/51 pts.   Problem Set #2

Part I.

Consider the following data based on Chatino, a language of Mexico. This language contains voiced and voiceless vowels. (Voiceless vowels sound "whispery.") Voiceless vowels are indicated with a small circle under the vowel (like voiceless liquids and glides), e.g., [ḁ], [u̥]. The data have been modified to simplify this problem. Assume phonetic transcription. Consider [ʔ] to be a *voiceless glottal stop* (a consonant).

a)	kḁta	'you will bathe'	j)	siju	'juice'
b)	ki̥ʔ	'fire'	k)	sula	'open!'
c)	ku̥su̥ʔwa	'you will send'	l)	tije	'stomach'
d)	se̥ʔe	'place'	m)	laʔa	'side'
e)	ʃi̥ʔɪ	'sad'	n)	loʔo	'where'
f)	tḁʔa	'fiesta'	o)	ndiki	'you are burning'
g)	ti̥hi	'water'	p)	nguʃi	'tomato'
h)	tu̥ʔwa	'mouth'	q)	ki̥su	'avocado'
i)	kino	'sandal'	r)	hḁʔ	'grass mat'

1. (5 pts.) Indicate the best statement:

        ___ a. [u] and [u̥] belong to separate phonemes.

        ___ b. [u] and [u̥] are allophones of the same phoneme.

If you choose (a), state the evidence. If you choose (b), show your data and state the distribution (i.e., the environment where each allophone occurs). Try to use natural classes if possible, when you state the distribution (E.g., [z] occurs between vowels, [s] occurs elsewhere).

2. (5 pts.) Indicate the best statement:

        ___ a. [i] and [i̥] belong to separate phonemes.

        ___ b. [i] and [i̥] are allophones of the same phoneme.

If you choose (a), state the evidence. If you choose (b), show your data and state the distribution.

3. (5 pts.) Indicate the best statement:

          ___ a. [a] and [ą] belong to separate phonemes.

          ___ b. [a] and [ą] are allophones of the same phoneme.

If you choose (a), state the evidence. If you choose (b), show your data and state the distribution.

4. (3 pts.) Based on your analysis in questions 1-3, and the rest of the Chatino data, write a phonological rule (in English prose) that captures a generalization concerning Chatino. Use natural classes in your description. (E.g., "voiceless consonants become aspirated when they are word initial"; "Stops become fricatives when they are between high vowels.") Be general, but specific enough to represent the data.

5. (1 pt.) Select the rule that best describes the Chatino data. (Choose only one answer.)

___a.
$$\overset{C}{\begin{bmatrix} + \text{cont} \\ - \text{del rel} \\ + \text{voice} \end{bmatrix}} \rightarrow [-\text{voice}] \,/\, V \underline{} V$$

___b.
$$\overset{C}{\begin{bmatrix} + \text{cont} \\ - \text{del rel} \\ - \text{voice} \end{bmatrix}} \rightarrow [+\text{SG}] \,/\, \# \underline{}$$

___c.
$$\overset{V}{[-\text{voice}]} \rightarrow [+\text{voice}] \,/\, \underline{} \#$$

___d.
$$\overset{V}{[+\text{voice}]} \rightarrow [-\text{voice}] \,/\, \underset{[-\text{voice}]}{C} \underline{} \underset{[-\text{voice}]}{C}$$

___e.
$$\overset{V}{[+\text{voice}]} \rightarrow [-\text{voice}] \,/\, \underset{[-\text{voice}]}{C} \underline{} \#$$

6. (4 pts.) Write the Chatino **phonemic** forms (Underlying Representation) for the following:

      a)   [ʃi̥ʔɪ]   'sad'

      b)   [tṳʔwa]   'mouth'

      c)   [laʔa]   'side'

      d)   [ndiki]   'you are burning'

7 (2 pts.) Write the Chatino **phonetic** form (Phonetic/Surface Representation) for the following:

      /ʃaketudi/ _____

Part II.

Consider the following data based on Greek. The data have been modified to simplify this problem. Assume phonetic transcription. [x] is a voiceless velar fricative.

a)	kano	'do	f)	kufeta	'bonbons'
b)	xali	'plight'	g)	xrima	'money'
c)	xori	'dances'	h)	xano	'lose'
d)	krima	'shame'	i)	kali	'charms'
e)	xufta	'handful'	j)	kori	'daughter'

1. (8 pts.) Based on the data above, can you identify any phonemes in this language? If so, please provide **specific examples** and proof and be sure to indicate how the proof supports your analysis of the specific sounds (what does it mean for the sounds involved?). If not, discuss how the data don't support any conclusive findings.

Part III.

A. (1 point each) Multiple choice. Circle the best description for the following questions (only 1 answer possible).

1.) Consider the sounds: [b], [g], and [d]. These sounds are all:

    a. Voiced fricatives

    b. Voiceless stops

    c. Voiceless alveolar affricates

    d. None of the above

2.) Consider the sounds: [z], [ʒ], [ð], and [v]. These sounds are all:

    a. Voiced fricatives

    b. All velar sounds

    c. Front vowels

    d. Voiced affricates

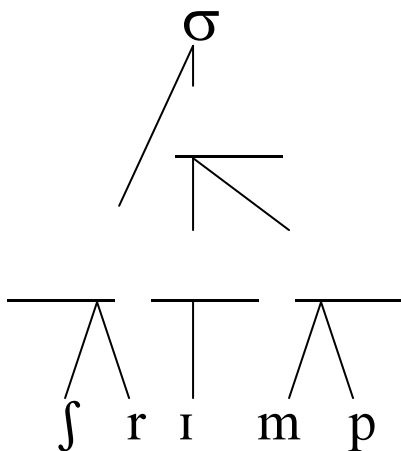3.) Consider the sounds: [ʊ], [u], [ow], and [ɑ]. These sounds are all:

    a. Low vowels

    b. Rounded vowels

    c. Back vowels

    d. Voiced glides

4.) Consider the sounds: [k], [ŋ] and [g]. These sounds are all:

    a. Voiced fricatives

    b. All velar consonants

    c. Voiceless nasals

    d. Voiced liquids

B. (4 points) Label the missing nodes in the following syllable tree with their correct names.

σ

ʃ r ɪ m p

Part IV. Language Mini-Research Project (10 points)
Please indicate your sources (.5 Pts): ☐ Wikipedia ☐ Ethnologue
☐ About World Languages.com ☐ Other:

1.) (.5 Points) Name of your language:

2.) (3 points each) Please state <u>3</u> things about the phonology of your language. Try to avoid restating in formation regarding Phonetic structure, and think about organization of sounds (AKA Phonology!). You can include any of the following:
- **Statements about the syllable structure of the language (usually represented as maximal syllable size in terms of CV – does your language allow for more complex syllables than the universal syllable CV?).**
- **Anything about allophones and allophonic variation.**
- **Anything about stress or tone or intonation (i.e. is your language stress-timed or syllable timed? Is your language a tonal language and how many/what are the tones?).**
- **Anything about the vowels of your language (while this is technically phonetics, OK to use here). Can include a vowel chart if you want.**
- **Anything about the orthographic system (writing system) of your language.**