

Li8: Morphology/Michaelmas 2017

Templates and syntagmatic organization

Jim Blevins (jpb39)
M11-12 / LB9 / 13-11

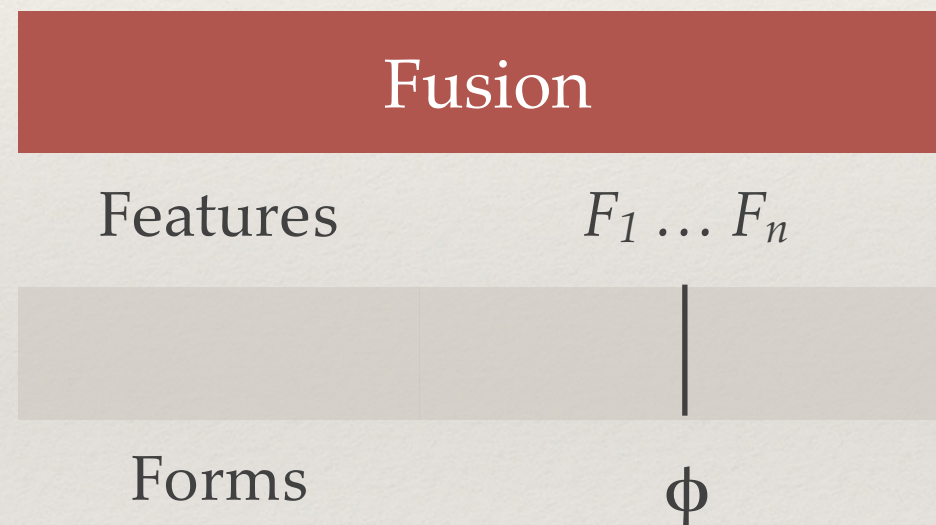
Typologies of syntagmatic arrangement

- ❖ An influential typology of morphological arrangements is based on the type of association between features and forms (Sapir 1921):

Pattern	Agglutination	Fusion	Fission
Features	F	$F_1 \dots F_n$	F
Forms	ϕ	ϕ	$\phi_1 \dots \phi_n$

Fusion ('cumulative exponence')

- ❖ Fusion (or 'cumulative exponence' Matthews 1991) arises when an indivisible unit of form is associated with multiple features.



Fusion in agreement marking

- ❖ The personal pronouns of Indo-European languages are highly fusional, as are (coincidentally?) the verbal agreement markers.
- ❖ In contrast to Finnish, nouns in Russian always express case and number cumulatively (and exhibit considerable affixal syncretism):

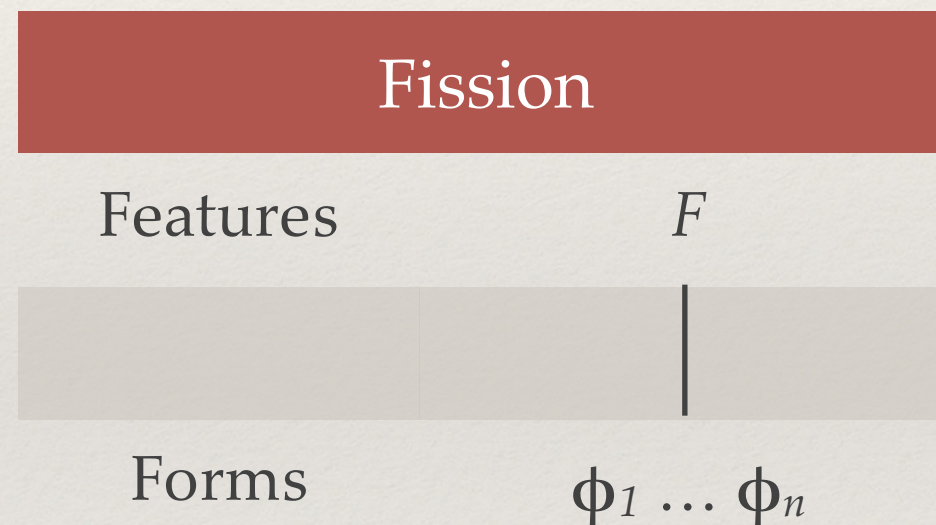
	Sing	Plu
Nominative	kniga	knigy
Genitive	knigy	knig

'book'

- ❖ It is possible to segment the stem *knig-* and the endings *-a* and *-y*, but it not possible to break the stem or endings down into individual markers of person and/or case.

Fission ('extended exponence')

- ❖ Fission (or 'extended exponence' Matthews 1991) arises when a single feature is expressed by multiple, noncontiguous, form units.



- ❖ When fission is expressed by contiguous units they are termed 'portmanteaux'.

Fission and fusion in Latin

- ❖ In Latin *re:ksisti*: 'you had ruled' perfective aspect is marked by three separate affixes: *-s*, *-is* and *-t* (Matthews 1972: 132).
- ❖ The agreement marker *-ti*: also exhibits cumulative exponence.

Features	Forms			
	re:k	s	is	ti:
'stem'	re:k			
2SG				ti:
PERFECTIVE		s	is	ti:

Fission and fusion in Greek

- ❖ The ancient Greek verb form *elélykete* 'you have unfastened' exhibits even more extreme patterns (Matthews 1991: 173)

Features	Forms					
	e	le	lý	k	e	te
PAST	e				e	
PERFECTIVE		le	lý	k		
2PL						te
ACTIVE				k	e	te

The function of associative variation?

- ❖ Associations between features and forms need not be biunique:

But categories and formatives are in nothing like a one-to-one relation. That the word is Perfective is in part identified by the reduplication *le-* but also by the suffix *-k-*. At the same time, *-k-* is one of the formatives that help to identify the word as Active; another is *-te* which, however, also marks it as '2nd Plural'. (Matthews 1991: 173)

None of this involves any crucial irregularity. The paradigm of the Verb 'to loose' or 'to unfasten' is in fact the first that generations of schoolchildren used to commit to memory. (Matthews:1991: 174)

- ❖ Yet many-many feature-form associations raise questions about the **function** of different types of morphotactic arrangements.

Where's Waldo?

Λύω

	PRESENT		FUTURE			AORIST			PERFECT	
	ACTIVE	MID.-PASS.	ACTIVE	MIDDLE	PASSIVE	ACTIVE	MIDDLE	PASSIVE	ACTIVE	MID.-PASS.
PRIMARY INDICATIVE	λύω λύεις λύει λύομεν λύετε λύουσι(ν)	λύομαι λύει/-η λύεται λύομεθα λύεσθε λύονται	λύσω λύσεις λύσει λύσομεν λύσετε λύσουσι(ν)	λύσομαι λύσει/-η λύσεται λύσόμεθα λύσεσθε λύσονται	λυθήσομαι λυθήσει/-η λυθήσεται λυθησόμεθα λυθήσεσθε λυθήσονται				λέλυκα λέλυκας λέλυκε λελύκαμεν λελύκατε λελύκασι(ν)	λέλυμαι λέλυσαι λέλυται λελύμεθα λέλυσθε λέλυνται
SECONDARY INDICATIVE	ἔλυον ἔλυες ἔλυε ἐλύομεν ἐλύετε ἔλυον	ἐλύομην ἐλύου ἐλύετο ἐλύομεθα ἐλύεσθε ἐλύοντο				ἔλυσα ἔλυσας ἔλυσε ἐλύσαμεν ἐλύσατε ἔλυσαν	ἐλυσάμην ἐλύσω ἐλύσατο ἐλυσάμεθα ἐλύσασθε ἐλύσαντο	ἐλύθην ἐλύθης ἐλύθη ἐλύθημεν ἐλύθητε ἐλύθησαν	ἐλελύκη ἐλελύκης ἐλελύκει ἐλελύκεμεν ἐλελύκετε ἐλελύκεσαν	ἐελύμην ἐέλυσο ἐέλυτο ἐελύμεθα ἐέλυσθε ἐέλυντο
SUBJUNCTIVE	λύω λύης λύη λύωμεν λύητε λύωσι(ν)	λύωμαι λύη λύηται λύωμεθα λύησθε λύωνται				λύσω λύσης λύση λύσωμεν λύσητε λύσωσι(ν)	λύσωμαι λύση λύσηται λύσωμεθα λύσησθε λύσωνται	λυθῶ λυθῆς λυθῆ λυθῶμεν λυθῆτε λυθῶσι(ν)	λελύκω λελύκης λελύκη λελύκωμεν λελύκητε λελύκωσι(ν)	λελυμένος ᾧ etc.
OPTATIVE	λύοιμι λύοις λύοι λύοιμεν λύοιτε λύοιεν	λυοίμην λύοιο λύοιτο λυοίμεθα λύοισθε λύοιντο	λύσοιμι λύσοις λύσοι λύσοιμεν λύσοιτε λύσοιεν	λυσοίμην λύσοιο λύσοιτο λυσοίμεθα λύσοισθε λύσοιντο	λυθησοίμην λυθήσοιο λυθήσοιτο λυθησοίμεθα λυθησοισθε λυθήσοιντο	λύσαιμι λύσαις (1) λύσαι (2) λύσαιμεν λύσαιτε λύσαιεν (3)	λυσάιμην λύσαιο λύσαιτο λυσάιμεθα λύσαισθε λύσαιντο	λυθείην λυθείης λυθείη λυθεῖμεν (4) λυθεῖτε (4) λυθεῖεν (4)	λελύκοιμι λελύκοις λελύκοι λελύκοιμεν λελύκοιτε λελύκοιεν	λελυμένος εἶην etc.
IMPERATIVE	λύε λύετω λύετε λύόντων	λύου λυέσθω λύεσθε λυέσθων				λύσον λυσάτω λύσατε λυσάντων	λύσαι λυσάσθω λύσασθε λυσάσθων	λύθητι λυθήτω λύθητε λυθέντων		λέλυσο λελύσθω λέλυσθε λελύσθων
PARTICIPLE M F N	λύων, -οντος λύουσα, -ης λύον, -οντος	λυόμενος, λυομένη, λυόμενον	λύσων, -οντος λύσουσα, -ης λύσον, -οντος	λυσόμενος, λυσομένη, λυσόμενον	λυθησόμενος λυθησομένη λυθησόμενον	λύσας, -αντος λύσασα, -σης λύσαν, -αντος	λυσάμενος, λυσαμένη, λυσάμενον	λυθείς, -έντος λυθείσα, -σης λυθέν, -έντος	λελυκώς, -ότος λελυκυῖα, -ας λελυκός, -ότος	λελυμένος, λελυμένη, λελυμένον
INFINITIVE	λύειν	λύεσθαι	λύσειν	λύσεσθαι	λυθήσεσθαι	λύσαι	λύσασθαι	λυθῆναι	λελυκέναι	λελύσθαι

(1) also: λύσειας; (2) also: λύσειε; (3) also: λύσειαν; (4) also: λυθείμεν, λυθείητε, λυθείησαν.

Nota Bene: λύσαι (optative), λύσαι infinitive and imperative. Compare: παιδεύσαι (opt.), παιδεύσαι (imp.), παιδεῦσαι (inf.)

A typology of arrangements?

- ❖ Types of exponence provide one dimension of the influential typology of Sapir (1921), which classifies morphological systems on the basis of two characteristics of individual words:
 - ❖ The types of exponence relations exhibited by words,
 - ❖ Density of lexical/grammatical information expressed by words.
- ❖ These properties are neither exhaustive nor mutually exclusive, and combine to define additional arrangement types.

Density of lexical/grammatical categories per word

- ❖ **Analytic**: Each word realizes one lexical or grammatical category.
- ❖ **Synthetic**: A word realizes at most one lexical category (L) and multiple grammatical categories (G_1, \dots, G_n).
- ❖ **Polysynthetic**: A word may realize multiple lexical categories (L_1, \dots, L_n) and multiple grammatical categories (G_1, \dots, G_n).

Typologies of syntagmatic arrangement

- ❖ An influential typology of morphological arrangements is based on the type of association between features and forms (Sapir 1921):

Type	Analytic	Synthetic	Polysynthetic
Categories	L/G	L, G ₁ ...G _n	L ₁ ...L _n , G ₁ ...G _n
words	ω	ω	ω

Central Alaskan Yup'ik (Mithun 1998)

Agglutinative polysynthesis:

micuumiiteqapiartua

mit'e	yuumiite	qapiar	tu	a
alight	NOT.WANT	really	IND.INTR.MOOD	1SG
'I really don't want to land'				

Chiricuahua Apache [Athabaskan] (Hoiijer 1945)

Cumulative (and extended) polysynthesis

hàń?àh

hà

ń

àh

out.of

2SUBJ.IMPERATIVE-
handle.a.round.object

IMPERATIVE

‘You take a round object (out of enclosed space)’

Murrinh-Patha [Daly (Australian)] (Nordlinger 2010)

‘Exuberantly extended’ polysynthesis

ma-nanku-ma-purl-nu-ngintha

ma	nanku	ma	purl	nu	ngintha
----	-------	----	------	----	---------

1SG.hands.FUT	2DU.OBJ	hand	wash	FUT	DU.FEM
---------------	---------	------	------	-----	--------

‘I will wash your (dual non-sibling) hands’

Templatic arrangements

- ❖ Nearly all of the arrangements considered so far can be regarded as combinations of discrete exponents, whose form and distribution is conditioned by the features that they express.
- ❖ It is not obvious that all form variation can be described in this way (can you think of variants that don't express constant features?).
- ❖ The distribution of variants may also be dependent on other units.
- ❖ Highly interdependent arrangements are often termed 'templatic'.

'Root and pattern' templates

- ❖ Lexical templates in Modern Hebrew are discontinuous.
- ❖ The shape of an inflected verb form reflects three factors:
 1. a lexical root consisting of 2–5 (but usually 3) consonants,
 2. stem formatives determined by the Binyan of the form,
 3. the vowel pattern expressing inflectional properties.

Consonantal roots in Hebrew (Glinert 1989)

Consonants	Root	Verb	
2	g-r	gar	'reside'
3	m-s-r	masar	'hand'
4	m-H-sh-v	miHshev	computerize'
5	f-l-r-t-t	flirtet	flirt'

Verbal Binyanim in Hebrew (Glinert 1989)

Binyan	Pattern	'Meaning'	Name
1	-a- ...-a-	—	pa'al
2	ni- ... -a-	'passive'	nif'al
3	hi- ... -i-	'transitive'	hif'il
4	hu- ... -a-	'causative'	huf'al
5	-i- ... -e-	'reflexive'	pi'el
6	u- ... -a-	'reciprocal'	pu'al
7	hit- ... -a- ... -e-	'inchoative'	hitpa'el

Past paradigm of KIPEL 'fold'

- ❖ Root: **k-p-l**, Binyan: **pi'el** ('reflexive'), Tense: **Past**

	Singular		Plural	
	Masc	Fem	Masc	Fem
1	kipálti		kipálnu	
2	kipálta	kipalt	kipáltem	kipálten
3	kipel	kipla	kiplu	

Semantic unity of the root? (Montoya 2017)

k-t-v		s-d-r		g-d-i	
katav	'wrote'	sider	'arranged'	gadal	'grew'
kitev	'addressed'	hisdir	'systematized'	gidel	'raised'
hikatev	'corresponded'	histader	'managed'	higdil	'enlarged'
ketiva	'writing'	histadrut	'organization'	godel	'size'
ketiv	'spelling'	sader	'regular'	gadol	'big'
ketuba	'marriage license'	seder	'Passover meal'	migdal	'tower'

The morphological structure of Semitic

- ❖ What is the basic unit of analysis? The word? The stem? The root?
- ❖ What semantic role do consonantal roots play in these languages?
- ❖ Do roots have a 'basic' meaning that combines with the meanings of other sub-word elements to define the meanings of words?
- ❖ Or is the meaning associated with roots just the intersection of the meanings of all of the full words that share that root?
- ❖ What kind of external evidence might be relevant to deciding?