You will see a blank window like this:
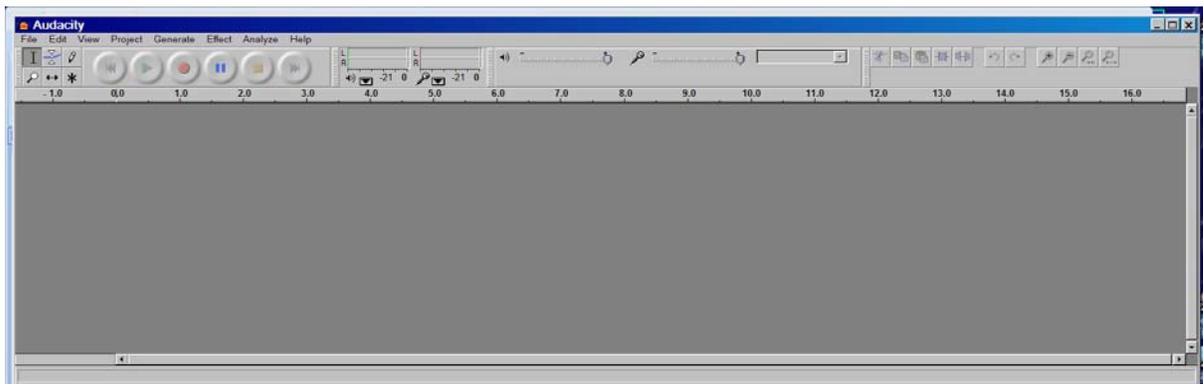
2. Click the **red button** to open a recording window and start recording. It will then look like this and you will see the cursor moving and the audio signal appearing as it is recorded:
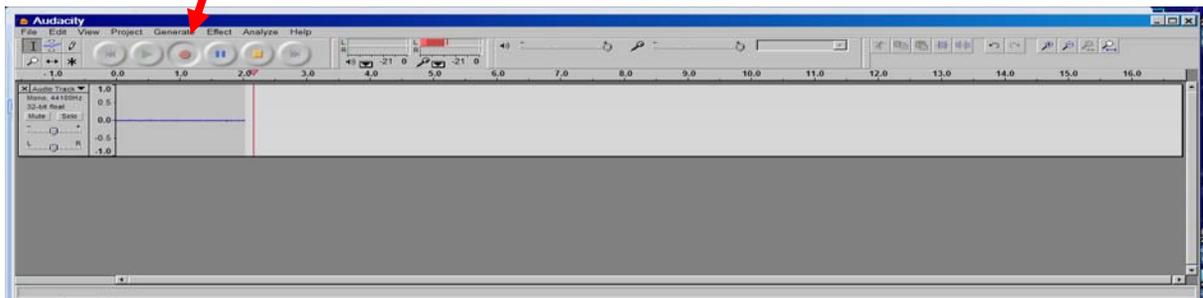
3. If you want to pause during your session, click the **double-blue-line button**:
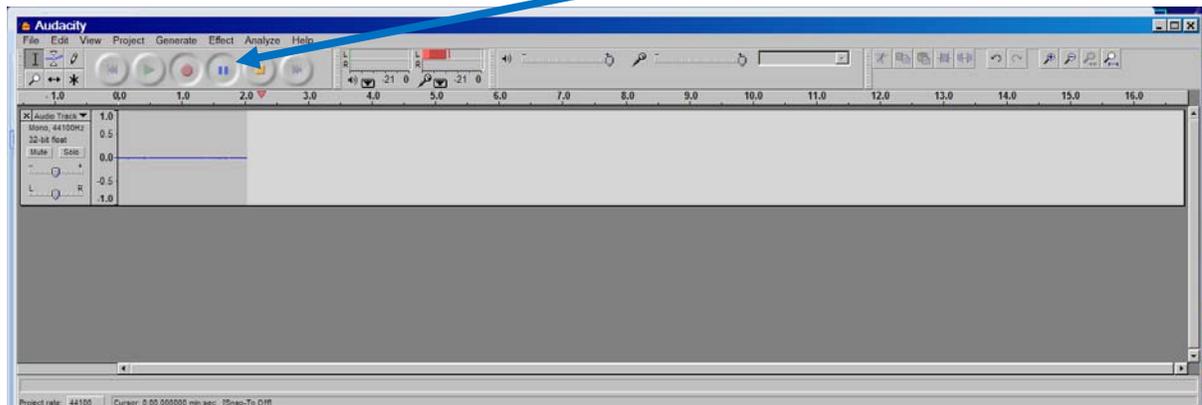

Then to resume recording after your pause, click that same **double-blue-line button** again. You can pause as many times as you want to. Nothing is recorded during a pause.

4. When your recording is complete (and ONLY when it is complete), click the <mark>yellow stop button</mark>:
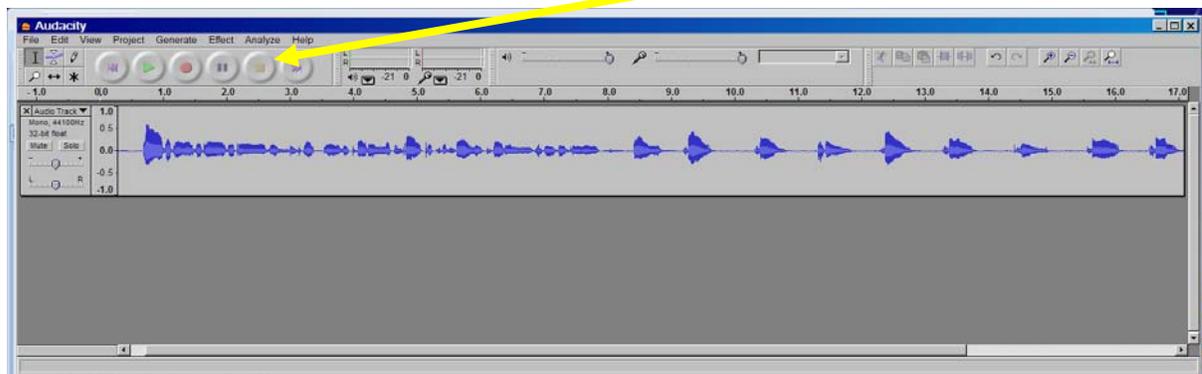
(If you hit the stop button accidentally before you have finished your recording, go to the next step to export what you've recorded so far (e.g. as JaneSmith1.wav). Then delete that track and start again at step 2 to finish your recording in a new recording window, which you will have to export separately with a different filename (e.g. JaneSmith2.wav). Later you can combine the two files into one by copy-paste.)

5. You are not done yet! You need to save your file and take it away with you. Open the File menu and select "Export". DO NOT use the "Save Project" or "Save Project as" commands to do this. Instead, you must use the "Export" command:
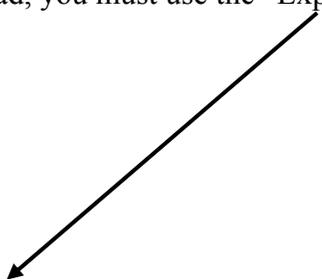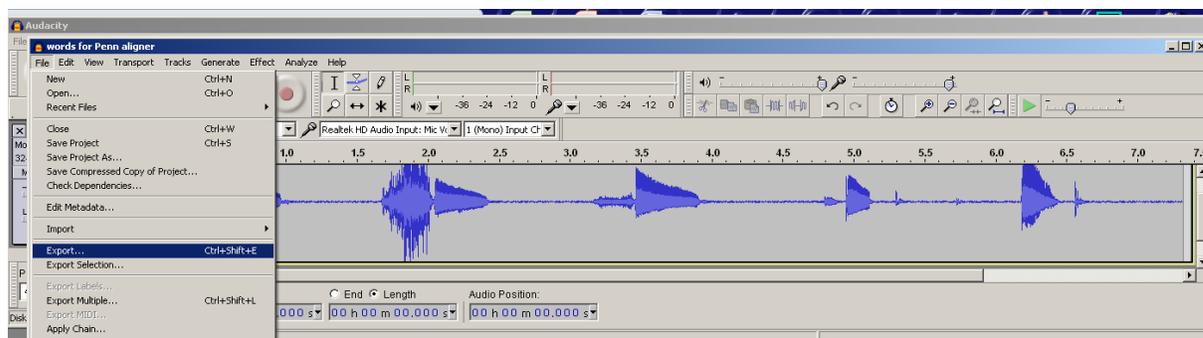
You will then see the location where the file will be saved and you can browse to another location if you want. Enter your filename for your file, and **under "Save as type" be sure to choose WAV**. Click Save (or press Enter). Another window, "Edit Metadata", will pop open; just click OK without doing anything.

6. Be sure to take your file away with you (see instructions above under 12.8 above, "Obtaining your Recording); the recording computers are not backed up, and files left on desktops will be deleted.

Chapter 13 Transcribing your recording

The transcription is where you demonstrate you've learned in class how to transcribe. Part of the accuracy depends on the skill you have acquired as a transcriber. But *any* method that increases accuracy is fair game. Here are some methods that may help.

13.1   Using headphones

I strongly recommend this. You can borrow headphones at the CLICC facility in Powell Library.

13.2   Using Wavesurfer

Wavesurfer can help you transcribe. Indeed, I often use Wavesurfer myself during grading to check if a transcription is accurate, so it would be sensible for you to anticipate me.

Wavesurfer can be downloaded from http://www.speech.kth.se/wavesurfer/; for Macs try this site: http://www.spectrogramsforspeech.com/tutorials-2/software-download-2/. Hints on using Wavesurfer are posted at http://www.linguistics.ucla.edu/people/hayes/103/WaveSurferHints/.

There are three ways that Wavesurfer helps.

First, you can highlight things and listen to them over and over; for example, one individual word. It's easy to scroll through the word list one word at a time. You can also highlight little bits of a word and listen to just that bit. This really helps focus your ears and can be very helpful. It is also nice for figuring out the vowel qualities at the beginning and end of a diphthong. It's also very good for detecting vowel nasalization (often found as an allophone before nasal consonants).

Second, there are some things that can be hard to get by ear but which show up clearly on the visual displays of Wavesurfer. These include the following.

- Tones: check the pitch contour display.
- Aspiration: measure the VOT and compare with the values given in your textbook.
- Voicing in stops: if you want to tell whether a stop is truly voiced, as in Spanish, or "pseudo-voiced" as in English, just look for the voice bar during closure.
- Tap vs. trill — count the contacts on the spectrogram. Tap and trill are often in free variation and need careful checking.

Third, you can do screen clips so that the cases of Wavesurfer use that were particularly helpful to you can be pasted into your paper. In Windows a screen clip is Alt PrintScreen; paste into Paint and from Paint into Word.

13.3   Using your speaker as transcription aid

Buy your speaker some really high-quality chocolate ☺ and invite them back for another session post-recording. Your speaker usually isn't a linguist and therefore will be phonetically naïve (see Chapter 10 above). But in the case of a difficult phonemic distinction, native speakers often are very good hearers and can help you. Use the keyword method; for example "vowel of *cot* or vowel of *caught*?", or point at a letter on an alphabet chart. Note that speakers usually aren't very good at hearing allophones.

You can also do a bit of lip-reading when your speaker repeats words from your list. This can be useful, for instance, in identifying what kind of "u" sound a Japanese speaker has.

Lastly, you might be able to get your speaker to exaggerate stress contrasts by speaking emphatically.

Chapter 14 Guide to writing up your term paper

14.1   Reread the directions

See Chapter 2 of this manual.

http://www.linguistics.ucla.edu/people/hayes/103/TermProjectManual/TermProjectManual.pdf

14.2   Reread the sample paper

See Chapter 4 of this manual.

14.3   Transcribe with care

See Chapter 13 of this manual, which recommends the use of Wavesurfer.

If a Wavesurfer display is informative, you can do a **screen clip** and paste it into your paper. For hints on how to do this (Windows and Mac are different), consult *http://www.linguistics.ucla.edu/people/hayes/103/WavesurferHints/#print*

If your speaker says a word differently in the two repetitions, transcribe both and point it out.

14.4   Use the recording script as the basic mode of organization

Write your paper by starting with your recording script, then adding introduction and commentary. In other words, *interleave* your written text with the recording script. Thus, if the first six items are [p t̪ k b d̪ g], you would say something like "[your language] has voiceless and voiced stops at the bilabial, dental, and velar places of articulation. These are illustrated in items 1-6 on the recording." Then you list items 1-6 from your script. You can see this done in the example paper (Chapter 4).

For practical reasons, it is essential that *the words be in the same order on the paper as on the recording*. With a big pile of papers to grade, I just don't have time to hunt through your paper to find how you transcribed the words. I will probably treat misordered words as simply missing, and grade accordingly.

Place vowel and consonant charts at appropriate places in the paper; i.e. the consonant chart just before you discuss consonants and the vowel chart just before you discuss vowels.

The interleaving of language data and verbal discussion is done not just in phonetics term papers, but throughout linguistics. The idea is to let the sample data illustrate and justify the claims that are being made.

14.5   Dealing with errors in your recording

Little errors on the recording (for instance if you consultant says #16 before #15) are normal and will not sink your paper. The key to making these errors harmless is to put text into the paper: the reader of the paper (me) will read the text while listening to the recording, so if you explain these little fluffs in the appropriate spot they will do no harm.

In fact, this is a completely general point: if something complicated comes up, anywhere in your project, use prose to explain to me what is going on. Like any reader would be, I'm happier reading your explanation than trying to figure it out myself.

Of course, if your recording ended up being so disorganized and error-ridden that you can't imagine it being the basis of a clear paper, that's the time to consider asking your speaker to re-record. But this is an extreme step.

14.6   Choice of title

A title like "Linguistics 103 term paper" is not a good title, because titles should describe content. "The Phonetics of X" works fine, or something similar.

14.7   Section headings

You can make a paper easier to follow if you use section headings, along the following lines:

1. Introduction
2. Consonant phonemes
3. Vowel phonemes
4. Allophones

These are normal in linguistic writing, and they demonstrate that you have plan.

14.8   Don't overrely on your reference source

Write your paper about *your* speaker: it's meant to be a phonetic portrait. Your reference source served you as a guide for where to look (and should be cited as such). Also, where you speaker differs from your reference source, that is of interest and should be mentioned. Even cases where the reference source says the language has some phoneme or allophone and you demonstrate convincingly that your speaker *doesn't* have it can be interesting.

14.8.1 *Don't carry over your source's mistakes*

There are cases where heavy reliance on your reference source might seriously damage your paper. For instance, reference sources often use non-IPA symbols. Don't imitate them, translate their symbols into IPA (you can do this by reading their phonetic descriptions; also come see us for help in office hours).

Reference sources also sometimes contain outright errors. For example, in previous offerings of the course, students have shown me reference sources that call [x] a uvular and [h] a pharyngeal. Override these errors, and *say* you are overriding them. If you're uncertain whether to override or not, come to office hours for help.

14.9   Stick to phonetics

Reference sources often include interesting material on dialects, historical change, spelling, and phonological alternation (how morphemes vary their pronunciation in different contexts). A little of this stuff is fine, but remember that your overall goal is to write a brief and clear phonetic description. For example, your paper would not be helped, but would be hurt, by including a long list of the countries where French is spoken, or by a review of the controversy over whether Korean is related to the Altaic languages.

14.10 Length

The recommended length is eight pages. I'm not concerned too much if you paper is longer or shorter. Primarily, your paper should be a good match to your word list. It should guide the reader through the recording, making appropriate comments (that is, relevant to the phonetics of the language as your speaker speaks it) but not digress or go over the length limit for the word list (see Chapter 2).

14.11 Editing your first draft

Word processors make editing very easy, so it's worthwhile putting in some editing time to improve your paper. Here are a couple hints:

- One useful procedure is to read the paper over to yourself out loud. When you're listening, it's easier to adopt the reader's point of view — which is the essence of good writing.

- When I myself am editing in situations where it really counts (for example, submitting a paper to a scholarly journal), I print out the paper and edit in pencil. Then I transfer the edits to the word-processor file. You might find this useful yourself: it lets you use your whole brain in thinking instead of word-processing.[14]

Above all, watch for things that might seem contradictory or nonsensical — they are likely to lower your grade more than any other issue. Nonsense can occur, for instance, if you accidentally replace a word by its opposite, as in *voiceless* for *voiced*. Nonsense also can result if you're having trouble understanding the course material or the reference sources. Come to office hours (M 2-3, Thr. 2-3 and by appt.) for help.

---

[14] For a really eye-opening discussion of the merits of reading on paper, see http://www.scientificamerican.com/article.cfm?id=reading-paper-screens.

14.12 Style

On mechanics of writing: I do give more points to papers that are well written, have correct spelling and follow the rules for standard written English. There are many resources (spell checkers, grammar checkers, style manuals, campus tutorials) that can help you here. For more on writing style see Chapter 16 of this manual.

14.13 Phonetic symbols

You can get help with phonetic fonts and insertion of symbols by visiting http://www.linguistics.ucla.edu/people/hayes/Fonts/. Sometimes people give up on fonts and try to enter the symbols in pen. This seems to work poorly, since it's extremely hard to avoid leaving gaps.

14.14 Grading criteria

Papers will be graded on the following basis: focus on speaker rather than reference sources, accuracy of transcription, knowledge of course material, organization, clarity and correctness of writing. Extra points are awarded for going out on a limb, especially when I believe you were correct in doing so.

Chapter 15   Plagiarism

A statement adapted from the UCLA Undergraduate Teacher's Guide

Not all students are aware of what plagiarism [ˈpleɪdʒəˌɹɪzm̩] is, or of how serious it is. Plagiarism means presenting as one's *own* work, the opinions or the words of someone else. Plagiarism is dishonest because the plagiarist offers for credit what is not his own. Plagiarism defeats the whole purpose of education, in this case the purpose of a major term project—the improvement of the student's powers of thinking and expression. Plagiarism occurs when one uses the exact language of someone else without putting the quoted material in quotation marks and giving its source. Plagiarism also occurs when the student presents as his own the ideas of someone else, even when expressed in the student's own words. Plagiarism is the transfer of material from a source to a paper without digestion and integration in the writer's mind, and without an acknowledgement in the paper. The use of professionally researched and written reports, and the re-use of former students' old term papers, are clear-cut cases of plagiarism. But some people plagiarize without bad intentions, thinking that the author of a source "says it better than I could say it". While that may be true, if it is your paper you are supposed to have written the words yourself.

Please note that you are permitted to use the ideas of other people; indeed, the normal process of scientific development depends upon the communication of ideas from one person to another. However, whenever you use an idea that was originally suggested by someone else, you must give credit to the originator of the idea. For example, if you paraphrase a source, you must give credit to the author by indicating the source. If you take a quotation word-for-word, you must use quotation marks to indicate that the wording is the original author's. In writing your 103 term paper, you do not need to identify the source of every example word you use. But you should acknowledge, in a general way, the sources you used in coming up with your examples.

The penalty for plagiarism in this course is the same as the penalty for any other kind of cheating: you get turned over to the Dean of Students.

Chapter 16 Some hints on formal academic English

16.1   On formal academic style

In linguistics, it's a bit funny to ask that undergraduate students write their term papers in formal academic English, since we linguists spend a certain amount of our teaching time pointing out the fundamental irrationality of "normative views" of language. The reason it would be good for a linguistics professor to ask for formal writing is that we are, post-college, sending you out into a world that places a very high value on formal writing that is perceived as "correct".

In addition, there are higher-level aspects of academic writing that have nothing to do with these irrational normative beliefs: organizing the material into coherent sections and paragraphs is inherently a good thing because it makes a more readable and persuasive paper.

16.2   The style to aim at

You're aiming at a style that is neither chatty nor stilted.

"Chatty" is, for instance, interrupting the narrative to say you thought something was cool, including jokes, or using contractions or slang. Note: I don't mean to be a killjoy. But the idea is to get practice in producing non-chatty writing where it's appropriate.

"Stilted" is using words fancier than is needed for the purpose. For instance, a common form of stilted writing is the use of "utilize" where "use" would have sufficed. Writing can also be stilted when it's wordy — often the prose of a paper is improved simply by going through it and deleting all the unnecessary words.

16.3   Two expository traditions specific to linguistics

16.3.1 Numbered section headings

Separating your paper into sections and giving them numbered headings is standard in linguistics. It is avoided in some humanities fields — scholars in these fields clearly *are* organizing their thoughts into a hierarchy of sections, but they don't label them with numbered headings. I think the headings help and recommend them. Most word processors will auto-number your headings if you use a header style for them; for example, this document was prepared in Word and uses customized versions of the styles called Heading 1, Heading 2, and Heading 3.

16.3.2 Citation

Linguistics normally uses the so-called "Harvard system", as in "Smith (1974, 23)". Conveniently, "Smith" can either be the work or the person: "Smith (1974, 23) suggests that the

phoneme /ɲ/ is often realized as [ʝ] when intervocalic" or "In Smith (1974, 23) it is suggested that …" See the sample paper above for examples.

I don't care what format (MLA, APA, Chicago, etc.) you use for your bibliography so long as you include the normal information (author, title/journal title, year, publisher, place, date, page numbers for a journal article). Where you cite web material be as specific as you can, including the URL of the web site.

16.4   Some specific points of grammar that often come up in term papers

16.4.1 *How to spell numbers in formal writing*

In formal academic writing, it is usually required to spell out small numbers rather than writing them as digits. For example, not this: **English has 6 stop phonemes,* but this: *English has six stop phonemes.* Different authorities offer a different cutoff point for what counts as "small"; one version of this rule is to spell out all numbers ten or under.

When you refer to numbered items on your word lists, digits are preferable, even for low numbers, as in *Number 2 on the word list* or just *#2*.

16.4.2 *Reference of sentence-initial descriptors*

In formal written English, any phrase at the beginning of the sentence that has an "implied subject" must refer to—and may only refer to—the subject of the main clause. So, if you write

"Though a U.S. native, Noisiveletian is Charles's first language."

it is unacceptable in formal written English. Here is the explanation: the sentence is, intuitively speaking, short for

"Though [X is] a U.S. native, Noisiveletian is Charles's first language."

where X is the implied subject. In academic English, X must can only refer to the subject of the sentence as a whole, which is *Noisiveletian*. Therefore, in academic English, the sentence above would be interpreted as having a nonsensical meaning; namely that the Noisiveletian language itself is a U.S. native. One way to write this sentence in grammatical academic English is:

"Although Charles is a U.S. native, Noisiveletian is his first language."

16.4.3 *Split infinitives*

A split infinitive occurs when an adverb intervenes between *to* and the verb, as in

"…but continues to often speak Noisiveletian with his family and friends"

Split infinitives are common in vernacular speech but should be avoided in formal writing. You can usually avoid them with a rewording, such as, "but still speaks Noisiveletian frequently with his family and friends."

16.4.4 Use of plural suffix in compound words

Compound words normally do not use the plural suffix on their first member even when this is semantically plural. Example: *phoneme list*, not *phonemes list*, even though the list has many phonemes on it. This rule may in the course of changing (for example *systems analyst*) but for now it is better to leave out the plural suffix.

16.4.5 "A lot of"

Historically, the phrase *a lot of X* to mean has been confined to spoken English. Nowadays one sees it occasionally in academic writing. But I think you're still better off not using it; use *much* or *a great deal* instead.