Participles: inflectional paradigms, derivational paradigms or something else?

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Outline

The problem 1: participle = inflection or derivation?

- Participles (as transpositions) change morphosyntactic category of word
- Therefore they are often treated as derivational (e.g. Sag 2012)
- BUT: grammatical/lexicographic tradition treats them as forms of the basic lexeme (cf inflection)

The problem 1: participle = inflection or derivation?

Assumption/claim: (true) transpositions are representations of a lexeme

E.g. participle = adjectival representation of verb

Its still the original verb but in the form of an adjective

The problem 2: participles in inferential-realizational models

How does the grammar (e.g. the Paradigm Function) define an adjectival-paradigm-within-a-verb-paradigm?

Equivalently, how does the PF define an adjectival-lexeme-within-a-verb-lexeme?

The problem 3: participles as paradigm-within-a-paradigm

- Participle = verb used as attributive modifier (head of relative clause)
- But certain V properties are retained, depending on the language/participle
- Not all output properties are necessarily acquired/inherited
- The participle inflects exactly like an adjective, but its a form of the verb
- This cant be described just in terms of inheritance: the language may also have adjective-to-verb transpositions (predicative adjectives)

The solution

- Assume the basic model of Generalized Paradigm Function Morphology (GPFM) (Spencer 2013)
  in which the
- Paradigm Function is generalized to Generalized Paradigm Function, GPF
- and consists of (at least) four functions (lexical attributes):
  - morphological (FORM)
  - syntactic (SYN)
  - semantic (SEM)
  - Lexemic Index (LI)

The solution

- (True) transpositions are part of a lexemes inflectional paradigm
- They are not derivational morphology, they dont change the LI
- They are defined by a feature REPRESENTATION
- The GPF defined over the REPR feature redefines the MORSIG, an attribute which specifies the declaration of features for which a lexeme must inflect
- This gives rise to a partially specified set of representations, similar to the lexical entry for an adjectival lexeme, but actually part of the inflectional paradigm of the verb

Outline

Lexical representations

Four attributes:

Lexemic Index (LI)	DOG	BARK
SEM	[*Thing* DOG(x)]	[*Event* BARK(x)]
SYN	CAT:N ARG-ST: ⟨x⟩ …	CAT:V ARG-ST: ⟨x⟩ …
FORM	PHON |dog| MORCAT: noun …	PHON |bɑ:k| MORCAT: verb …

Notional parts of speech

(After J M Anderson 1997 etc)

Assume universal ontology:

(1) *Thing* ($\sim$ noun)

(2) *Eventuality, including 'states'* ($\sim$ verb)

(3) *Property* ($\sim$ adjective)

(4) *Relation* ($\sim$ adposition)

Default Cascade

Lexical entries can be maximally underspecified

Properties supplied by Default Cascade

(Maximally underspecified lexical representations $\approx$ Sags listeme)

Default Cascade

LI	BARK
SEM	[$_{Event}$ BARK(x)]
SYN	CAT:*u* ARG-ST: *u* …
FORM	PHON |bɑ:k| MORCAT: *u* …

Default Cascade

SEM|*Event* ⇒ SYN|V

LI	BARK
SEM	[*Event* BARK(x)]
SYN	CAT:V ARG-ST: *u* ...
FORM	PHON |bɑ:k| MORCAT: *u* ...

Default Cascade

$P(x) \Rightarrow$ SYN|ARG-ST|$\langle x \rangle$ etc

LI	BARK
SEM	[$_{Event}$ BARK(x)]
SYN	CAT:V ARG-ST: $\langle x \rangle$ ...
FORM	PHON |ba:k| MORCAT: *u* ...

Default Cascade

SYN|V $\Rightarrow$ MORCAT:verb

LI	BARK
SEM	[$_{Event}$ BARK(x)]
SYN	CAT:V ARG-ST: $\langle$x$\rangle$ ...
FORM	PHON |baː:k| MORCAT: verb ...

Default Cascade

Non-default properties:

inflectional class
non-default argument structure realization etc

specified in the lexical entry itself and override the defaults

Managing inflection

Distinguish FORM/CONTENT paradigms (Stump 2016) as m-/s-features
(see abstract for FORM/CONTENT paradigms for Russian verbs)

M-/s-feature sets listed in MORPHOLEXICAL SIGNATURE (MORSIG)

MORSIG attribute is treated as value of SYN, FORM attributes

All of its properties are specified by the Default Cascade (modulo lexical class specific overrides)

Default Cascade

Specification of MORSIG by Default Cascade

LI	BARK	
SEM	[$_{Event}$ BARK(x)]	
SYN	CAT:V ARG-ST: ⟨x⟩ …	
	[1] MORSIG:	TNS:{pst,nonpst} …
FORM	PHON |bɑ:k| MORCAT: verb [1] …	

Outline

Managing inflection

Russian verb *komandovat'* command

Non-predictable morphosyntactic information: takes instrumental case complement/object; belongs to *-ov-* conjugation

LI	KOMANDOVAT'
SEM	[$_{Event}$ COMMAND(x,y)]
SYN	CAT:*u* ARG-ST: *u* VALENCE: COMP|CASE = instr
FORM	PHON |komand| MORCAT: *u* MORCLASS: *ov* ...

Managing inflection

Note: for Russian verbs FORM paradigm ≠ CONTENT paradigm, hence SYN|MORSIG ≠ FORM|MORSIG

Inflection

GPF(⟨FRIEND,{[NUM:pl]}⟩) =

After Default Cascade (including MORSIG specification)

LI	FRIEND	(no change)
SEM	[$_{Thing}$ FRIEND(x,y)]	(no change)
SYN	CAT: N	(no change)
	ARG-ST: ⟨ x,y⟩	(no change)
	1 MORSIG:[NUM:{sg,pl}]	(no change)
FORM	PHON |friend|	PHON |PHON(FRIEND)|+z
	MORCAT: noun	(no change)
	1	

Derivation as paradigm-driven

Contrast with (paradigmatic, i.e. completely regular/productive) derivation

GPF(⟨FRIEND,{PrivAdj}⟩) =

LI	FRIEND	PrivAdj(FRIEND)
SEM	[*Thing* FRIEND(x,y)]	[*Property* LACKING(FRIEND)]
SYN	CAT:*u* ARG-ST: *u*	CAT:*u* ARG-ST: *u*
FORM	PHON |friend| MORCAT: *u*	PHON |PHON(FRIEND)+less| MORCAT: *u*

Default Cascade gives fully specified lexical entry for FRIENDLESS

Outline

Participles

Summary of analysis:

- Add REPR feature to MORSIG for verbs
- Treat REPR as kind of inflection, hence, LI remains constant
- Assume complex syntactic label analysis for transpositions (see Spencer 2013 for the real story):
  Participle SYN|CAT $\approx$ A$\langle$ V$\rangle$
- Participle GPF specifies which V features are retained, which A features are acquired
- This defines the participles MORSIG

Russian participles

After Default Cascade specifies verb properties

where ρ = {REPR:⟨V,A⟩{VCE:act,ASP:ipfv}}

GPF(⟨ KOMANDOVAT',ρ)

SYN	CAT:	V
	ARG-ST:	⟨SUBJ, COMP⟩
	VALENCE:	COMP|CASE = instr
	MORSIG:	ASP:{ipfv}
		TNS:*u*
		AGRSUBJ:*u*
		…
		ρ

Russian participles

Adjective default rule:
for SYN|CAT|… A …

[CONCORD:{NUMBER, GENDER, CASE}] ⊃ MORSIG

This applies to participles, hence:

Russian participles

komandujušč- imperfective active ptcp

SYN	CAT:	A⟨V⟩
	ARG-ST:	⟨[1] SUBJ, COMP⟩
	VALENCE:	MOD [1] [SYN|CAT|N]
		COMP|CASE = instr
	MORSIG:	ASP:{ipfv}
		VCE:ACT
		CONCORD:{…}
		…

Highest argument becomes head which is modified by participle

Russian participles

Cf SYN attribute of typical adjective, BOL'ŠOJ big

SYN	CAT:	A
	ARG-ST:	⟨ [1] SUBJ ⟩
	VALENCE:	MOD [1] [SYN|CAT|N]
	MORSIG:	CONCORD:{…}
		…

Hence, REPR feature defines adjectival lexeme-within-a-lexeme

Outline

Abkhaz (NW Caucasian) relative conjugation

- Prefixes cross reference absolutive, oblique and ergative arguments
- Finite conjugation has full set of person/number forms
- Relative (non-finite) conjugation used for (participial) relative clauses and also nominalized as the person/thing which VERB

Abkhaz relative conjugation

Verb root: |ga| carry

də- = 3sg ‘s/he carries’ etc
jə- = absolutive relative marker

[Tables from Chirikba (2003, p. 44)]

Abkhaz relative conjugation

Dynamic I tenses: Affirmative		
	Finite	Relative
IPF	də-r-ga-wá-n	jə́-r-ga-wa-z
PST INDEF	də-r-gá-n	jə́-r-ga-z
FUTCOND I	də-r-ga-rá-n	jə́-r-ga-rə-z
FUTCOND II	də-r-gá-ʃan	jə́-r-ga-ʃa-z
PLUPRF	də-r-gá-χʲan	jə́-r-ga-χʲa-z

Abkhaz relative conjugation

Dynamic I tenses: Negative		
	Finite	Relative
PRS	də-r-ga-wá-m	jə́-rə-m-ga-wa
AOR	d-rə-m-gá-ø-jt'	jə́-rə-m-ga-ø
FUT I	də-r-ga-rə́-m	jə́-rə-m-ga-ra
FUT II	də-r-gá-ʃa-m	jə́-rə-m-ga-ʃa
PRF	də-rə-mgá-ʦ(t')	jə́-rə-m-ga-ʦ

Abkhaz relative conjugation

Dynamic II tenses: Affirmative		
	Finite	Relative
IPF	də-r-ga-wá-n	jə́-r-ga-wa-z
PST INDEF	də-r-gá-n	jə́-r-ga-z
FUTCOND I	də-r-ga-rá-n	jə́-r-ga-rə-z
FUTCOND II	də-r-gá-ʃan	jə́-r-ga-ʃa-z
PLUPRF	də-r-gá-χʲan	jə́-r-ga-χʲa-z

Abkhaz relative conjugation

Dynamic II tenses: Negative		
	Finite	Relative
IPF	də-r-ga-wá-mə-z+t'	jə́-rə-m-ga-wa-z
PST INDEF	d-rə-m-gá-z+t'	jə́-rə-m-ga-z
FUTCOND I	də-r-ga-rá-mə-z+t'	jə́-rə-m-ga-rə-z
FUTCOND II	də-r-gá-ʃa-mə-z+t'	jə́-rə-m-ga-ʃa-z
PLUPRF	d-rə-m-gá-ʦə-z+t'	jə́-rə-m-ga-ʦə-z

Abkhaz relative conjugation

Similar picture with Stative and Derived Stative conjugations

The Relative conjugation is fully embedded in the verb inflectional system

The Relative stems form the basis of:

(i) Wh-question inflected forms:
jə-s-ʃʷə-w-p 'I am wearing X (jə)' ≈ jə-z-ʃʷə-da 'who is wearing X (jə)?'

(ii) Subjunctive, Optative, Evidential mood forms (based on various tenses)

This makes the Rel conj stem look morphomic

Abkhaz relative conjugation

In addition to use as attributive modifier (head of participial RC) relative form is very frequently converted to noun

jə-z-ba-wá = the one sees it etc.
jə́-r-ba-wa = who/what they see etc.
jə-zə-l-ta-wá = the one to whom she gives X

This is a case of argument nominalization

Cf English *the very poor, the unfairly discriminated against* etc, (but much more systematic)

This is typical behaviour of an adjectival category (Spencer 2002 on Russian)

Outline

Implications

- We can't associate a lexeme necessarily with a single inflection paradigm or morpholexical class (a case of morphosyntactic mismatch, but different from those studied by Stump (2016))
- Morphology has to be enriched to define transpositions
- That enrichment can be largely (but not entirely) based on defaults

Implications

- Indo-European type participle (Russian) is largely adjectival in morphology and syntax
- The adjectival inflection can easily be defined by inheritance of default adjectival properties
- But this requires a level of representation at which the participle resembles an uninflected (adjective) lexeme
- Hence, underspecified representations have to be treated as bona fide linguistic objects (not just as descriptions)

Implications

- In languages with a poorly delimited adjective class (e.g. N W Caucasian) the V∼A category mixing is less clear but still apparent (e.g. argument nominalization)
- So the relative conjugation is effectively a (very large) adjectival-paradigm-within-a-paradigm, though one which retains a great deal of the verb's morphosyntax

Outline

Conclusions

- Transpositions are not derivational …
- … i.e. they do not define new lexemes
- Transpositions define alternative categorial representations of a lexeme …
- … hence, transpositional paradigms are just as paradigmatic as inflectional paradigms

Conclusions

This accentuates the difference between inflection and derivation:

only intra-lexemic (within-lexeme) relatedness is truly paradigmatic

Derivational paradigms are a different type of relatedness (lexical networks)

References

Chirikba, Viacheslav A. (2003). *Abkhaz*. Munich: LINCOM EUROPA.

Sag, Ivan A. (2012). ``Sign-Based Construction Grammar: an informal synopsis''. In: *Sign-Based Construction Grammar*. Ed. by Hans C. Boas and Ivan A. Sag. Stanford, CA: CSLI Publications, 69–202.

Spencer, Andrew (2013). *Lexical Relatedness: A Paradigm-based Model*. Oxford: Oxford University Press.

Stump, Gregory (2016). *Inflectional Paradigms. Content and Form at the Syntax-Morphology Interface*. Cambridge: Cambridge University Press.