

Spanish spirantization

[b] is a voiced labial stop; [d] is a voiced alveolar stop (some Spanish speakers pronounce this as dental instead of alveolar); [g] is a voiced velar stop

[β] is a voiced labial fricative; [ð] is a voiced dental (similar to alveolar) fricative; [ɣ] is a voiced velar fricative

Here is a list of some Spanish words:

[tia]	<i>aunt</i>
[beso]	<i>kiss</i>
[deðo]	<i>finger</i>
[peso]	<i>peso (unit of money)</i>
[dia]	<i>day</i>
[usteð]	<i>you</i>
[donde]	<i>where</i>
[gato]	<i>cat</i>
[teta]	<i>breast</i>

A) Can you prove that any two consonants (e.g., [b] and [d], [ð] and [d], etc.) are definitely different sounds in this language's phonological system? How can you prove that?

B) Describe the relationship(s) between the sounds [d], [t], and [ð]. Are any of them different phonemes? Are any of them allophones of the same phoneme?

Here is another list of Spanish words:

[dama]	<i>lady</i>	[una ðama]	<i>a lady</i>
[bota]	<i>boot</i>	[una βota]	<i>a boot</i>
[dota]	<i>dotes on</i>	[la ðota]	<i>dotes on her¹</i>
[gota]	<i>drop</i>	[una γota]	<i>a drop</i>
[gasa]	<i>gauze</i>	[la γasa]	<i>the gauze²</i>

E) It should be clear from this list of words that one sound can change into another sound when it is put in a certain context. Based on this list of words, write a "rule" or "formula" describing how [ð] can be derived from [d]. You don't need to know any technical/formal notations; you just need to somehow describe what context causes [d] to change, and what [d] changes into when in this context. (If you want to use formal/technical notations, that is also ok, but it is not necessary.)

F) Can you generalize this rule to [b] and [β], and [g] and [γ]?

¹ "la" means "her", and is the object of the verb. Spanish sometimes has Subject-Object-Verb constructions like this, where the object can come before the verb. (Specifically, this happens when the object is a *clitic*.) These are details you don't need to know for our class.

² This "la" is different than the "la" we saw before. This "la" means "the".

Here is another list of Spanish words:

[kasa]	<i>house</i>	[una kasa]	<i>a house</i>
[tia]	<i>aunt</i>	[una tia]	<i>an aunt</i>
[palmera]	<i>palm tree</i>	[una palmera]	<i>a palm tree</i>

G) Do these words pose a challenge to the rule(s) you wrote in questions (E) and (F)? If so, write a new version of the rule(s) here, such that it can handle these words as well.