

due Monday, November 17th

Consider the following data from the four modern Polynesian languages Takuu, Hawai‘ian, Tongan, and Māori (the Hawai‘ian words *ua* ‘neck’ and *ulu* ‘enter’ do not actually exist in Hawai‘ian but have been added here to fill in gaps in the actual data):

	<i>Takuu</i>	<i>Hawai‘ian</i>	<i>Tongan</i>	<i>Māori</i>	<i>gloss</i>
(1)	[tapu]	[kapu]	[tapu]	[tapu]	‘forbidden’
	[kutu]	[ʔuku]	[kutu]	[kutu]	‘louse’
	[ako]	[aʔo]	[ako]	[ako]	‘learn, teach’
(2)	[ua]	[ua]	[ʔuha]	[ua]	‘rain’
	[ua]	[ua]	[uʔa]	[ua]	‘neck’
	[au]	[au]	[ʔahu]	[au]	‘gall’
	[tai]	[kai]	[tahi]	[tai]	‘sea’
(3)	[nofo]	[noho]	[nofo]	[noho]	‘sit’
	[faa]	[haa]	[faʔa]	[haa]	‘stalk’
	[fitu]	[hiku]	[fitu]	[hitu]	‘seven’
(4)	[fara]	[hala]	[faa]	[hara]	‘pandanus tree’
	[ara]	[ala]	[ʔaa]	[ara]	‘awake’
	[uru]	[ulu]	[huu]	[uru]	‘enter’

For this assignment, assume that every sound change is unconditioned (that is, there is no environment: if \*[ŋ] changes to [n], then it changes everywhere). Further assume that each sound change occurred exactly once in the entire history of the Polynesian family.

**Problem 1.** What are the Proto-Polynesian words corresponding to the modern words in (1)? What sound change(s) is/are needed to derive the modern pronunciations from the Proto-Polynesian forms? State your sound change(s) in prose with phonetic descriptions or in rule form with phonological features (your formal rule(s) should be sufficient, but need not be minimal). Be sure to state which language(s) each of these sound changes apply to. Clearly and carefully explain why (naturalness, directionality, etc.) your analysis is better than the most plausible alternatives.

**Problem 2.** What are the Proto-Polynesian words corresponding to the modern words in (2)? What sound change(s) is/are needed to derive the modern pronunciations from the Proto-Polynesian forms? State your sound change(s) in prose with phonetic descriptions or in rule form with phonological features (your formal rule(s) should be sufficient, but need not be minimal). Be sure to state which language(s) each of these sound changes apply to and make sure your analysis of (2) is consistent with (1). That is, whatever sound change(s) you came up with in (1) must also apply to the data in (2), and vice versa. Clearly and carefully explain why your analysis is better than the most plausible alternatives.

**Problem 3.** What are the Proto-Polynesian words corresponding to the modern words in (3)? What sound change(s) is/are needed to derive the modern pronunciations from the Proto-Polynesian forms? State your sound change(s) in prose with phonetic descriptions or in rule form with phonological features (your formal rule(s) should be sufficient, but need not be minimal). Be sure to state which language(s) each of these sound changes apply to and make sure your analysis of (3) is consistent with (1) and (2). Clearly and carefully explain why your analysis is better than the most plausible alternatives.

(continued on back)

**Problem 4.** What are the Proto-Polynesian words corresponding to the modern words in (4)? What sound change(s) is/are needed to derive the modern pronunciations from the Proto-Polynesian forms? State your sound change(s) in prose with phonetic descriptions or in rule form with phonological features (your formal rule(s) should be sufficient, but need not be minimal). Be sure to state which language(s) each of these sound changes apply to and make sure your analysis of (4) is consistent with (1)–(3). Clearly and carefully explain why your analysis is better than the most plausible alternatives.

**Problem 5.** Draw a family tree for these four languages that groups languages together at a particular point in time if and only if they were affected by the same sound changes up to that point, and splits them apart when they are affected by different sound changes. What chronological ordering of your sound changes from Problems (1)–(4) must be assumed for your analysis to be correct? Which sound changes *cannot* be ordered based solely on this analysis?