7.4 Language Analysis Is Science

key words: Native American languages, science, hypothesis, morphology, scientific methodology

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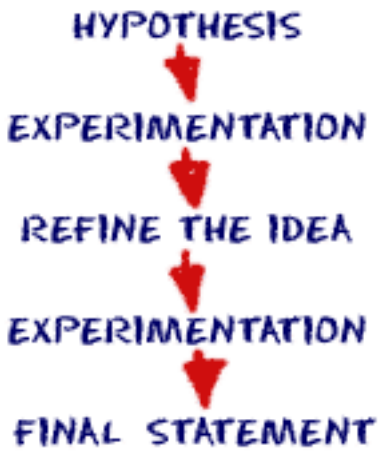
You might not think of language when you think of science, but people who study language are linguists – and they are also scientists; they investigate language scientifically.

Linguists use the SCIENTIFIC METHOD to analyze language

- Linguists, and other scientists, begin with a **description** that they get from making **observations**.
- Then they make a **hypothesis** about what's going on with the thing they're studying.
- Then they must show that their hypothesis is right by **testing** it with **new data**, and they should look for **counterexamples** that would disprove their hypothesis.
- If counterexamples are found, then they **revise** the hypothesis.



Throughout these language lessons, you have often used scientific methodology to figure out things about language. Let's look at one more example of this from the Native American Language Lushootseed, spoken in Washington State.

Lushootseed uses a word formation process called **reduplication** in various parts of a word are doubled to create a word with a different meaning. There are several different types of reduplicative processes. For each set of data, answer the following question:

How does you form the words in column B from the words in column A?

Data Set 1 (adapted from Hess and Hilbert, 1995)

A		**B**	
ʔálʔal	house	ʔáʔálʔal	hut
ʔúq$^{w'}$ud	pull out	ʔúʔúq$^{w'}$ud	pull part way out
híwil	go ahead	híhíwil	go on ahead a bit
q'íx^{w}	upstream	q'íq'íx^{w}	a little bit upstream

Data Set 2

A		B	
gʷəčəd	look for something	gʷəčgʷəčəd	several people look for something
dəšəd	be on side	dəšdəšəd	set many things on side
yəcəd	report him/it	yəcyəcəd	always talking about him
tədəd	put them in row	tədtədəd	put them in rows
t'əq'əd	patch it	t'əqt'əq'əd	patch it up
čəgʷás	wife	čəgʷčəgʷás	seeking a woman to marry

Data Set 3

A		B	
ʔáɬ	fast, quickly	ʔáɬáɬ	hurry up!
dᶻáq'	fall, topple	dᶻáq'áq'	stagger, totter
čəx̌	split	čəx̌əx̌	cracked to pieces

Do the words below, another word pair of the Data Set 3 type, conform to your hypothesis for Data Set 3? If not, revise your hypothesis to account for this pair.

yubil	starve	yububil	tired out, sick
gʷədil	sit down	gʷədədil	sitting for lack of anything else to do
saxʷəb	jump, run	saxʷaxʷəb	scurrying about ineffectively

Revised Hypothesis:

[Teacher Notes: Data Set 1: Double the first two sounds/letters. (ʔ is a consonant called a glottal stop that makes the sound in the middle of the Enlgish world 'uh oh.' Students may be curious about some of the other letters. Their pronunciation can be found here: http://archive.org/stream/rosettaproject_lut_ortho-1/rosettaproject_lut_ortho-1_djvu.txt) This process seems to change the meaning to a smaller version of the original word. It's a diminutive. Data Set 2: This process doubles the first three sounds/letters in order to make a new word (resulting in some kind of distributive meaning). Data Set 3: This process appears to double the last two letters/sound (in order to form what has been called the 'out of control' affix). However, upon expanding the data set, we see we need to reevaluate. Have students state what the problem is: that doubling the last two would result in *yubilil*. Revising to account for all of the data: Take the first syllable, remove the first letter/sound (called the onset of the syllable), and double the rest. Lushootseed speakers do this without even thinking about it and likely woulnd't be able to say what they're doing. They know this word formation process unconsciously.]