Down with Morphemes!

What Word and Paradigm Morphology
Can Teach Us about Language Creation

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The Purpose of This Talk

● To introduce and explain two competing theories of morphology.
● To illustrate the consequences each theory has on *naturalistic* language creation.
● To show how Word and Paradigm Morphology can aid the construction of a naturalistic language.

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Outline

I.   What's Morphology?
II. Problems with Item and Arrangement
III. The Alternative
IV. WP and Conlanging
V.   Summary

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I. What's Morphology?

● Traditionally, the term "morphology" refers to the study of "morphemes".

● But…what's a morpheme?

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I. What's Morphology?

● A morpheme is a piece of phonological information that has a conventionalized meaning arbitrarily associated with it.

❖ "cat" (meaning = CAT, num. = singular)
❖ "cats" (meaning = CAT, num. = plural)

❖ *Therefore*: cat = CAT and -s = plural.

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I. What's Morphology?

● Morphemes are of two types: free and bound. Morphemes that can occur on their own are free morphemes, and those that can't (e.g., affixes) are bound morphemes.

● So, given our example, "cat" is a free morpheme, and the plural suffix "-s" is a bound morpheme.

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I. What's Morphology?

● The study of morphemes, then (the various affixes and roots of a language), is morphology.

● What exactly do these morphemes or affixes do for a language?

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I. What's Morphology?

● Traditionally, there are two distinct branches of morphology, illustrated below using the English suffix "-er".

❖ wicked (adj.) + -er = wickeder (adj.)
❖ speak (v.) + -er = speaker (n.)

● Though the suffix has the same sound, it's performing two different functions in these two examples.

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I. What's Morphology?

● The "-er" that changes "wicked" to "wickeder" is a part of what's known as the inflectional morphology of English.

● Inflectional morphology deals with changes that don't affect the lexical category of a the word they apply to (e.g., pluralization, tense on verbs, noun case, and adjectival comparison).

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I. What's Morphology?

● The "-er" that changes "speak" to "speaker" is a part of what's known as the derivational morphology of English.

● Derivational morphology deals with morphemes that change the lexical category of the word they are added to.

● Since "-er" changes "speak", a verb, to "speaker", a noun, we can say it *derives* the noun "speaker" from the verb "speak".

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I. What's Morphology?

● This traditional view of morphology presented thus far is known as Item and Arrangement Morphology (IA).

● The basic idea behind IA is that meaning is achieved by stringing morphemes together, and combining their meanings.

❖ *in- escape -able -ity* = "inescapability"

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I. What's Morphology?

● A question to think about: Is language really this simple?

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Outline

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II. Problems with IA

● For the time being, let's pretend that language *is* that simple.

● Meaning in language is nothing more than the combination of meaningful bits (i.e., morphemes) and the meanings associated with those bits.

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II. Problems with IA

● First, there are some theoretical problems…

❖ "fish" = FISH, singular
❖ "fish" = FISH, plural

● Where's the plural morpheme?

❖ "fish"-Ø, where "-Ø" = plural.

● How do we know it's a suffix?

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II. Problems with IA

● And further theoretical problems…

❖ "take" = present tense
❖ "took" = past tense

● How do you add something to "take" to cause its vowel to change?

❖ "took" = "take"-Ø (where "-Ø" also causes the vowel to change from [e] to [ʊ])

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II. Problems with IA

● And even more theoretical problems…

❖ "berry" = a free morpheme
❖ "blueberry" = a compound
❖ "cranberry" = ?

● If we accept that "cranberry" is "cran-" plus "berry", what does "cran-" mean? "Rasp-"? "Boysen-"? "Huckle-"?

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II. Problems with IA

● But enough with theory. Let's get to conlanging!

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II. Problems with IA

- <u>Question:</u> What's the goal of a language creator?

- <u>IA Answer:</u> To create all the morphemes of their conlang.

II. Problems with IA

- What does a language that takes IA seriously look like?

- Presenting Megdevi!

II. Problems with IA

- Megdevi was my first language. It has prefixes, suffixes, infixes, and circumfixes. For example…

- ❖ <u>Plural:</u> -æʒ
- ❖ <u>Accusative:</u> -m
- ❖ <u>Adverbial:</u> -ɪtsi
- ❖ <u>Present Tense:</u> -i
- ❖ <u>Past Tense:</u> -u

II. Problems with IA

- ❖ <u>Future Tense:</u> -a
- ❖ <u>Conditional/Subjunctive:</u> -o
- ❖ <u>Imperative:</u> -ə
- ❖ <u>Perfect:</u> -ɪ-
- ❖ <u>Transitive:</u> tra-
- ❖ <u>Intransitive:</u> dʒə-
- ❖ <u>Passive:</u> -is
- ❖ <u>Inchoative:</u> -ʊll-

II. Problems with IA

- ❖ <u>Feminine:</u> meg-
- ❖ <u>Young:</u> vi-
- ❖ <u>Soon-to-be:</u> θo-
- ❖ <u>Relative by Marriage:</u> tri-
- ❖ <u>Masculine:</u> dev-
- ❖ <u>Negative:</u> di-
- ❖ <u>Direct Opposite:</u> zo-
- ❖ <u>Former:</u> ʃajn-

II. Problems with IA

- ❖ <u>Wrongly:</u> ʃpæ-
- ❖ <u>Outward Movement:</u> tʃe-
- ❖ <u>Movement Below:</u> rak-
- ❖ <u>Inward Movement:</u> læ-
- ❖ <u>Movement Above:</u> kæl-
- ❖ <u>Dispersal:</u> kre-
- ❖ <u>Ancient:</u> glɪdɛ-
- ❖ <u>Inceptive:</u> ʔɛtse-

II. Problems with IA

- ❖ <u>Multiple of X:</u> -ax
- ❖ <u>Worthy of:</u> -ahen
- ❖ <u>Container of:</u> -otsʊm
- ❖ <u>Small Part of:</u> -osk
- ❖ <u>Collective:</u> -udʒ
- ❖ <u>Leader of:</u> -ælɛf
- ❖ <u>Augmentative:</u> -ɛks
- ❖ <u>Pejorative:</u> -ɛx

II. Problems with IA

- ● And there are *many* more.

II. Problems with IA

- ● There are two main problems with creating a language in this way:

1. The result is completely unnatural.

2. The language is indestructible.

II. Problems with IA

- ● So what's the alternative?

Outline

I. What's Morphology?
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III. The Alternative

- ● Enter Word and Paradigm Morphology (WP)!

- ● Formal assumptions:
1. Morphemes don't exist.
2. Whole word forms are stored in the lexicon.
3. Word forms arrange themselves into paradigms.
4. The parameters of a given paradigm are language-specific.

III. The Alternative

- What's a WP analysis look like?

- Here's a partial conjugation of a regular Spanish verb (in IPA):

koser "to sew"	Singular	Plural
1st Person	*koso*	*kosemos*
3rd Person	*kose*	*kosen*

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III. The Alternative

- Now here's a partial conjugation of an irregular Spanish verb:

konoser "to know"	Singular	Plural
1st Person	*konosko*	*konosemos*
3rd Person	*konose*	*konosen*

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III. The Alternative

- In analyzing these forms, we can note two patterns:

- 1sg: -o; 1plu: -emos; 3sg: -e; 3plu: -en
- 1sg: -ko; 1plu: -emos; 3sg: -e; 3plu: -en

- The difference between the two is the presence or absence of a /k/ in the first person singular.
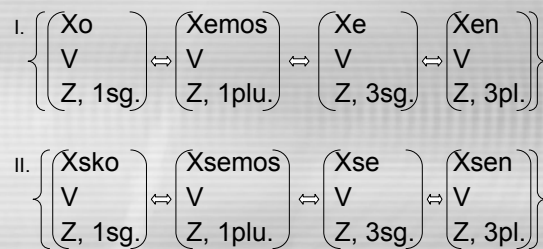
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III. The Alternative

- In order to capture these generalizations without listing morphemes, I'll use Bochner's Lexical Relatedness Morphology (LRM).

- In LRM, a word form is associated with other word forms in a given paradigm, such that one can be used to predict the others.

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III. The Alternative

$$
\text{I.} \left\{\begin{matrix} Xo \\ V \\ Z, 1sg. \end{matrix}\right\} \Leftrightarrow \left\{\begin{matrix} Xemos \\ V \\ Z, 1plu. \end{matrix}\right\} \Leftrightarrow \left\{\begin{matrix} Xe \\ V \\ Z, 3sg. \end{matrix}\right\} \Leftrightarrow \left\{\begin{matrix} Xen \\ V \\ Z, 3pl. \end{matrix}\right\}
$$

$$
\text{II.} \left\{\begin{matrix} Xsko \\ V \\ Z, 1sg. \end{matrix}\right\} \Leftrightarrow \left\{\begin{matrix} Xsemos \\ V \\ Z, 1plu. \end{matrix}\right\} \Leftrightarrow \left\{\begin{matrix} Xse \\ V \\ Z, 3sg. \end{matrix}\right\} \Leftrightarrow \left\{\begin{matrix} Xsen \\ V \\ Z, 3pl. \end{matrix}\right\}
$$

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III. The Alternative

- Formally, this isn't much of an improvement. A morpheme-based analysis can also tell you what suffixes you're going to get.

- But what about some difficult data…?

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III. The Alternative

- Tundra Nenets is a Uralic language whose nouns have seven cases and three numbers (singular, dual and plural).

- To follow: A list of nouns' nominative singular and accusative plural forms. *Can you predict the accusative plural?*

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III. The Alternative

	Nom. Sg.	Acc. Plu.
❖ *woman*:	nje	nje
❖ *lake:*	to	to
❖ *swan:*	xoxopɛji	xoxopɛji
❖ *arm:*	ŋguda	ŋgudji
❖ *forest:*	pɛdara	pɛdarji
❖ *tree:*	pja	pji
❖ *land:*	ja	jo

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III. The Alternative

	Nom. Sg.	Acc. Plu.
❖ *wave*:	xamba	xamb
❖ *big:*	ŋgarka	ŋgarkɨ
❖ *day:*	xalja	xalɨ
❖ *goose:*	jabto	jabtu
❖ *fungus:*	tɨdako	tɨdaku
❖ *fox:*	noxo	nosji
❖ *ax:*	xan	xano

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III. The Alternative

	Nom. Sg.	Acc. Plu.
❖ *cloud*:	tjir	tjirji
❖ *?:*	jun	junje
❖ *tundra:*	wiʔ	wiŋgo
❖ *hut:*	mjaʔ	mjado
❖ *??:*	tju	tjusje
❖ *paper:*	padarʔ	padro
❖ *boat:*	ŋgano	ŋganu

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III. The Alternative

- *Why* would a language *do* this?!

- It turns out it's useful to know both the nominative singular and the accusative plural forms.

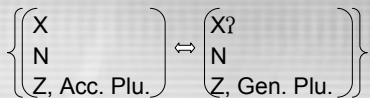- Nominative singular determines class membership, and accusative plural is used to form the genitive plural.

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III. The Alternative

	Acc. Plu.	Gen. Plu.
❖ *wave*:	xamb	xambʔ
❖ *big:*	ŋgarkɨ	ŋgarkɨʔ
❖ *day:*	xalɨ	xalɨʔ
❖ *goose:*	jabtu	jabtuʔ
❖ *fungus:*	tɨdaku	tɨdakuʔ
❖ *fox:*	nosji	nosjiʔ
❖ *ax:*	xano	xanoʔ

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III. The Alternative

● We can account for the genitive plural with a simple relational rule:

$$\left\{ \begin{array}{c} X \\ N \\ Z, \text{Acc. Plu.} \end{array} \right\} \Leftrightarrow \left\{ \begin{array}{c} X\text{ʔ} \\ N \\ Z, \text{Gen. Plu.} \end{array} \right\}$$

● The accusative plurals can be accounted for with similar rules, which would determine the different classes of Tundra Nenets.

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III. The Alternative

● An IA account, on the other hand:

1. Would have to posit *several* different accusative plural morphemes (/-u/, /-o/, etc.), as well as nominative singular morphemes (e.g., /ja/ to /jo/).

2. Would make it so that the accusative plural was *included* in the genitive plural.

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III. The Alternative

● The WP analysis simply notes the relationship between inflected word forms.

● Thus, it's not a problem that the accusative plural form is used to construct the genitive plural.

● No problem for which suffixes are added: each word is already a part of a paradigm.

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III. The Alternative

● So how can a WP framework help a conlanger create a naturalistic conlang that's more naturalistic?

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Outline

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IV. WP and Conlanging

● <u>Question:</u> What's the goal of a language creator?

● <u>WP Answer:</u> To create the parameters that define the various paradigms of a conlang, and then to fill the resulting paradigms.

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IV. WP and Conlanging

- There is nothing about a paradigm that mandates that the form of a given cell be composed of a stem and an affix.

- Cells can be filled by single-word expressions (suppletive or non-suppletive), or even multi-word expressions.

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IV. WP and Conlanging

- <u>Example 1</u>: Skerre, by Doug Ball.

siwihes, "spying"		
Obj. Markers	Singular	Plural
1st Person	*ewihesina*	*ewihesino*
2nd Person	*ewihesi:na*	*ewihesi:ra*
3rd Person	*ewihesi:sa*	*ewihesi:te*
Transitive	*ewihesin*	

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IV. WP and Conlanging

- A morpheme-based account would look something like this:

wihes = spy; *si-* = infinitive; *e-* = past		
Obj. Markers	Singular	Plural
1st Person	*-ina*	*-ino*
2nd Person	*-i:na*	*-i:ra*
3rd Person	*-i:sa*	*-i:te*
Transitive	*-in*	

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IV. WP and Conlanging

- But consider the following…

sijare, "visitation"		
Obj. Markers	Singular	Plural
1st Person	*ejarena*	*ejareno*
2nd Person	*ejare:na*	*ejare:ra*
3rd Person	*ejare:sa*	*ejare:te*
Null	*ejaren*	

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IV. WP and Conlanging

- The question for an IA account: Where are the morphemes?

- You could say there are, for example, two versions of each suffix: /-ina/ is added to C-final stems; /-na/ to V-final stems. Long vowel suffixes would have to have the form /-i:na/ and /-:na/.

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IV. WP and Conlanging

- A partial WP analysis would look like this:

I.
$$\begin{Bmatrix} XVna \\ V \\ 1st.Sg.Obj. \end{Bmatrix} \Leftrightarrow \begin{Bmatrix} XV:na \\ V \\ 2nd.Sg.Obj. \end{Bmatrix} \Leftrightarrow \begin{Bmatrix} XV:sa \\ V \\ 3rd.Sg.Obj. \end{Bmatrix}$$

II.
$$\begin{Bmatrix} XCina \\ V \\ 1st.Sg.Obj. \end{Bmatrix} \Leftrightarrow \begin{Bmatrix} XCi:na \\ V \\ 2nd.Sg.Obj. \end{Bmatrix} \Leftrightarrow \begin{Bmatrix} XCi:sa \\ V \\ 3rd.Sg.Obj. \end{Bmatrix}$$

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IV. WP and Conlanging

- In words, you might state the pattern as follows:

  To mark an object on a verb of Skerre, you add a suffix appropriate to the person and number of the object. Additionally, the vowel preceding the second and third person suffixes will be long. For C-final verb roots, an epenthetic /i/ is inserted.

- The focus is on how to fill the cells of the verbal paradigm.

IV. WP and Conlanging

- Ever noticed how hard it is to emulate something like this:

- ❖ receive > reception > receptive
- ❖ corrode > corrosion > corrosive
- ❖ propose > proposition > *proposive
- ❖ excite > *excition > *excitive
- ❖ respond > *responsion > responsive
- ❖ *ovate > ovation > *ovative

IV. WP and Conlanging

- Previously, patterns like this have been accounted for either by ad-hoc stipulations (e.g., -ose Latinate verbs don't take -ive), or via the blocking principle.

- Notice, though, that "potable" doesn't block "drinkable", and that both "edible" and "eatable" can exist.

IV. WP and Conlanging

- An alternative might be to propose that words participate in *derivational* paradigms, as well as inflectional.

- By knowing one or more words in a derivational paradigm, one can tell which variants work, and which don't.

IV. WP and Conlanging

- <u>Example 2:</u> Kelenala Sign Language (KNSL), by me.

- In KNSL, there's a regular pattern whereby nouns that refer to the object of a transitive verb can be derived simply by changing the handshape of the corresponding verb.

> *Note: The following examples have been transcribed using SLIPA.*

IV. WP and Conlanging

Verb	Noun
❖ cook: [Ëu<b(s)]sh	[Ku<b(s)]sh = meal
❖ tie: [Ëu#v(s)]mh<V:‖	[Ku#v(s)]mh<V:‖ = knot
❖ sing: [Ëu(s)]uXI	[Ku(s)]uXI = song
❖ think: [Ëu(s)]<u>sf</u>BDsf	[Ku(s)]<u>sf</u>BDsf = thought
❖ smell: [Ëu(s)]nXY	[Ku(s)]nXY = scent
❖ eat: [Ëu(t)]YXu:‖	[Ku(t)]YXu:‖ = fork
❖ food: [Tu(t)]<u>mt</u>BDmt	

IV. WP and Conlanging

● A separate multi-word expression is used to derive instruments from verbs, regardless of transitivity.

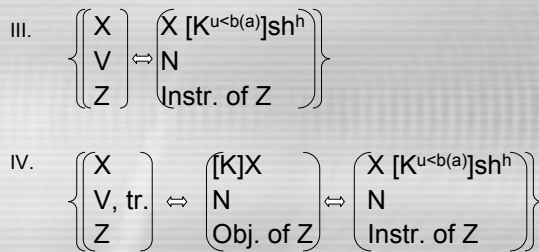| Verb	Noun
❖ cook: $[Ë^{u<b(s)}]sh^h$ +	$[K^{u<b(a)}]sh^h$ = stove
❖ sing: $[Ë^{u(s)}]uXl$ +	$[K^{u<b(a)}]sh^h$ = mic
❖ see: $[Ë^{u(s)}]syXY$ +	$[K^{u<b(a)}]sh^h$ = glasses
❖ eat: $[Ë^{u(t)}]YXu:\|\|$ +	$[K^{u<b(a)}]sh^h$ = *

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IV. WP and Conlanging

● WP can capture these facts as follows:

I.
$$\begin{Bmatrix} [Ë]X \\ V, tr. \\ Z \end{Bmatrix} \Leftrightarrow \begin{Bmatrix} [K]X \\ N \\ \text{Obj. of } Z \end{Bmatrix}$$

II.
$$\begin{Bmatrix} [Ë]X \\ V, tr. \\ Z \end{Bmatrix} \Leftrightarrow \begin{Bmatrix} [K]X \\ N \\ \text{Instr. of } Z \end{Bmatrix} \Leftrightarrow \begin{Bmatrix} Y \\ N \\ \text{Obj. of } Z \end{Bmatrix}$$

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IV. WP and Conlanging

III.
$$\begin{Bmatrix} X \\ V \\ Z \end{Bmatrix} \Leftrightarrow \begin{Bmatrix} X [K^{u<b(a)}]sh^h \\ N \\ \text{Instr. of } Z \end{Bmatrix}$$

IV.
$$\begin{Bmatrix} X \\ V, tr. \\ Z \end{Bmatrix} \Leftrightarrow \begin{Bmatrix} [K]X \\ N \\ \text{Obj. of } Z \end{Bmatrix} \Leftrightarrow \begin{Bmatrix} X [K^{u<b(a)}]sh^h \\ N \\ \text{Instr. of } Z \end{Bmatrix}$$
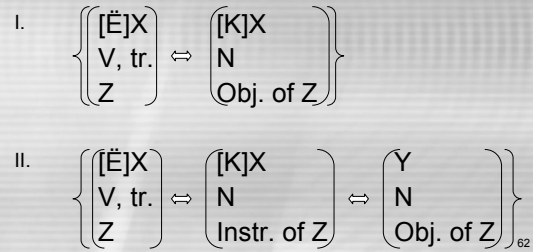
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IV. WP and Conlanging

● Another thing that natural languages do (as shown with Tundra Nenets) is reuse useful forms.

❖ Usual: write > wrote > written
❖ Unusual: break > broke > broken

❖ Where "broken" is "broke" + /-en/.

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IV. WP and Conlanging

● <u>Example 3:</u> Gweydr, by me.

● Gweydr has a healthy number of noun cases, and some of these nouns use a "fronted stem" in certain cells in their noun case paradigm.

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IV. WP and Conlanging

● Here's a partial paradigm for a regular noun:

tews "nut"	Singular	Plural
Nominative	*tews*	*tewsiks*
Instrumental	*tætews*	*tætewsiks*

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● Now here's a partial paradigm for one class of irregular nouns:

faj "three"	Singular	Plural
Nominative	*faj*	*fæj*
Instrumental	*tafaj*	*tæfæj*

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● Now here's a partial paradigm for a different irregular noun class:

kam "storm"	Singular	Plural
Nominative	*kam*	*kæm*
Instrumental	*tækæm*	*tækæmiks*

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● In WP, there are just a few patterns to state, and the conlanger only needs to decide which nouns are going to fall into which classes.

● First, I'll show you the overarching generalizations (which are simple), then the individual classes.

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● The general plural patterns:

$$\text{I.} \quad \left\{ \begin{matrix} X \\ N \\ \text{Singular} \end{matrix} \right\} \Leftrightarrow \left\{ \begin{matrix} Xiks \\ N \\ \text{Plural} \end{matrix} \right\}$$

$$\text{II.} \quad \left\{ \begin{matrix} X\alpha Y \\ N \\ \text{Singular} \end{matrix} \right\} \Leftrightarrow \left\{ \begin{matrix} X\ae Y \\ N \\ \text{Plural} \end{matrix} \right\}$$

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● The general case pattern:

$$\left\{ \begin{matrix} X \\ N \\ \text{Nom.} \end{matrix} \right\} \Leftrightarrow \left\{ \begin{matrix} t\ae X \\ N \\ \text{Instr.} \end{matrix} \right\}$$

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● The class patterns:

Regulars

$$\text{I.} \quad \left\{ \begin{matrix} X \\ N \\ \text{Nom.Sg.} \end{matrix} \right\} \Leftrightarrow \left\{ \begin{matrix} Xiks \\ N \\ \text{Nom.Plu.} \end{matrix} \right\}$$

$$\text{II.} \quad \left\{ \begin{matrix} X \\ N \\ \text{Nom.} \end{matrix} \right\} \Leftrightarrow \left\{ \begin{matrix} t\ae X \\ N \\ \text{Instr.} \end{matrix} \right\}$$
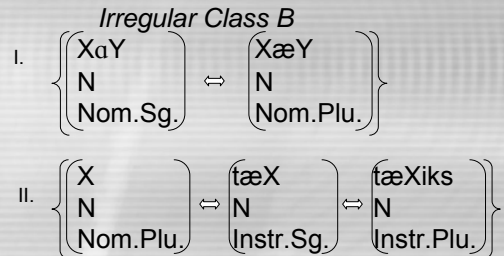
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IV. WP and Conlanging

- The class patterns continued:

Irregular Class A

I. $\begin{Bmatrix} X\alpha Y \\ N \\ Nom.Sg. \end{Bmatrix} \Leftrightarrow \begin{Bmatrix} X\ae Y \\ N \\ Nom.Plu. \end{Bmatrix}$

II. $\begin{Bmatrix} X \\ N \\ Nom. \end{Bmatrix} \Leftrightarrow \begin{Bmatrix} t\ae X \\ N \\ Instr. \end{Bmatrix}$

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IV. WP and Conlanging

- The class patterns continued[2]:

Irregular Class B

I. $\begin{Bmatrix} X\alpha Y \\ N \\ Nom.Sg. \end{Bmatrix} \Leftrightarrow \begin{Bmatrix} X\ae Y \\ N \\ Nom.Plu. \end{Bmatrix}$

II. $\begin{Bmatrix} X \\ N \\ Nom.Plu. \end{Bmatrix} \Leftrightarrow \begin{Bmatrix} t\ae X \\ N \\ Instr.Sg. \end{Bmatrix} \Leftrightarrow \begin{Bmatrix} t\ae Xiks \\ N \\ Instr.Plu. \end{Bmatrix}$
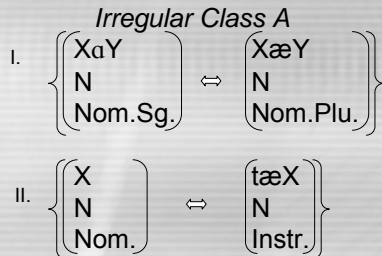
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IV. WP and Conlanging

- By using a WP-style framework, it's simpler to create principled irregularity.

- Note that the difference between classes is not which affixes are used, but what case pattern is used.

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Outline

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V. Summary

- General IA and WP models have been introduced.

- It's been *suggested* that a WP model like Bochner's is more suitable for analyzing natural language than a morpheme-based model.

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V. Summary

- In terms of creating a naturalistic conlang, it's been suggested that the goal is not to create a list of morphemes.

- Instead, the work of creating such a language is to create paradigms, and then to fill them.

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V. Summary

- The result is that the forms themselves (affixes, etc.) aren't morphologically interesting.

- Instead, the patterns of relatedness between word forms within paradigms is where all the action's at.

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For Further Reading

- Ackerman, Farrell & John Moore. 2001. *Proto-properties and Grammatical Encoding: a correspondence theory of argument selection*. Stanford: Stanford Monographs in Linguistics.
- Anderson, Stephen R. 1992. *Amorphous Morphology*. Cambridge: Cambridge University Press.
- Aronoff, Mark. 1994. *Morphology by itself*. Cambridge, MA: MIT Press.
- Blevins, James P. 2004. *Word based-morphology*. Available for download from http://www.cus.cam.ac.uk/~jpb39/drafts/wbm.pdf.
- Bochner, Harry. 1993. *Simplicity in generative morphology*. Berlin: Mouton de Gruyter.
- Bybee, Joan. 1985. *Morphology: a study of the relation between meaning and form*. Amsterdam: John Benjamins.
- Chomsky, Noam. 1965. *Aspects of the theory of syntax*. Cambridge, MA: MIT Press.
- Hockett, Charles F. 1954. *Two models of grammatical description*. Word 10: 210-34.
- Matthews, Peter H. 1991. *Morphology*. Cambridge: Cambridge University Press.
- Stump, Gregory T. 2001. *Inflectional morphology: a theory of paradigm structure*.
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Definitions

The definition to some of the words used in this talk are provided here. Those words
that are appear on the screen highlighted in orange will have definitions below.

- Affix: A bit of phonological material which attaches to another bit. For example, a suffix attaches to the end of a word, and can't be used on its own.

- Blocking Principle: The idea that the presence of a non-derived word (e.g., "brought") will block an otherwise regularly derived word (e.g., "bringed").

- Bound Morpheme: A morpheme which must be attached to some other morpheme in order to be used. Plural /-s/, for example, can't be used by itself in a sentence (e.g., "S went to the store" [i.e., some unidentified plural entity went to the store]).

- Derivational Morphology: The set of morphemes in a language which change the lexical category of the words with which they are associated. In English, for example, the /-er/ that turns "write" into "writer" is a derivational morpheme.

- Free Morpheme: A morpheme which can be used in an utterance independent of any other morpheme. For example, "dog" is a word that can be used by itself in a sentence. Plural /-s/, on the other hand, can't be used by itself; it must attach to a noun.

- Handshape: The grammatical shape of the hand in a given sign in a signed language (somewhat analogous to tone).

- Inflectional Morphology: The set of morphemes in a language that don't change the lexical category of the words with which they are associated. In a given language, this morphology is associated with tense on verbs, number and case on nouns, and agreement markers.

- Item and Arrangement Morphology (IA): The theory that holds that there is a one-to-one correspondence between phonological form and meaning. It views language as a list of morphemes with rules on how they combine.

- Lexical Category: Words are grouped into lexical categories, such as the following: noun, verb, adposition (prepositions and postpositions), adjective, adverb, etc.

- Lexical Relatedness Morphology (LRM): A formal instantiation of WP created by Harry Bochner. It holds that fully inflected words are stored in the lexicon, and that patterns of relatedness are derived therefrom. It also assumes that there is no formal difference between derivation and inflection.

- Lexicon: An abstract notion of where word forms are stored in the brain.

- <u>Morpheme:</u> An arbitrary association between meaning and a bit of phonological material. For example, in "dogs", there's a morpheme /dog/ which means, well, "dog", and a morpheme /-s/ which means "plural". Morphemes are divided into free morphemes and bound morphemes.

- <u>Morphology:</u> (1) The study of morphemes (an IA definition). (2) The study of the systematic relationship between word forms (a WP definition).

- <u>Paradigm:</u> Kind of like a table in which all the possible inflected (or derived) forms of a word are stored.

- <u>Parameter:</u> The information which a given language will encode grammatically in its paradigms. For example, "dual" isn't a parameter of pronouns for English (we'd just say, "you two", "them two", "us two", etc.), but it is for Hawaiian, which has separate dual pronouns (*lāua*, "they two"), distinct from both the singular (*ia*, "s/he/it") and plural (*lākou*, "they [more than two]"). [<u>Note:</u> This definition of parameter is specific to this talk.]

- <u>Relational Rule:</u> This type of rule is used in Lexical Relatedness Morphology. All the rules do is say that two or more words that are related systematically show a particular type of phonological relationship. Inherent in this rule is that if a listener hears one form, they will be able to infer the other. In the example below, any noun that has a phonological form X and a meaning Z will become a verb meaning "to become Z" if you take the form X and add an /o/ to the end:

$$\left\{ \begin{bmatrix} X \\ N \\ Z \end{bmatrix} \Leftrightarrow \begin{bmatrix} Xo \\ V \\ tobecomeZ \end{bmatrix} \right\}$$

- <u>Root:</u> The part of a word that's left when all the affixes are stripped off. So the root of a word like "antidisestablishmentarianism" is "establish".

- <u>Suppletion:</u> The use of a morphophonologically unrelated word to fill a given cell of a paradigm. For example, the past tense of "go" in English is "went"—a form totally unrelated to "go", "goes" and "going".

- <u>Transitive Verb:</u> A verb that has a subject and an object (e.g., "throw").

- <u>Word and Paradigm Morphology (WP):</u> The theory that holds that *all* word forms are stored in the lexicon as paradigms. From these paradigms, a speaker can pull away patterns of relatedness between word forms that allows them to generalize to words they've never heard before.

- <u>Word Form:</u> A whole, fully inflected word. "Dog", "dogs", "doggy", "dogged", "dogging", and "dogginess" are all word forms.