Student Resource

Writing for Linguistics: Phonemic Analysis

Mastery of linguistics does not only involve the ability to analyze data from any of the world's languages. As with any discipline, it also involves mastery of a specific genre of writing that has developed across the community of practicing linguists over time. To help you gain this mastery, the course materials include three student-resource documents specifically about writing: this one, on phonemic analysis; a second on grammatical analysis; and a third on historical reconstruction.

Your writing skills will also be aided if you consciously analyze the writing in the textbook, both in the main chapters and in the language profiles. How is data incorporated? How are analyses presented and argued for? How is the linguistics literature incorporated? Emulate these styles in your own work, even if you are just completing homework assignments. Because there is a strong connection between thinking and writing, **writing like a linguist helps you think like a linguist.**

You have already seen some of the conventions for writing in linguistics, like using square brackets for phonetic transcription and slashes for phonemes. You should also note the following:

- Linguistic examples are presented in *italics*, unless they are within square brackets or slashes. For example, we write the word *couch* in italics if we use it as a linguistic example, although we don't italicize the IPA [kʰautʃ] or the phonemic representation /kautʃ/. (If you are writing by hand, then linguistic examples are underlined rather than italicized.)

- English translations of words in other languages are given in single quotation marks; for example: Nepali *kukur* 'dog'.

Writing in linguistics involves making statements about a language based on an analysis of linguistic data and then providing evidence that demonstrates the statement is true in a process known as argumentation. How elaborate the argumentation will be depends upon the phenomenon being described. You can see this below by comparing the simplicity of arguing that two sounds are phonemes with the more elaborate argumentation and discussion required to demonstrate that two sounds are allophones in complementary distribution.

This document provides you with guidance on how to write up three types of phonemic analyses: two sounds as independent phonemes; two sounds as allophones in free variation; and two sounds as allophones in complementary distribution.

Student Resource: Writing Phonemic Analysis

Writing up the analysis when minimal pairs demonstrate that you have phonemes

If you have found minimal pairs, it is important to state overtly the primary finding of your analysis: that the target sounds are independent phonemes. You then provide evidence for your assertion by listing the minimal and/or near-minimal pairs.

- When presenting the phonetic data, put it in square brackets. Once you have demonstrated that the sounds in question are phonemes, you can put them between phonemic slashes.

The following write-up illustrates this for a fictional language Martian:

- *Statement of phonemes*

  The target sounds [r] and [l] are distinct phonemes in Martian. This is demonstrated by the following minimal pairs:

- *Evidence: minimal and near-minimal pairs*

  [potmr] 'satellite'   [rapqd] 'Venutian'
  [potml] 'edible sand'   [lapqd] 'Earthling'

  There is also a near-minimal pair: [laod] 'antenna' and [raog] 'space helmet'.

- *Conclusion (/ / used)*

  Hence /r/ and /l/ are phonemes.

Writing up the analysis when you have free variation

If you have determined that the two target sounds are in free variation, then you need to state this clearly and provide evidence. In this case, that evidence will be examples that show the two sounds occurring in identical environments, and the meaning of the word *not* changing. To continue with Martian:

- *Statement of allophones in free variation*

- *Evidence*

  In Martian, the sounds [s] and [ʃ] are allophones of a single phoneme, but they are in free variation, so that either can be used in the same word without triggering a difference in meaning. This can be seen in the pairs [sumt] ~ [ʃumt] which both mean 'star', and [slak]~[ʃlak] which both mean 'merchandise of inferior quality'.

In this case, the analysis is short and clear enough that a re-statement of the conclusions is not necessary.

Writing up the analysis when you have complementary distribution

To clearly present your analysis of complementary distribution, you should be sure that your write-up includes each of the following points:

- What you are trying to determine
- The fact that you could not find minimal pairs
- Your list of environments
- The conditioning environment and how you know it is relevant (i.e., say why you are right)

Student Resource: Writing Phonemic Analysis

- The conclusion that the sounds are in complementary distribution and allophones of a single phoneme
- Which sound you take to be the basic phoneme and why (you can use a diagram showing the phoneme and its relationship to multiple allophones)
- The rule, in the format: input ⌧ output / environment (follow the conventions laid out in Writing Phonological Rules)
- The name of the phonological process

Martian Nasals

- *Goal: what you want to determine*

In this problem, we are asked to determine whether [n] and [ŋ] are separate phonemes or allophones of a single phoneme in Martian. A careful review of the Martian data reveals that there are no minimal pairs or near-minimal pairs for [n] and [ŋ]. This suggests that they are not phonemes, so we must consider potential conditioning environments. These are as follows:

- *No minimal or near-minimal pairs*

- *List of environments*

[n]			[ŋ]		
a	____	p	a	____	k
i	____	b	i	____	g
s	____	a	o	____	k
o	____	t	u	____	g
s	____	i			
o	____	s			

- *Discussion of how you identified the conditioning environment*

When we consider the sounds preceding the target nasals, we notice considerable overlap in environments. For example, both sounds occur following [a], [i], [o], and [u]. Therefore, the preceding sound is not the conditioning environment that influences the different pronunciations of the target sounds. When we consider the following sounds, however, we notice that while [n] occurs before a wide variety of sounds in Martian, [ŋ] only occurs before [k] and [g], the only two Martian velar stops. The two nasals [n] and [ŋ] are therefore in complementary distribution and represent allophones of a single phoneme. Given that [n] occurs in a wider range of environments, it will be taken as the basic allophone:

- *Statement of complementary distribution*

- *Basic allophone*

/n/

- *Diagram*

```
      /n/
      /  \
   [n]    [ŋ]
```
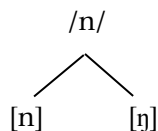
- *Phonological process*

We can also observe that [k] and [g] form a natural class of velar stops and that [ŋ] is also velar. Therefore this is a clear case of assimilation. We can represent this in the following phonological rule:

- *Rule*

/n/ → [ŋ] / ____ [velar stop]