

A Persian lesson on periphrasis, typology and formal grammar

Olivier Bonami¹ Pollet Samvelian²

¹U. Paris-Sorbonne &
UMR 7023 “Laboratoire de Linguistique Formelle”

²U. Sorbonne Nouvelle &
UMR 7528 “Mondes iranien et indien”

PER-GRAM Project
DFG (Germany) / ANR (France)
<http://hpsg.fu-berlin.de/Projects/PerGram/>

Typology of Periphrasis
Guidford, June 7, 2009

Introduction

- Two goals
 - Discuss how typological and formal points of view on periphrasis diverge
 - Advertise an interesting case: the Persian progressive periphrase
- (1) Maryam dâr-ad in tâblo=râ mi-foruš-ad.
Maryam have.PRS-3SG this painting=DDO IPFV-sell.PRS-3SG
'Maryam is selling the painting.'
- General project: **PER-GRAM**
An implemented HPSG grammar and lexicon for Persian
DFG (Germany) / ANR (France)
<http://hpsg.fu-berlin.de/Projects/PerGram/>
- See Bonami & Samvelian (2009) for periphrases in Persian in general; here we focus on the progressive.

Outline

- 1 The general issue: periphrasis in typology and formal grammar
- 2 The progressive in Persian
- 3 A reductionist analysis
- 4 Conclusions

The view from typology

- Periphrasis occupies a typological space between ordinary inflectional morphology and ordinary syntactic construction.
- This space is structured along many dimensions:
 - Degree of syntagmatic cohesion (single word \longleftrightarrow 'free' syntax)
 - Types of features expressed
 - Degree/Mode of integration in the inflectional paradigm
 - etc.
- To study that typological space, we need to be inclusive.

Any construction

- which can be seen as multiword
- which expresses what can be conceived as a morphosyntactic feature

counts as a periphrase.

The view from formal grammar

- Two ways of dealing with periphrases:
 - Reductionist approach: the periphrase is really an instance of 'normal' syntax
 - Inflectional integration: the periphrase is a multiword combination filling a cell in the inflectional paradigm
- Although a growing body of evidence shows that inflectional integration exists, there are good reasons to be skeptical
 - We have good tools to deal with synthetic inflection
 - We have good tools to deal with 'normal' syntax
 - Existing approaches to inflectional integration treat it as unusual inflection (Ackerman and Stump, 2004; Bonami and Samvelian, 2009) and/or unusual syntax (Ackerman and Webelhuth, 1998; Blevins, to appear).
 - ☞ The most elegant analysis from a formal, synchronic, monolingual perspective is often a reductionist analysis.
- Our contribution: this alternative should be evaluated case by case, on the basis of empirical evidence.

Example: the Persian perfect

		PERFECTIVE	IMPERFECTIVE	PERFECT
PRESENT		***	mi-xar-ad	xarid-e-ast
PAST	DIR.	xarid	mi-xarid	xarid-e bud
	IND.	xarid-e-ast	mi-xarid-e-ast	xarid-e bud-e-ast
SUBJUNCTIVE		be-xar-ad		xarid-e bâš-ad

- The **red forms** are periphrastic (noncohesive),
- Costs of reducing the **periphrastic forms** to 'normal' syntax:
 - lexemes would be systematically defective for nonpresent [PRF +] forms (except *budan*)
 - *budan* would be defective for all [PRF –] forms
 - either *budan* would be defective for the present perfect or its use would be blocked by the existence of a synthetic form
 - *budan* would use [PRF –] morphology to express [PRF +]

☞ In this instance the cost of a reductionist approach is too high

☞ See (Bonami and Samvelian, 2009) for an inflectional analysis

Outline

- 1 The general issue: periphrasis in typology and formal grammar
- 2 The progressive in Persian**
- 3 A reductionist analysis
- 4 Conclusions

Ways of expressing progressivity

- Imperfective forms are compatible with any imperfective aspect; for telic verbs we get progressive or habitual readings

(2) Maryam madrase mi-raft.

Maryam school IPFV-go.PST[3SG]

'Maryam was going to school./'Maryam used to go to school.'

- The progressive periphrase: *dâštan*+finite verb

(3) Maryam dâšt madrase mi-raft.

Maryam have.PST[3SG] school IPFV-go.PST[3SG]

'Maryam was going to school.'

- Lexical progressives: noun/adjective+noun or infinitive

(4) a. Maryam dar hâl-e madrase raft-an ast.

Maryam in mood-EZ school go-INF COP.PRS.3SG

'Maryam was going to school.'

b. Maryam mašqul-e madrase raft-an ast.

Maryam occupied-EZ school go-INF COP.PRS.3SG

'Maryam was going to school.'

Why a periphrase (1/3)

- No subjunctive use of *dâšťan*+finite verb

(5) * Fekr mi-kon-am ke Maryam dâr-ad be-dav-ad.
thought IPFV-do-.PRS-1SG that Maryam have-PRS-3SG SBJV-run.PRS-3SG
(intended) 'I think that Maryam is running.'

(6) Fekr mi-kon-am ke Maryam maščul-e davidan bâš-ad.
thought IPFV-do-1.SG that Maryam occupied-EZ run-INF be.SUBJ-3.SG

- No negative use of *dâšťan*+finite verb

(7) a. * Maryam na-dâr-ad (ne-)mi-dav-ad.
Maryam NEG-have.PRS-3SG NEG-IPFV-run.PRS-3SG
(intended) 'Maryam is not running.'

b. *Maryam (na-)dâr-ad ne-mi-dav-ad.
Maryam NEG-have.PRS-3SG NEG-IPFV-run.PRS-3SG

(8) Maryam maščul-e davidan nist.
Maryam occupied-EZ run-INF NEG.COP.PRS.3SG

(9) Maryam ne-mi-dav-ad.
Maryam NEG-IPFV-run.PRS-3SG

Why a periphrase (2/3)

- *dâšťan*+finite verb is incompatible with the perfect

- (10) a. * Maryam hatman *dâšte-ast* *davide-ast*.
Maryam certainly have.PRS.PRF-3SG run.PRS.PRF-3SG
(intended) 'Maryam must have been running.'
- b. * Maryam hatman *dâr-ad* *davide-ast*.
Maryam certainly have.PRS-3SG run.PRS.PRF-3SG
- c. * Maryam hatman *dâšte-ast* *dav-ad*.
Maryam certainly have.PRS.PRF-3SG run.PRS-3SG
- (11) Maryam hatman *mašqul-e* *david-an bude-ast*.
Maryam certainly occupied-EZ run-INF be.PRS.PRF-3SG

- *dâšťan*+finite verb is incompatible with the future

- (12) a. * Maryam *xâh-ad* *dâšt xâh-ad* *david*.
Maryam FUT-3SG have FUT-3SG run
(intended) 'Maryam will be running.'
- b. * Maryam *xâh-ad* *dâšt* *david*.
Maryam FUT-3SG have run
- c. * Maryam *dâr-ad* *xâh-ad* *david*.
Maryam have.PRS-3S FUT-3SG run
- (13) Maryam *mašqul-e* *david-an xâh-ad* *bud*.
Maryam occupied-EZ run-INF FUT-3SG COP

Why a periphrase (3/3)

- Our account:
- ☞ *Dâšťan* + finite verb realizes a morphosyntactic feature [PROG +]
- Restrictions on the use of *dâšťan* + *finite verb* follow from FCRs:
 - ASP \supset [MOOD *ind*]
 - PROG \supset [ASP *ipfv*]
 - [TNS *fut*] \supset [PROG –]
- By contrast, *mašqul* expresses ‘progressive’ as its lexical meaning but does not realize a [PROG +] feature
 - ⇒ not constrained by the FCRs
- Synthetic imperfective forms are underspecified with respect to the PROG feature
 - ⇒ possible wherever ASP is possible.
- ☞ Typologically speaking, *dâšťan* + *finite verb* qualifies as a periphrase

Why is it interesting

- Both the auxiliary and main verb are finite forms
- Systematic ~~cumulative~~ multiple exponence

	PRESENT		DIR. IPFV. PAST		IND. IPFV. PAST	
1S	dâr-am	mi-dav-am	dâšt-am	mi-david-am	dâšt-e-am	mi-david-e-am
2S	dâr-i	mi-dav-i	dâšt-i	mi-david-i	dâšt-e-i	mi-david-e-i
3S	dâr-ad	mi-dav-ad	dâšt	mi-david	dâšt-e-ast	mi-david-e-ast
1P	dâr-im	mi-dav-im	dâšt-im	mi-david-im	dâšt-e-im	mi-david-e-im
2P	dâr-id	mi-dav-id	dâšt-id	mi-david-id	dâšt-e-id	mi-david-e-id
3P	dâr-and	mi-dav-and	dâšt-and	mi-david-and	dâšt-e-and	mi-david-e-and

- NB: *dâštan* is irregular in not taking the imperfective prefix *mi-*. This is general and has nothing to do with the progressive.

(14) Omid sešanbe-hâ madrase *raft/ mi-raft.
 Omid tuesday-PL school go.PST[3SG] IPFV-go.PST[3SG]
 ‘Omid went to school on Tuesdays.’

(15) Omid sešanbe-hâ kelâs-e piâno dâšt/ *mi-dâšt.
 Omid tuesday-PL lesson-EZ piano have.PST[3SG] IPFV-have.PST[3SG]
 ‘Omid took piano lessons on Tuesdays.’

Outline

- 1 The general issue: periphrasis in typology and formal grammar
- 2 The progressive in Persian
- 3 A reductionist analysis**
- 4 Conclusions

Clausal complements in Persian

- Clausal complements always follow the head, whereas other complements tend to precede the head.

(16) Maryam mi-dân-ad [ke Omid ketâb=râ be Sârâ dâd].
Maryam IPFV-know.PRS-3SG Omid this book=DDO to Sara give.PST[3SG]
'Maryam knows that Omid gave the book to Sara.'

(17) * Maryam [ke Omid ketâb=râ be Sârâ dâd] mi-dân-ad.
Maryam that Omid book=DDO to Sara give.PST[3SG] IPFV-know.PRS-3SG

- (18) a. Maryam madrase raft.
Maryam school go.PST[3SG].
'Maryam went to school.'
- b. Maryam raft madrase.
Maryam go.PST[3SG] school

- There is a single complementizer *ke*, which is always optional

(19) Maryam mi-dân-ad [Omid ketâb=râ be Sârâ dâd].
Maryam IPFV-know.PRS-3SG Omid book=DDO to Sara give.PST.3SG
'Maryam knows that Omid gave the book to Sara.'

Raising verbs in Persian

- There are very few raising verbs in Persian. In most cases where one would use a raising verb in English, Persian uses an impersonal verb with a clausal complement.

(20) Bâ-y-ad [(ke) bačče-hâ madrâse be-rav-and].
must-3SG that child-PL school SBJV-go-3PL
'The kids must go to school.'

- The few true raising verbs take a finite complement.

(21) a. Bačče-hâ mi-tavân-and [(ke) madrâse be-rav-and].
child-PL IPFV-can.PRS-3PL that school SBJV-go-3PL
'The kids can go to school.'

b. *Mi-tavân-ad [(ke) bačče-hâ madrâse be-rav-and].
IPFV-can.-PRS.3SG that child-PL school SBJV-go-3PL

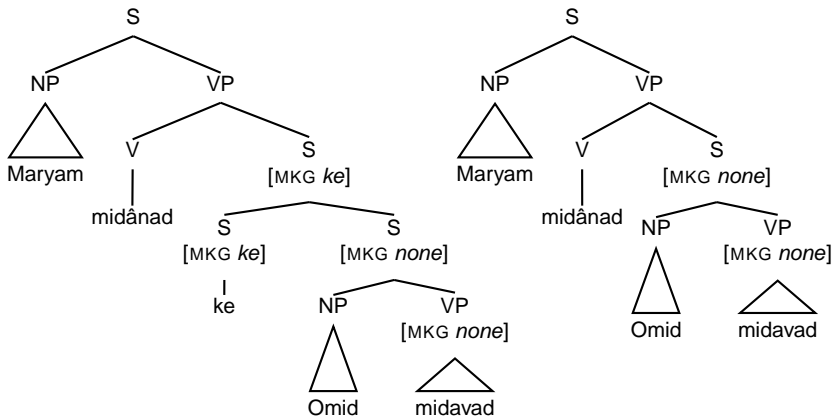
- *Ke* is not used with such verbs outside of literary usage.

NB: In (22), *bačče-hâ* is topicalized, and is not the subject of *bâyad*: witness the absence of agreement.

(22) Bačče-hâ bâ-y-ad/ *bây-and [(ke) madrâse be-rav-and].
child-PL must-3SG must-3PL that school SBJV-go-3PL
'The kids must go to school.'

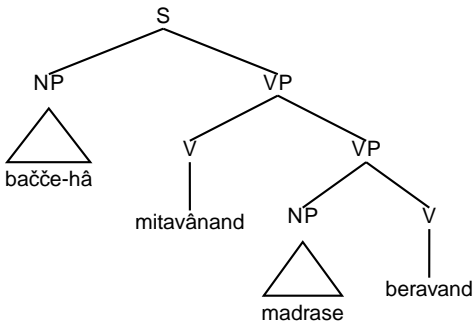
HPSG analysis: complementizers

- Standard HPSG analysis of complementizers as *markers*.
 - All signs carry a MARKING feature.
 - Markers change the marking value of the head they combine with.
 - ☞ There is no empty complementizer. Bare clauses are just bare.
 - In Persian, verbs taking complement clauses do not care whether the clause is marked or not.



HPSG analysis: raising verbs

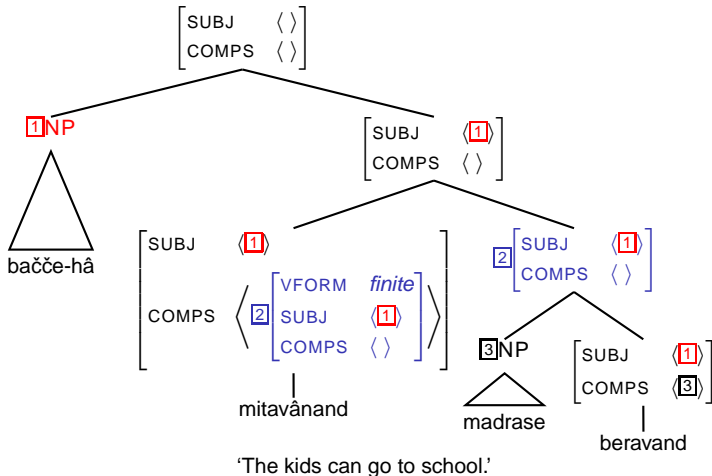
- In HPSG, raising amounts to subject inheritance.
 - Raising verbs take a VP (unsaturated) complement.
 - Both verbs share the same subject.
- Persian is special in that raising verbs take a finite complement



'The kids can go to school.'

HPSG analysis: raising verbs

- In HPSG, raising amounts to subject inheritance.
 - Raising verbs take a VP (unsaturated) complement.
 - Both verbs share the same subject.
- Persian is special in that raising verbs take a finite complement



Progressives vs. Raising structures

- The word order is the same

- (23) a. Maryam dâšt madrase mi-raft
Maryam have.PST[3SG] school IPFV-go.PST[3SG]
'Maryam was going to school.'
- b. * Maryam madrase mi-raft dâšt
Maryam school IPFV-go.PST[3SG] have.PST[3SG]

- Complementizers are excluded in the progressive periphrase; but remember that complementizer absence is the default with raising verbs.

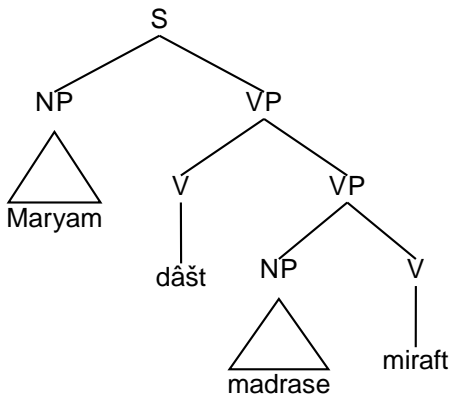
- (24) * Maryam dâšt ke madrase mi-raft.
Maryam have.PST[3SG] that school IPFV-go.PST[3SG]

- Even the scrambling possibilities are the same

- (25) a. Maryam in ketâb=râ dâr-ad mi-xân-ad.
Maryam this book=DDO have.PRS-3SG IPFV-read.PRS-3SG
'Maryam is reading this book.'
- b. Maryam in ketâb=râ mi-tavân-ad be-xân-ad.
Maryam this book=DDO IPFV-can.PRS-3SG IPFV-read.PRS-3SG
'Maryam is reading this book.'

Analysis for the progressive

- The progressive auxiliary is just another raising verb



'Maryam was going to school.'

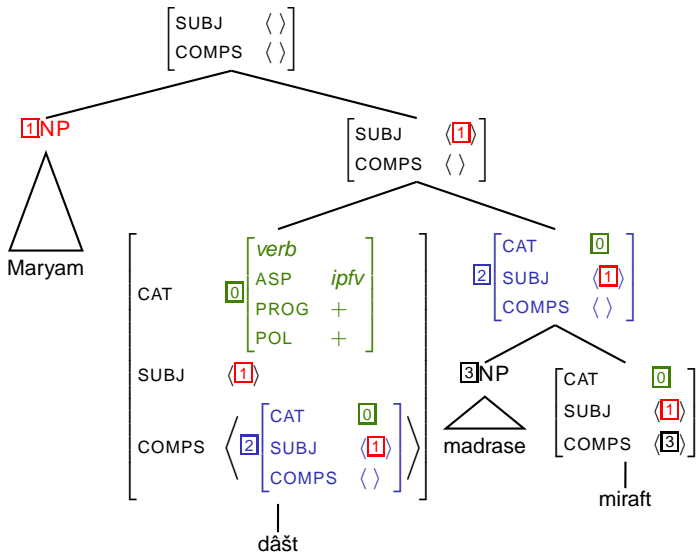
Lexical entry for the auxiliary

CAT	[0]	<table border="1"> <tr> <td><i>verb</i></td> <td></td> </tr> <tr> <td>ASP</td> <td><i>ipfv</i></td> </tr> <tr> <td>PROG</td> <td>+</td> </tr> <tr> <td>POL</td> <td>+</td> </tr> </table>	<i>verb</i>		ASP	<i>ipfv</i>	PROG	+	POL	+	
<i>verb</i>											
ASP	<i>ipfv</i>										
PROG	+										
POL	+										
SUBJ	<1>										
COMPS	<table border="1"> <tr> <td>MARKING</td> <td><i>none</i></td> </tr> <tr> <td>CAT</td> <td>[0]</td> </tr> <tr> <td>SUBJ</td> <td><1></td> </tr> <tr> <td>COMPS</td> <td><></td> </tr> <tr> <td>SEM</td> <td>[4]</td> </tr> </table>	MARKING	<i>none</i>	CAT	[0]	SUBJ	<1>	COMPS	<>	SEM	[4]
MARKING	<i>none</i>										
CAT	[0]										
SUBJ	<1>										
COMPS	<>										
SEM	[4]										
SEM	[4]										

A raising verb where:

- Aspect is restricted to being imperfective \Rightarrow defective in the subjunctive, perfect, future, nonfinite forms
- Morphosyntactic features shared with those of the complement \Rightarrow systematic cumulative multiple exponence
- The complement is constrained to be unmarked \Rightarrow no complementizer
- The semantics is identified to that of the complement

Analysis for the progressive: the details



'Maryam was going to school.'

Discussion

- This is a rather reasonable syntactic reduction
- ☞ The progressive auxiliary is just a particular case of a raising verb
 - The set of contexts where the auxiliary can be used is a subset of the set of contexts where raising verbs in general can be used
 - There is defectivity, but only defectivity that follows from what features are expressed
 - No disjunction or default violation
- In addition, an inflectional analysis would be challenging
- ☞ Overspecification function of the periphrase:
 - The progressive periphrase expresses a feature that *can* be expressed without it
 - Thus there isn't a feature set that the progressive periphrase uniquely realizes

Outline

- 1 The general issue: periphrasis in typology and formal grammar
- 2 The progressive in Persian
- 3 A reductionist analysis
- 4 Conclusions**

Conclusions

- The Persian progressive
 - is a periphrase, in contrast to other ways of expressing the progressive in Persian
 - is best analyzed without using inflectional integration
- ☞ We should not look for a single, unitary formal analysis for periphrasis.
- This should not be very surprising: interesting typological categories often call for diverse formal analyses. Compare clitics, person markers, etc.
- Criteria for periphrasis (Haspelmath, 2000; Ackerman and Stump, 2004; Spencer, 2006, 2008) should be distinguished from criteria for inflectional integration.

Selected references

- Ackerman, F. and Stump, G. T. (2004). 'Paradigms and periphrastic expression'. In L. Sadler and A. Spencer (eds.), *Projecting Morphology*. Stanford: CSLI Publications, 111–157.
- Ackerman, F. and Webelhuth, G. (1998). *A Theory of Predicates*. Stanford: CSLI Publications.
- Blevins, J. P. (to appear). 'Periphrasis as syntactic exponence'. In F. Ackerman, J. P. Blevins, and G. T. Stump (eds.), *Paradigms and Periphrasis*. Stanford: CSLI Publications.
- Bonami, O. and Samvelian, P. (2009). 'Inflectional periphrasis in persian'. In S. Müller (ed.), *Proceedings of the HPSG 2009 Conference*. Stanford: CSLI Publications, 26–46.
- Haspelmath, M. (2000). 'Periphrasis'. In G. Booij, C. Lehmann, and J. Mugdan (eds.), *Morphology: an international handbook on inflection and word-formation*, vol. 1. Berlin: Walter de Gruyter, 654–664.
- Lazard, G., Richard, Y., Hechmati, R., and Samvelian, P. (2006). *Grammaire du persan contemporain*. Tehran: IFRI and Farhag-e Moaser.
- Spencer, A. (2006). 'Periphrasis'. In K. Brown (ed.), *The Encyclopedia of Language and Linguistics, second edition*. Oxford: Elsevier, 287–294.
- (2008). 'Sentence negation and periphrasis'. Ms., U. of Essex.