MORPHOLOGY I
LING-440A - Fall 2002
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UNIT 6 INFLECTION

6.1 INFLECTION VERSUS DERIVATION

Derivation:	*derives*	New Words From Old
Inflection:	*yields*	Different Forms of the Same Word

- Derivation is about MEANING
  Adds to or sometimes even changes the meaning of the root.

- Inflection is about FUNCTION
  Indicates the role of the word in the sentence.

(There are some intermediate cases – some people see this as a continuum, not a dichotomy)

(1) a. work → worker, workaholic, work-day, homework, workable

b. work →

work:	I/you/we **work** all day.
works:	She **works** all day.
worked:	I/She **worked** yesterday.
working:	I am **working** right now.

In order to use the word *work* in the past tense, you need to add *–ed*.
In order to use the word *work* when the subject is "he/she/it" you need to add *–s*.

(2) a. child → childhood, childish, flower-child

b. child →

child:	I saw a **child.**
children:	I saw three **children.**
child's:	This is the **child's** toy.

In order to use the word *child* in the plural, you need to add *–ren* (and change the vowel).
In order to use the word *child* as a possessor, you need to add *–'s*.

6.2 Common Types of Inflection

6.2.1 CASE

In many languages, you need to add morphemes that indicate what *grammatical function* a noun plays in a sentence, i.e., whether it is the subject, object, indirect object, object of a preposition, etc…

(3) Japanese: (Unit 4)

If a noun is to be used as a subject, it can be marked with the suffix *–ga*.
If a noun is to be used as an object, it can be marked with the suffix *–o*.
If a noun is to be used as an indirect object, it can be marked with the suffix *–ni*.

sensei 'teacher'

Senseiga	sushio	tabeta.	
teacher-subj	sushi-obj	ate	'**The teacher** ate the sushi.'
Inuga	**senseio**	kanda.	
dog-SUBJ	teacher-OBJ	bit	'The dog bit **the teacher**.'
Hanakoga	**senseini**	ringoo	ageru.
Hanako-SUBJ	teacher-IND.OBJ	apple-OBJ	is.giving
			'H. is giving an apple **to the teacher** .'

(4) There is very little CASE in modern English (though Old English had a rich system): Moreover, the morphemes for CASE are not very clear.

I – subject, me – object, my – possessor ("genitive")
he – subject, him – object, his – possessor ("genitive")
they – subject, them – object, their – possessor ("genitive")

6.2.2 TENSE and AGREEMENT

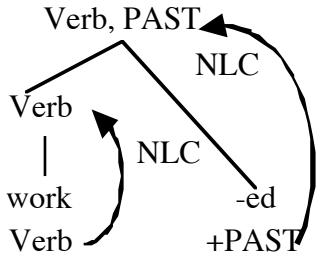
Morphology added to the verb tells you information about the event/action being described. In many languages morphemes added to the verb tell you:
- WHEN the action occurred (past, present, future…) *tense*
- WHO performed the action (I, you, we…) *agreement*

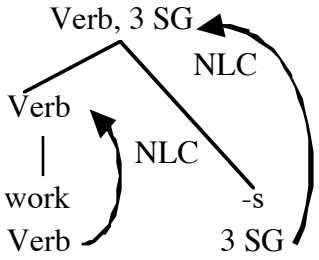
(5) English:

Tense = present: Now I live in Montréal. *Now I lived in Montréal.
Tense = past: *Years ago I live in Toronto. Years ago I lived in Toronto.

Subject = I [1st person] I work. *I works.
Subject = She [3rd person] *She work. She works.

(6) In some sense, *-ed* 'means' PAST and *–s* 'means' 3RD PERSON SUBJECT, and for these cases we could give them these features in their lexical entries. We would then be able to draw Word-Structure Trees for them as follows:





This would appear to account for the fact that *worked* is the past tense of *work* and *works* is the form for a 3rd person singular subject.

➢ But something is wrong with this approach.

6.3 The Elsewhere Condition

(7) What about when there are no affixes?

I work at McGill University { *last year / now / *next year }.

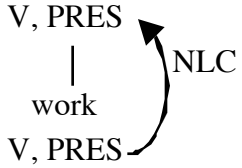
The form *work* is clearly being used in the present tense (i.e., habitual). But where does that information come from?

(8) Some possibilities:

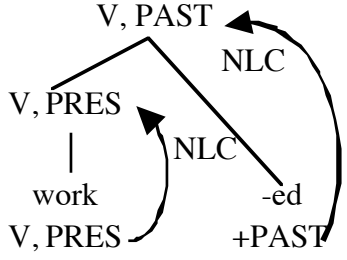
a. The verb is *inherently* specified for present tense:

[work
"labour"
[+present]
V < Ag >]

work

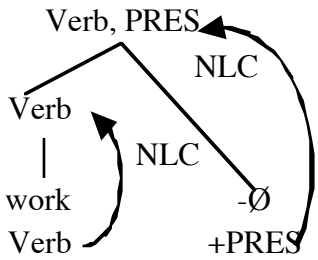


worked

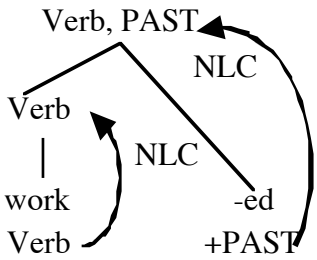


b. There is a "zero" (meaningful, but unpronounced) present tense suffix:

work



worked



- Clearly, these will work for the tense forms in English (we only have two simple tenses).
- But what about agreement?

(9)

I	work	in Montréal	Subject = 1st person, singular
We	work	in Montréal	Subject = 1st person, plural
You	work	in Montréal	Subject = 2nd person, singular or plural
She	**works**	**in Montréal**	**Subject = 3rd person, singular**
They	work	in Montréal	Subject = 3rd person, plural

(10) Possibility (8a) inherent specification:

The verb *work* would have to be inherently specified as follows:

Subject = 1st person singular or plural or 2nd person singular or plural or 3rd person plural.

(11) Possibility (8b) zero morphemes with features:

Same problem:

Ø = 1st person singular or plural or 2nd person singular or plural or 3rd person plural.

or…

5 different morphemes, all Ø:

Ø = 1, sg SUBJ
Ø = 1, pl SUBJ
Ø = 2, sg SUBJ
Ø = 2, pl SUBJ
-s = 3, sg SUBJ
Ø = 3, pl SUBJ

(12) These approaches all suffer from the same drawback.

THEY MISS A ROBUST GENERALIZATION:

The bare forms (zero suffixes) and the suffixes *–s, -ed* are in complementary distribution.

The bare forms / zero affixes occur in the ***ELSEWHERE*** environment.

(13) English verbal inflection (regular):

INFL		
-z	□	[3, sg, pres]
-ed	□	[past]
-Ø	□	<elsewhere>

(14) French (some simple tenses) [we'll see more soon]:

'to speak	present	imperfect/past	
1 sg	parl	parlɛ	
2 sg	parl	parlɛ	
3 sg	parl	parlɛ	
1 pl	parlõ	parljõ	assume ɛ → j / __ V
2 pl	parle	parlje	assume ɛ → j / __ V
3 pl	parl	parlɛ	

(15) French verbal inflection (regular):

TENSE			AGREEMENT		
-ɛ	□	[imperfect]	-õ	□	[1 pl]
-Ø	□	<elsewhere>	-e	□	[2 pl]
			-Ø	□	<elsewhere>

(16) In an important sense, inflectional morphemes are abstract, like phonemes.
The pieces we actually see are allomorphs and allophones.

MORPHEME/PHONEME Fr. /TENSE/			English /p/		
ALLOMORPHS/PHONES:	-ɛ	□	[imperfect]	[p^h]	□ #___V
	-Ø	□ <elsewhere>	[p]	□	<elsewhere>

(17) The Word-Structure Trees really concatenate *abstract morphemes*.
The choice of surface allomorph depends on phonological **and grammatical** CONTEXT.

Russian:	Amerika	+ (n)^{j}ec	Amerikan^{j}ec
	Leningrad	+ (n)^{j}ec	Leningrad^{j}ec

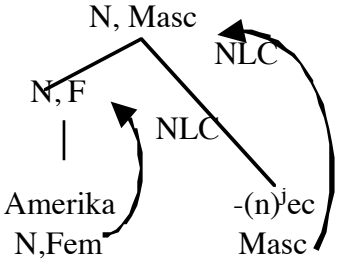
Abstract Morpheme: (n)^{j}ec [N Masc "inhabitant of N"]

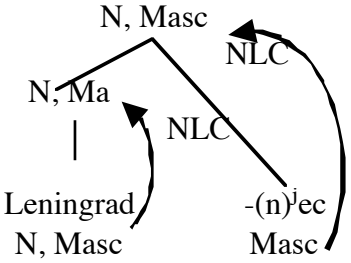
Allomorphy:	-n^{j}ec	/ V ___	Phonological Context
	-^{j}ec	/ <elsewhere>	

(18) We call the process of putting the correct allomorph in the place of an abstract morpheme in the tree: LEXICAL INSERTION

(19) The trees explain the interaction of features in the entire structure, but the choice of allomorph is not represented in the trees.

Word Structure Trees:



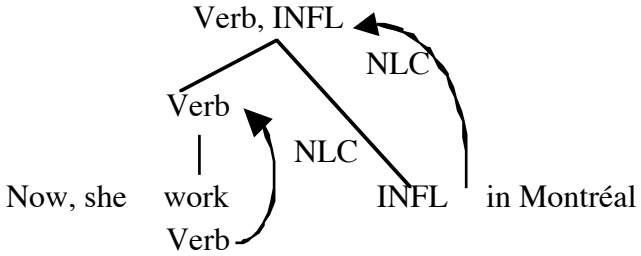


Allomorphy: amerika + { n' ec / V___ ; ec / < elsewhere > } leningrad + { n' ec / V___ ; ec / < elsewhere > }

Lexical Insertion: amerika-**n^{j}ec** leningrad-**-^{j}ec**

(20) The previous examples involve allomorphy determined by phonological context, but things work the same for allomorphy determined by syntactic context:

Abstract Rep:



Allomorphy: work + { z / [3 sg present] ; ed / [past] ; Ø / < elsewhere > }

Surface Form: Now, she work-**s** in Montréal.

(21) (What about the phonologically-conditioned variation in the form of the "-s" suffix?)

work- [s]	run- [z]	waltz- [əz]
jump- [s]	play- [z]	bounc- [əz]

• Is this allomorphy or phonology?

(22) Possessive "s"

book- [s]	bug- [z]	horse- [əz]
elk- [s]	flea- [z]	fuzz- [əz]

(23) Plural "s"

book- [s]	bug- [z]	horse- [əz]
elk- [s]	flea- [z]	fuzz- [əz]

(24) Past Tense "ed"

work- [t]	bug- [d]	wilt- [əd]
jump- [t]	play- [d]	wed- [əd]

(25) The English Coronal Rules

Assume that the Underlying Representations are /-z/ and /-d/ (i.e., +voice)

$$\emptyset \rightarrow \text{ə} \;/\; \underset{[+\text{coronal}]}{C} \_\_\_ \underset{\substack{[+\text{coronal}] \\ [+\text{voice}]}}{C}$$

Where the two C's share Manner.

$$\underset{\substack{[+\text{coronal}] \\ [+\text{voice}]}}{C} \rightarrow \underset{[-\text{voice}]}{C} \;/\; \underset{[-\text{voice}]}{C} \_\_\_$$

Do we have sufficient evidence to determine the ordering among these rules?

Do we have sufficient evidence to determine whether these are MS or ATB?

6.3.1 Layered Defaults – Underspecification Theory

(26) German (weak) Past Tense: sagen 'to say'

	singular	plural
1st person	sagtə	sagtən
2nd person	sagtəst	sagtət
3rd person	sagtə	sagtən

TENSE: followed by AGREEMENT:

-tə = past tense

Ø → [1sg]
-st → [2sg]
Ø → [3 sg]
-n → [1 pl]
-t → [2 pl]
-n → [3 pl]

(27) There is some redundancy here, specifically Ø = both [1 sg, and 3 sg], -n = [1 pl, 3 pl]

(There is a technical name for such redundancy in paradigms: SYNCRETISM).

- If we look only at the singular, we could say that –st → [2sg] and Ø is the elsewhere case.
- If we look only at the plural, we could say that –t → [2pl] and –n is the elsewhere case.

How can we bring these together?

(28) German Agreement (Past):

-t	→	[2 plural]	DO YOU SEE HOW THIS GETS THE CORRECT
-n	→	[plural]	RESULTS AND CAPTURES THE INTUITION
-st	→	[2 (singular)]	THAT –n IS THE DEFAULT *IN THE PLURAL* ?
Ø	→	<elsewhere>	

(29) As with phonological rules, order is important here.
What would happen if we ordered –n → [plural] BEFORE –t → [2 pl] ?

6.3.2 Lexically Conditioned Allomorphy and Diacritics

Thus far, we have seen two sets of factors which can condition allomorphy: phonological context and grammatical context. There is, however, a third kind (though ultimately, for our purposes, they all work the same way of course).

(30) French Infinitives (simplified – the classes do not correspond to the "official" ones)

parl-**er**	[parl-**e**]	cour-**ir**	[kur-**ir**]	viv-**re**	[viv-**r**]
speak		run		live	
dans-er	'dance'	part-ir	'leave'	vend-re	'sell'
chant-er	'sing'	ment-ir	'lie'	répond-re	'respond'
jou-er	'play'	serv-ir	'serve'	mord-re	'bite'

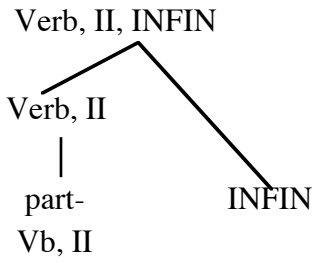
➢ What conditions the allomorphy among [e] [ir] [r] ?

Not Syntactic environment – all infinitives and this has nothing to do with agreement,
Not Phonological environment – no regularities, cf. chant-er, ment-ir; jou-er, jou-ir.

(31) **Diacritic Features (Arbitrariness)**

Class I stems: parl-, dans-, chant-, jou-, …
Class II stems: part-, cour-, ment-, serv-, …
Class III stems: viv-, vend-, répond-, mord-

Abstract Morpheme: INFIN Allomorphy: /r/ __ Class III
/ir/ __ Class II
/e/ __ Class I



(32) What's the difference between lexically-conditioned allomorphy and diacritics?

Abstract Morpheme: INFIN Allomorphy: /r/ __ {viv-, repond - ...}
/ir/ __ {part-, serv - ...}
/e/ __ elsewhere

- A diacritic is really a generalization about lexically conditioned allomorphy. It is used to express a situation where the same "list" of lexically specified triggers shows up triggering more than one instance of allomorphy.

- Let's look at one more instance of lexically conditioned allomorphy before we return to this question.

6.3.3 Non-Default Zeros

English Past Tense (another case of Lexically Conditioned Allomorphy):
(ignore the vowel changes in the stem for now)

(33) Regular Past Tense Suffix /-d/ (plus phonology → -t, -əd)

(without stem changes)

	Present	Past
play	play	play-ed[d]
yell	yell	yell-ed [d]
jump	jump	jump-ed [t]
pass	pass	pass-ed [t]
knit	knit	knitt-ed [əd]
fold	fold	fold-ed [əd]

(34) Irregular Past Tense Suffix [-t, regardless of phonological environment]

dwell	dwell	dwelt [t]	cf. yell → yelled […ld] * [… lt]
smell, spell	smell, spell	% smelt, spelt [t]	
		% smelled, spelled [-ed]	

(35) Irregular Past Tense Suffix [Ø]

beat	beat	beat	
hit	hit	hit	cf. knit-ed
cf.	fit	fit:	% This dress fit well last year.
		fitted:	% The tailor fitted me a new dress.

- ➢ It is uncontroversial that the phonologically alternating suffix is the elsewhere case.
- ➢ Near Minimal Pairs like *yell→yelled* versus *dwell→dwelt* show that there is an element of arbitrariness: some stems are just marked to take the *–t* suffix in the past.
- ➢ Minimal Pairs like *fit→fit* versus *fit→fitted* show that there is an element of arbitrariness: some stems are just marked to take the Ø suffix in the past.

(36) English Past Tense Inflectional Allomorphy:

PAST (perhaps a sub-part of the INFL paradigm)

-t ⇔ [PAST] / {dwell, %smell, %spell, …} ____
Ø ⇔ [PAST] / {beat, hit, fit[1], …} ____
-d ⇔ elsewhere

- The choice of allomorphs involves lexical contexts.
- The zero morpheme Ø IS NOT the elsewhere case.

Aside:
We could add this together with (13) and have a single abstract morpheme INFL in English. Note that this would make English different from, e.g., German and French which allow both Tense and Agreement suffixes to cooccur on individual verbs.

Returning to our hanging question…

(37) What's the difference between lexically-conditioned allomorphy and diacritics?

- A diacritic is really a generalization about lexically conditioned allomorphy. It is used to express a situation where the same "list" of lexically specified triggers shows up triggering more than one instance of allomorphy.

➢ We could have treated the English past tense as involving a diacritic, for example

beat, hit, fit … would all be marked "Class II" in their lexical entries.
dwell, smell … would all be marked "Class III" in their lexical entries.

(38) The English past tense if we used diacritics ← Note: hypothetical only, do not use

-t ⇔ / Verb [Class III] ____
Ø ⇔ / Verb [Class II] ____
-d ⇔ elsewhere

However, the "features" Class II, Class III never show up anywhere else. By using a diacritic, we have not simplified our theory in any way. Contrast with French…

(39)

	Stem:	Infinitive	1sg. Simple Past	Meaning
I	parl-	parl-e	parl-e	speak
	ʃãt-	ʃãt-e	ʃãt-e	sing
II	kur-	kur-ir	kur-y	run
	mur-	mur-ir	mur-y	die
III	vãd-	vãd-r	vãd-i	sell
	repõd-	repõd-r	repõd-i	answer

6.4 Syncretism and the Elsewhere Condition Continued

(40) Russian third person pronouns (nominative)

	singular	plural
Masculine	on	oni
Feminine	ona	oni
Neuter	ono	oni

(41) Two analyses: */on/* +

a. Ø ⇔ [masc, sg]
-a ⇔ [fem., sg]
-o ⇔ [(neut.) sg]
-i ⇔ <elsewhere>

b. -i ⇔ [plural] *(must be ordered 1st)*
-a ⇔ [feminine]
-o ⇔ [neuter]
Ø ⇔ <elsewhere>

(42) Why is analysis (b) better?

Elsewhere statements are invoked to account for cases where the features which condition the appearance of a particular form do not constitute a NATURAL CLASS. The analysis in (a) misses the generalization that the forms which end in *–i* clearly define a natural class, i.e., [+plural]. We would like our analysis to be able to capture this fact, not to relegate it to the "elsewhere" dustbin.

(43) English forms of the verb *be*:

	singular	plural
1st person	am	are
2nd person	are	are
3rd person	is	are

- The form *are* occurs in all the plural forms, but it also occurs in the 2nd person singular.
- [plural] or [2nd singular] does not constitute a natural class (it has an "or" in it).

(44) am ⇔ [1, sg.]
is ⇔ [3, sg.]
are ⇔ <elsewhere>

(45) Isn't it going to be warm anymore? ____n't I going to be allowed to go?
Aren't you/they/we supposed to win? * Amn't → **are**n't

For some mysterious reason, *amn't* doesn't exist in most (North American) dialects. When we would want to use that form, but can't, we use the default instead (some people see this as the historical source of *ain't*).

(46) NB: In the case of the *–nka* vs. *–ka* alternation in Russian, BOTH environments constituted natural classes:

-nka / V___ -ka / C___

QUESTION: How do we know which is the elsewhere case?

ANSWER: (440A) We don't. We make an arbitrary decision by convention. (advanced). Markedness conventions.

(47) Old English third person pronouns ("Direct" Cases = Nominative & Accusative)

	Singular		Plural	
	Nominative	Accusative	Nominative	Accusative
Masculine	he:	hine	hi:e	hi:e
Feminine	he:o	he:o	hi:e	hi:e
Neuter	hit	hit	hi:e	hi:e

Phonological Rule: i → e / ___V[-high] (only applies to short /i/)

(48) Syncretism in the Old English Direct Case Pronoun Endings:

	Singular		Plural	
	Nominative	Accusative	Nominative	Accusative
Masculine	e	ne	ie	
Feminine	eo			
Neuter	t			

(49) The syncretisms define natural classes, quite similar to Russian:

a. ie ⇔ [plural]
b. eo ⇔ [feminine]
c. t ⇔ [neuter]
d. ne ⇔ [accusative]
e. e ⇔ <elsewhere> (thus nominative)

(50) The order above is only partially determined by the theory. Do you see this?

(a) must come before the other, for the same reasons as in (41b).
I.e., otherwise, the others would have more complex contexts.
(b) and (c) are not ordered with respect to each other,
but they are ordered with respect to (d) and (e)
(d) and (e) are not ordered with respect to each other,
however, by convention, we list nominative last whenever possible.

(51) An alternative description: this is more complex than (49), and misses an important generalization.

a. ne ⇔ [masculine, singular, accusative]
b. e ⇔ [masculine, singular]
c. eo ⇔ [feminine, singular]
d. t ⇔ [neuter, singular]
e. ie ⇔ <elsewhere>

In order to block the appearance of any of the first four affixes in the plural, we need to explicitly state that they are singular. This comes for free in (49). Indeed, this analysis has 10 features in the contexts, while (49) has only 4 [not counting the elsewhere conditions]. The fewer features we need to use, the more explanatory the analysis.

6.4.1 Tricks of the Trade… how to find the best analysis

Since we are typically dealing with a small array of forms, the available data generally underdetermines the theory. That is, for a given paradigm, there may be more than one analysis that gets the correct results (this is usually true, in fact). We call this "descriptive adequacy". However, as we have just seen, it is often the case that one of these analysis is superior to the others. We call this "explanatory adequacy".

Descriptive Adequacy: An analysis which tells you ***what*** all the surface forms are.
Explanatory Adequacy: An analysis which gives you insight into ***why*** the forms are the way they are.

- How do we look for the best analysis among different descriptively adequate analyses?
- How do we achieve explanatory adequacy?

(52) STEP 1: Look for forms that can be tied to a single feature.
Ex. the Old English ending *–ie* occurs in all the plural forms,
AND occurs nowhere except the plural forms.
It is a safe bet to call *–ie* [plural]

STEP 2: Repeat Step 1 with the remaining forms.
Ex. *–eo* and *–t* can each be tied to a single feature (feminine, or neuter, respectively) once the plural forms are accounted for.

STEP 3: Look for forms that would fit in Step 1, if you could ignore one or more forms, and where the form(s) you can exclude can be tied to a specific combination of features.
[Keep in mind that ELSEWHERE is the biggest natural class of all.]
Ex. German (repeated):

(53) German (weak) Past Tense: sagen 'to say'

	singular	plural
1st person	sagtə	sagtə-n
2nd person	sagtə-st	sagtə-t
3rd person	sagtə	sagtə-n

Steps 1 (and 2) are not applicable. There are forms that occur in more than one cell, but they do not define natural classes, e.g., *-n* [1 **OR** 3 plural].

Step 3. If you take out *–t* which occurs only with [2 plural], you are left with *–n* defining a natural class [plural]. If you take out *–st* [which occurs only with [2 sg], you are left with *Ø* defining a natural class [singular].

(54) German Agreement (Past):

-t ⇔ [2 plural]
-n ⇔ [plural]
-st ⇔ [2 (singular)]
Ø ⇔ <elsewhere>

6.4.2 Homophony… When All Else Fails

(55) Homophony Happens:
This is a last resort—it amounts to an admission of irreducible randomness in the world.

STEP 4: (Only when all else fails) we must sometimes accept accidental homophony, i.e., forms which sound the same but occur in more than one place in our statements. (cf. *–t* in English TENSE)

(56) German (weak) Present Tense: sagen 'to say'

	singular	plural
1st person	sag-ə	**sag-ən**
2nd person	sag-st	**sag-t**
3rd person	**sag-t**	**sag-ən**

Because the *–t* occurs in two cells, that do not themselves form a natural class, we would have to treat it as a default if it is a single allomorph. This would mean it is listed last in the statements of allomorphy, and therefore it would not be able to block *-ən*. In order to block *-ən* in the 2nd person plural, we need to have a more highly specified context for *–t*.

Work through this, you will see that this paradigm is impossible to capture on the assumptions we have motivated so far.

(57) Analyses with homophony:

a. 2 □ *-t*

-t □ [2 plural]
-ən □ [plural]
-ə □ [1 (singular)]
-st □ [2 (singular)]
-t □ [3 (singular)] / <elsewhere>

b. 2 □ *-ən*

-ən □ [1, plural]
-ən □ [3, plural]
-ə □ [1 (singular)]
-st □ [2 (singular)]
-t □ <elsewhere>

➢ As it turns out, there is a reason to distinguish two *–t* suffixes in German inflection.

(58) German (strong) Present Tense: lesen ‘to read e = [e], ie = [i]

	singular		plural	
1st person	les-ə		les-ən	
2nd person	lie(s)-st		**les-t**	**[e]**
3rd person	**lies-t**	**[i]**	les-ən	

fahren ‘to drive’ ah = [a:], äh = [e]

	singular		plural	
1st person	fahr-ə		fahr-ən	
2nd person	fähr-st		**fahr-t**	**[a]**
3rd person	**fähr-t**	**[e]**	fahr-ən	

The two *–t* suffixes have different phonological effects on certain stems. Stems that are susceptible to vowel change (ablaut) undergo this process only when the 3rd person singular *–t* is added and not when the 2nd person plural *–t* is added.

(59) You should not, in principle be surprised by the existence of two *apparently* homophonous affixes (or more properly in this case, allomorphs), with different phonological behaviour and different “meanings” (i.e., “functions”).

(60) democrat → democracy = -y (N)→N [+ cyclic]
democrat → democratty = -y N → Adj [- cyclic]

(61) Cyclic suffixes: -en Adj → V [German]
-er Adj → N

Non-Cyclic Suffixes: -en (Adj) Plural
-er (Adj) Masc, Sg. Nom

(62) MS Rule: ə → Ø / ___RV R ∈ {l,r,n,m} i.e. [+sonorant]

(equivalently: R̩ → Ø / ___V A syllabic sonorant desyllabifies before a vowel)

(63)

Simple Form		Desyllabification	
trocken ‘dry’ [ADJ]	/trɔkən/	trockn-en ‘to dry’ [V]	[trɔknən]
		Trockn-er ‘dryer (machine)’ [N]	[trɔknər]

Simple Form		Failure of Desyllabification	
trocken ‘dry’ [ADJ]	/trɔkən/	trocken-en ‘dry’ [Plural]	[trɔkənən]
		trocken-er ‘dry’ [Masc Sg. Nom]	[trɔkənər]

(64) Remember our working definition of morpheme as
a pair of signal (=sound) and meaning (including function)

Prelude to next unit:
We need to expand the notion “sound”, so that it includes phonological information beyond just the phonemes such as [± cyclic] or [ablaut trigger].

6.5 Stem Allomorphy

- Vowel change: (ABLAUT)

(65) English verbs

write	wrote	(written)	The difference between present and past
drive	drove	(driven)	tense (and sometimes also the participle) is
run	ran		apparently signalled by the quality of the vowel.
drink	drank	drunk	
ring	rang	rung	

(66) German plurals

single	plural	
Apfel [apfəl]	Äpfel [ɛpfəl]	'apple(s)'
Mutter [mʊtɐ]	Mütter [mʏtɐ]	'mother(s)'
Bruder [bʀu:dɐ]	Brüder [bʀy:dɐ]	'brother(s)'
Kloster [klɔstɐ]	Klöster [klœstɐ]	'convent(s)'

cf. English: goose – geese, mouse – mice

➢ Consonant change: (MUTATION)

(67) English plurals

leaf	[lijf]	leaves	[liv-z]
shelf	[…f]	shelves	[…vz]
house	[hʌws]	houses	[hæwzəz]

➢ Thus far, we have isolated the affix in forms like these, and noted the change in the vowel of the stem as a "stem change." This is, in fact, very close to what is really going on. But not quite…

(68) The lexical entry for affixes that show allomorphy:

a.
/ - (n)ka /
nka / V___
ka / < elsewhere >
" person from X"
N (N)
[feminine]

b.
INFL (simplified)
-d / [past]
z / [3 sg]
Ø / < elsewhere >
function : inflection
attaches to V

- What made the lexical entries for affixes different from the lexical entries for roots ?
- THE ONLY difference was "position" and/or "attachment properties"

- Affixes have underlying phonological shapes, meanings, categories and features.
- Roots have underlying phonological shapes, meanings, categories and features.

So why shouldn't roots show allomorphy too ?

(69) Two lexical entries:

a.

/dawg/
{no allomorphy}
"canine" /Fido
Free Root
Noun
< R >

b.

/liF/
liv / [plural]
lif / < elsewhere >
" folio" thing on tree
Root
Noun
< R >

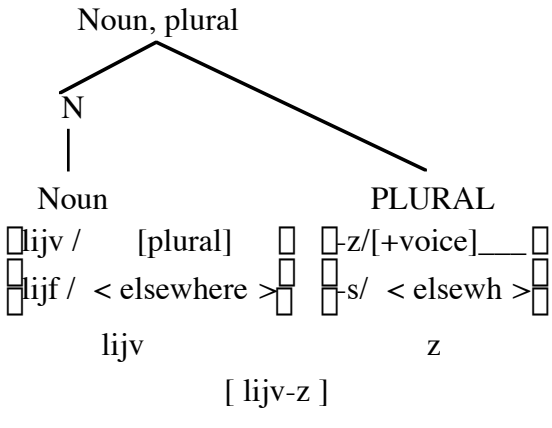
Important Note:

The plural allomorph of the root "leaf" is NOT /livz/

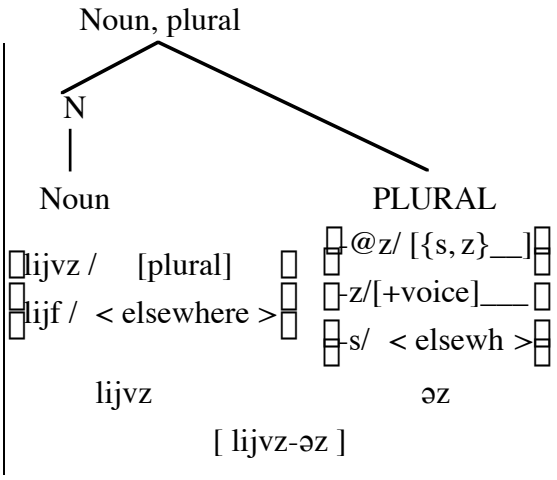
Why not?

(70)

CORRECT



INCORRECT



(71) Can't we say this is "just phonology"?

[f] → [v]	leaf, shelf, house	→	leaves, shelves, houses
[f] → [f]	reef, fife, roof	→	reefs, fifes, roofs
[v] → [v]	five, groove, hive	→	fives, grooves, hives

(72) OK – What about the past tense verbs above?
Isn't it the vowel (change) that is marking past tense?

No… Vowel change is *doubly dissociated* with (i.e. does not correlate with) Past Tense Affixes or Past Participles

(73)

ABLAUT			NO ABLAUT			
pres.	past.	part.	pres.	past	part.	
sing	sang	sung	put	put	put	-Ø affixes exist
bind	bound	bound	hit	hit	hit	See handout (Unit 5/…p.74)

(74) We know there is a zero [Ø] allomorph of PAST (and Participle) in English, and moreover that this allomorph exists independently of vowel change/ablaut.

There are also forms with and forms without ablaut (or other stem allomorphs) with verbs that occur with the *–t* allomorph of PAST, with the *–en* participle and with the default *–ed* past tense.

(75) *-t*

STEM ALLOMORPHY			NO STEM ALLOMORPHY		
pres.	past.	part.	pres.	past	part.
leave	lef-t	lef-t	dwell	dwel-t	dwel-t
buy	bough-t	bough-t			

(76) *-ed*

STEM ALLOMORPHY			NO STEM ALLOMORPHY		
pres.	past.	part.	pres.	past	part.
tell	tol-d	tol-d	yell	yell-ed	yell-ed
flee	fle-d	fle-d	play	play-ed	play-ed

(77) *-en (participles)*

STEM ALLOMORPHY			NO STEM ALLOMORPHY		
break	(broke)	brok-en	beat	(beat)	beat-en
drive	(drove)	drive-en	fall	(fell)	fall-en

	-Ø	-t	-ed	-en
+ Ablaut	bind, see	leave, buy	tell, flee	break, drive
- Ablaut	beat, put	dwell, spell	mind, ski	beat, see