University of Kentucky
UKnowledge

English Faculty Publications English

2011

Valence Sensitivity in Pamirian Past-tense Inflection: A Realizational Analysis

Gregory Stump
University of Kentucky, gregory.stump@uky.edu

Andrew R. Hippisley
University of Kentucky, andrew.hippisley@uky.edu

Follow this and additional works at: https://uknowledge.uky.edu/english_facpub

Part of the Morphology Commons, and the Syntax Commons

Right click to open a feedback form in a new tab to let us know how this document benefits you.

Repository Citation
Stump, Gregory and Hippisley, Andrew R., "Valence Sensitivity in Pamirian Past-tense Inflection: A Realizational Analysis" (2011). *English Faculty Publications*. 5.
https://uknowledge.uky.edu/english_facpub/5

This Book Chapter is brought to you for free and open access by the English at UKnowledge. It has been accepted for inclusion in English Faculty Publications by an authorized administrator of UKnowledge. For more information, please contact UKnowledge@lsv.uky.edu.

Valence Sensitivity in Pamirian Past-tense Inflection: A Realizational Analysis

Notes/Citation Information

Published in *Topics in Iranian Linguistics.* Agnes Korn, Geoffrey Haig, Simin Karimi, & Pollett Samvelian, (Eds.). p. 103-115.

© 2011 Dr. Ludwig Reichert Verlag Wiesbaden

The copyright holder has granted the permission for posting the book chapter here.

This book chapter is also available online at http://titus.uni-frankfurt.de/personal/agnes/paris09/stump_hippisley2011.pdf.

This book chapter is available at UKnowledge: https://uknowledge.uky.edu/english_facpub/5

BEITRÄGE ZUR IRANISTIK

Gegründet von Georges Redard, herausgegeben von Nicholas Sims-Williams

Band 34

Topics in Iranian Linguistics

Herausgegeben von Agnes Korn, Geoffrey Haig,
Simin Karimi und Pollet Samvelian

WIESBADEN 2011
DR. LUDWIG REICHERT VERLAG

Printed with the financial support
of *Mondes iranien et indien* (UMR 7528, CNRS, Paris)

Bibliografische Information der Deutschen Nationalbibliothek
Die Deutsche Nationalbibliothek verzeichnet diese Publikation
in der Deutschen Nationalbibliografie; detaillierte bibliografische Daten
sind im Internet über http://dnb.d-nb.de abrufbar.

© 2011 Dr. Ludwig Reichert Verlag Wiesbaden
ISBN: 978-3-89500-826-9
www.reichert-verlag.de

Das Werk einschließlich aller seiner Teile ist urheberrechtlich geschützt.
Jede Verwertung außerhalb der engen Grenzen des Urheberrechtsgesetzes ist ohne
Zustimmung des Verlages unzulässig und strafbar.
Das gilt insbesondere für Vervielfältigungen, Übersetzungen, Mikroverfilmungen
und die Speicherung und Verarbeitung in elektronischen Systemen.
Gedruckt auf säurefreiem Papier (alterungsbeständig pH7 –, neutral)
Printed in Germany

Topics in Iranian Linguistics

Herausgegeben von Agnes Korn, Geoffrey Haig,
Simin Karimi und Pollet Samvelian

WIESBADEN 2011
DR. LUDWIG REICHERT VERLAG

Valence Sensitivity in Pamirian Past-tense Inflection: A Realizational Analysis[1]

Gregory Stump, Andrew Hippisley

1. Introduction

A richly articulated theory of morphology makes it possible to localize the differences between related languages in a precise and explicit way. Here, we propose a formal synchronic analysis of the past-tense auxiliary in the Pamir languages; we argue that the different kinds of valence sensitivity observable in the morphosyntax of this auxiliary in different Pamir languages are reducible to differences in a particular domain of their morphological architecture. Following STUMP 2001, we assume an inferential-realizational framework for inflectional morphology—INFERENTIAL (rather than LEXICAL) in that it attributes complex morphological structures to the application of morphological rules rather than to the syntactic combination of lexically listed morphemes; REALIZATIONAL (rather than INCREMENTAL) in that it treats an inflected word's association with its morphosyntactic property set as a precondition for (rather than as a consequence of) its morphological formation. In particular, we assume that a language's morphological system includes

- **property cooccurrence restrictions**, which define the structure of inflectional paradigms by specifying how grammatical characteristics may intersect within each of a paradigm's cells;
- **rules of exponence**, which associate a cell's grammatical characteristics with particular aspects of its phonological realization; and
- **rules of referral**, which link cells (belonging to the same paradigm or to different paradigms) that are systematically alike in their phonological realization.

We argue that in the Pamir languages (East Iranian),[1] the morphosyntax of the past-tense auxiliary is regulated by a property cooccurrence restriction and a rule of referral which are shared across these languages, and that the different kinds of valence sensitivity that the past-tense auxiliary exhibits in these languages is purely an effect of differences in their systems of rules of exponence. We begin by identifying three types of valence sensitivity and the manner in which they are exhibited in four representative members of the Pamir language group (section 2.). We then propose a formal account of this sensitivity to valence in each of the four languages (section 3.); to our knowledge, this is the first attempt at a formal comparative analysis of these facts. We summarize our conclusions in section 4.

---

[1] An earlier version of this paper was presented at the Third International Conference on Iranian Linguistics, University of Paris 3 - Sorbonne Nouvelle, September 11-13, 2009; we thank the audience at this event for helpful comments. We are also grateful to Agnes Korn for a number of suggested improvements.

[1] The Pamir languages are spoken in southeastern Tajikistan and adjoining regions of Afghanistan, Pakistan and China; in spite of their geographical proximity, it is not clear that they constitute a genetic subgroup. For discussion of the genetic relations among the Pamir languages and their relatedness to other East Iranian languages, see WENDTLAND 2009.

2. Valence sensitivity in the past-tense auxiliary in four Pamir languages

In the Pamir languages, past-tense verb inflection exhibits a range of peculiarities tied to a vestigial pattern of partial ergativity. These languages are POST-ERGATIVE: while none still exhibits a robust system of partial ergativity (all are basically accusative), many retain vestiges of ergativity in their systems of case marking and/or verb agreement. These languages exhibit many similarities in verb inflection: present-tense verbs inflect synthetically with suffixal exponents of subject agreement, as in the Shughni examples in (1a,b); past-tense verbs, by contrast, inflect periphrastically through the use of a second-position auxiliary clitic expressing subject agreement together with a participial verb form, as in (1c,d).

(1) Shughni

a. Present intransitive
Wuz *wirāfc-um.*
I stand-1SG
"I stand up."

b. Present transitive
Wuz *kud* *win-um.*
I dog see-1SG
"I see a dog."

c. Past intransitive
Wuz=um *wirūv-d.*
I=1SG stand-PAST.PPLE
"I stood up."

d. Past transitive
Wuz=um *kud* *wīn-t.*
I=1SG dog see-PAST.PPLE
"I saw a dog."

Notwithstanding these similarities, a number of differences in verb inflection emerge upon closer inspection of these languages. Here, we focus on four representatives: Yazgulyam, Bartangi, Shughni, and Oroshori.[2] These four languages exhibit the present-tense agreement suffixes in (2) and the past-tense auxiliary clitics in (3). In all four languages, the past-tense auxiliary clitics used with intransitive verbs are syncretic with the present-tense clitic forms of the copula (PAYNE 1980:171); the Shughni examples in (4) illustrate. In three of these languages, the auxiliary clitics used with transitive verbs deviate from those used with intransitive verbs in the shaded portions of (3); this is one of the vestiges of partial ergativity in these languages, a reflection of the fact that at one time, the case of an intransitive verb's subject and that of a transitive verb's subject differed in the past tense.[3]

(2) Present-tense agreement suffixes in four Pamir languages

	a. Yazgulyam		b. Bartangi		c. Shughni		d. Oroshori	
	SG	PL	SG	PL	SG	PL	SG	PL
1	*-in*	*-əm*	*-um*	*-an*	*-um*	*-ām*	*-um*	*-an*
2	*-ay*	*-it*	*-i*/—[4]	*-at/-af*[5]	*-i*	*-et*	—	*-at/-af*
3	*-t/-d*[6]	*-an*	*-t/-d*	*-an*	*-t/-d*	*-en*	*-t/-d*	*-an*

[2] ĖDEL'MAN 1966, 2000 are important sources of information for Yazgulyam; KARAMXUDOEV 1973 for Bartangi; DODYXUDOEVA 1988 for Shughni; and KURBANOV 1976 for Oroshori.

[3] See PAYNE 1980 for a detailed discussion of these facts as evidence of decaying ergativity in the Pamir languages; see also HIPPISLEY / STUMP 2010 for related discussion of the alternative trajectories toward full accusativity in these languages.

[4] Lack of an exponent here is a characteristic of the Basidi dialect of Bartangi (PAYNE 1980:164).

[5] The *-at* and *-af* affixes appear to operate in free variation in Bartangi and Oroshori. The variation has no relevance to our discussion.

(3) Past-tense auxiliary clitics in four Pamir languages

a. Yazgulyam

	Intransitive		Transitive*	
	SG	PL	SG	PL
1	*=əm*	*=an*	*=əm*	*=an*
2	*=at*	*=əf*	*=at*	*=əf*
3	—	*=an*	*=ay*	*=əf*

*Obligatorily omitted when an overt subject is present.

b. Bartangi

	Intransitive		Transitive		
	SG	PL	SG	PL	
1	*=um*	*=an*	*=um*	*=an*	
2	*=at*	*=af/=at*	*=at*	*=af*	/ *=at*
3	—	*=an*	*=i*	*=af**	/ *=an*

*Obligatorily with the oblique subject construction.

c. Shughni[7]

	Intransitive		Transitive	
	SG	PL	SG	PL
1	*=um*	*=ām*	*=um*	*=ām*
2	*=(a)t*	*=et*	*=(a)t*	*=et*
3	—	*=en*	*=i*	*=en*

d. Oroshori

	SG	PL
1	*=um*	*=an*
2	*=at*	*=af*
3	—	*=af*

(4) Shughni

a. *Wuz=um* *xuš.*
I=1SG happy
"I am happy."

b. *Tu=t* *xuš.*
you=2SG happy
"You (sg.) are happy."

c. *Yu / Yā* *xuš.*
he / she happy
"He / she is happy."

d. *Māš=ām* *xuš.*
we=1PL happy
"We are happy."

e. *Tam=et* *xuš.*
you=2PL happy
"You (pl.) are happy."

f. *Wāδ=en* *xuš.*
they=3PL happy
"They are happy."

In Yazgulyam, the third-person past-tense clitics for transitive verbs are different from those for intransitive verbs; this kind of valence sensitivity is that of SPECIAL ERGATIVE AGREEMENT. Moreover, past-tense clitics used with transitive verbs are obligatorily omitted in the presence of overt subjects; this kind of valence sensitivity is that of CLITIC COMPLEMENTARITY WITH OVERT TRANSITIVE SUBJECTS.

In Yazgulyam, overt subjects of transitive verbs are invariably oblique in the past tense (PAYNE 1980:175); this is another vestige of ergativity. In Bartangi, transitive sentences in the past tense allow both a nominative+oblique pattern and a double-oblique pattern; the past-tense auxiliary clitic *-af* is the obligatory expression of third-person plural subject agreement in the double-oblique construction (besides being admissible in the nominative+oblique construction). This kind of valence sensitivity is that of COVARIATION OF AGREEMENT MARKING WITH SUBJECT CASE.

Shughni verb inflection exhibits less vestigial ergativity than either Yazgulyam or Bartangi: it does not exhibit clitic complementarity with transitive subjects nor does it possess a double-oblique pattern of case marking. It does exhibit special ergative agreement, but only in the third-person singular. The Oroshori system of verb inflection has lost even this

[6] /d/ for stem final voiced obstruents and vowels, and /t/ elsewhere. This applies to all four languages.

[7] Note that there is postvocalic elision of the suffixal vowel in the second-person singular example in (4b).

vestige of ergativity.[8]

3. A formal analysis of valence sensitivity in four Pamir languages

In the formal morphological analysis that we propose for the Pamir languages, we assume that each cell in the inflectional paradigm of a lexeme L is the pairing ⟨X, R⟩ of L's stem X with an attribute-value matrix R having the structure in (5).

(5) A paradigmatic cell's attribute-value matrix:

$$\begin{bmatrix} \text{MPS} & \sigma \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{Y} \\ \text{VAL} & \langle \text{Z} \rangle \end{bmatrix} \quad \text{where} \quad \begin{array}{ll} \text{MPS} & = \text{morphosyntactic property set} \\ \text{LXM} & = \text{lexeme} \\ \text{CAT} & = \text{syntactic category} \\ \text{VAL} & = \text{valence, a list of arguments} \end{array}$$

The phonological realization of the cells in a lexeme's paradigm is effected by realization rules of two sorts: rules of exponence and rules of referral. These two sorts of rules have the format in (6).

(6) a. Rule of exponence: The cell ⟨X, R⟩ is realized as X′. Abbreviation: ⟨X, R⟩ ⇒ X′
b. Rule of referral: The cell ⟨X, R⟩ has the same realization as the cell ⟨Y, R′⟩.

Ordinarily, a lexeme's valence specification remains constant across all of the cells in its paradigm. BONAMI / SAMVELIAN (2008, 2009), however, have proposed an approach to Persian verbal periphrasis in which the valence specification of a verbal lexeme's periphrastic forms differs systematically from that of its synthetic forms; in particular, they propose that if a verbal lexeme L has a periphrastic realization consisting of a finite auxiliary X plus a nonfinite form Y of L, then the cell corresponding to that periphrase is occupied by the pairing of X's stem with an attribute-value matrix whose VAL specification includes Y. We assume this same approach for the Pamir languages under analysis here, so that, for example, the Shughni verbal lexeme WINTOW "to see" in (1b,d) has the partial paradigm in (7): the cells realized by WINTOW's synthetic, present-tense forms (those in (7a-f)) are pairings of WINTOW's stem *win-* (or 3sg *wīn*) with an attribute-value matrix that includes a specification for transitive valence (VAL ⟨NP, NP⟩). By contrast, WINTOW's periphrastic, past-tense forms correspond to the cells in (7g-l), which are pairings of the phonologically empty auxiliary verb stem ∅ with an attribute-value matrix whose valence specification includes WINTOW's past participle (VAL ⟨*wīnt*, NP, NP⟩).

The phonological realizations of these twelve cells are as in (8): those of cells (7a-f) are synthetic forms of WINTOW, while those of cells (7g-l) are forms of the past-tense auxiliary destined for combination with WINTOW's past participle. This difference between the present-tense cells and the past-tense cells in a verbal lexeme's paradigm is common to all of the Pamir languages. We propose that this difference is effected by a property co-occurrence restriction and rule of referral which are shared by all of the Pamir languages.

[8] HIPPISLEY / STUMP (2010) demonstrate that although the Pamir languages have all nearly completed the shift from partial ergativity to full accusativity, the paths which this shift has taken vary from language to language.

(7) Cells in the paradigm of the Shughni verb WINTOW "to see"

Present-tense cells		Past-tense cells	
a. ⟨*win*, [MPS {1sg pres}; LXM WINTOW; CAT V[–aux]; VAL ⟨NP, NP⟩]⟩		g. ⟨∅, [MPS {1sg past}; LXM WINTOW; CAT V[+aux]; VAL ⟨*wīnt*, NP, NP⟩]⟩	
b. ⟨*win*, [MPS {2sg pres}; LXM WINTOW; CAT V[–aux]; VAL ⟨NP, NP⟩]⟩		h. ⟨∅, [MPS {2sg past}; LXM WINTOW; CAT V[+aux]; VAL ⟨*wīnt*, NP, NP⟩]⟩	
c. ⟨*wīn*, [MPS {3sg pres}; LXM WINTOW; CAT V[–aux]; VAL ⟨NP, NP⟩]⟩		i. ⟨∅, [MPS {3sg past}; LXM WINTOW; CAT V[+aux]; VAL ⟨*wīnt*, NP, NP⟩]⟩	
d. ⟨*win*, [MPS {1pl pres}; LXM WINTOW; CAT V[–aux]; VAL ⟨NP, NP⟩]⟩		j. ⟨∅, [MPS {1pl past}; LXM WINTOW; CAT V[+aux]; VAL ⟨*wīnt*, NP, NP⟩]⟩	
e. ⟨*win*, [MPS {2pl pres}; LXM WINTOW; CAT V[–aux]; VAL ⟨NP, NP⟩]⟩		k. ⟨∅, [MPS {2pl past}; LXM WINTOW; CAT V[+aux]; VAL ⟨*wīnt*, NP, NP⟩]⟩	
f. ⟨*win*, [MPS {3pl pres}; LXM WINTOW; CAT V[–aux]; VAL ⟨NP, NP⟩]⟩		l. ⟨∅, [MPS {3pl past}; LXM WINTOW; CAT V[+aux]; VAL ⟨*wīnt*, NP, NP⟩]⟩	

(8) Realizations of the cells in (7)

a.	*win-um*	g.	*=um*
b.	*win-i*	h.	*=at*
c.	*wīn-t*	i.	*=i*
d.	*win-ām*	j.	*=ām*
e.	*win-et*	k.	*=et*
f.	*win-en*	l.	*=en*

A language's property cooccurrence restrictions define the matrix of cells constituting each lexeme's paradigm. We propose that the Pamir languages share the property cooccurrence restriction in (9), which guarantees that the incidence of present-tense cells such as (7a-f) in a verbal paradigm will systematically correspond with the incidence of past-tense cells such as (7g-l). In (9), the notation "σ:{pres}" represents a morphosyntactic property set σ of which {pres} is a subset; the notation σ/{past} represents a well-formed morphosyntactic property set that is like σ except insofar as its tense specification is "past"; and the notation "⟨*a b*⟩ ⊕ ⟨*c d*⟩" represents the sequence ⟨*a b c d*⟩.

(9) A property cooccurrence restriction shared by the Pamir languages

For each cell $\langle X, \begin{bmatrix} \text{MPS} & \sigma\text{:}\{\text{pres}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[–aux]} \\ \text{VAL} & \langle Z \rangle \end{bmatrix} \rangle$ in the paradigm of a lexeme L,

there is a corresponding cell $\langle \varnothing, \begin{bmatrix} \text{MPS} & \sigma/\{\text{past}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[+aux]} \\ \text{VAL} & \langle Z \rangle \oplus \langle \begin{bmatrix} \text{MPS} & \sigma/\{\text{past pple}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[–aux]} \\ \text{VAL} & \langle Z \rangle \end{bmatrix} \rangle \end{bmatrix} \rangle$.

We further propose that in each of the Pamir languages, the realization of the past-tense cells induced by (9) is effected by means of the rule of referral in (10). This rule relates the inflection of the past-tense agreement auxiliary (whose stem is phonologically empty) to the present-tense inflection of the copula (whose stem is likewise phonologically empty).

(10) A rule of referral shared by the Pamir languages

The cell $\langle \varnothing, \begin{bmatrix} \text{MPS} & \sigma\text{:}\{\text{past}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[+aux]} \\ \text{VAL} & \langle Y \rangle \end{bmatrix} \rangle$ has the same realization as

the cell $\langle \varnothing, \begin{bmatrix} \text{MPS} & \sigma/\{\text{pres}\} \\ \text{LXM} & \text{copula} \\ \text{CAT} & \text{V[+aux]} \\ \text{VAL} & \langle Z \rangle \end{bmatrix} \rangle$.

Under this assumption, the differences among Yazgulyam, Bartangi, Shughni, and Oroshori are entirely confined to their specific rules of exponence. Consider each of these languages in turn.

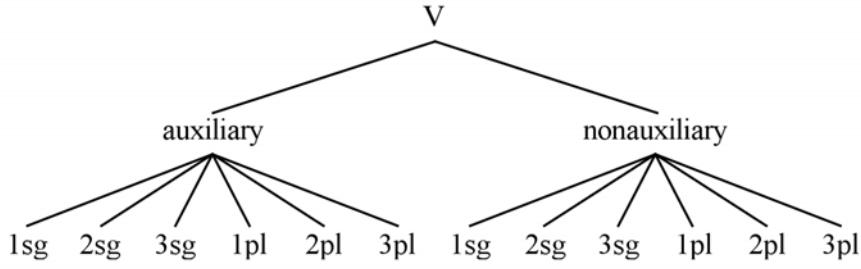
3.1 Oroshori

Oroshori has the simplest verb morphology of our four representative languages. All verbs (including the copula and all nonauxiliary verbs) have synthetic present-tense forms expressing person/number agreement; all verbs have periphrastic past-tense forms in which person/number agreement is expressed by a clitic form identical to the corresponding present-tense form of the copula. The grammatical distinctions that underlie subject-agreement inflection in Oroshori are schematized in Figure 1; this subject-agreement inflection is realized by the rules of exponence in (11).

Rules (11a,d,f) apply both to the copula and to nonauxiliary verbs; rules (11b,g) apply only to the copula; and rules (11c,e) apply only to nonauxiliary verbs. No rule is sensitive to the valence specification of the cell that it realizes. Every form of the past-tense agreement auxiliary is deduced from the corresponding form of the copula by the rule of referral in

(10). The 2sg present and 3sg past are exponentless. (See (2d), (3d).) All exponentless cases are assumed to be handled by the Identity Function Default (STUMP 2001:53), which states that the least narrow rule returns the stem only, by default: X for [CAT V[–aux]] and ∅ for [CAT V[+aux]].

Figure 1. Grammatical distinctions underlying subject-agreement inflection in Oroshori



(11) Oroshori rules of exponence

a. $\langle X, \begin{bmatrix} \text{MPS} & \sigma\text{:}\{1\text{ sg}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V} \end{bmatrix} \rangle \Rightarrow$ X*um.*

b. $\langle \varnothing, \begin{bmatrix} \text{MPS} & \sigma\text{:}\{2\text{ sg}\} \\ \text{LXM} & \text{copula} \\ \text{CAT} & \text{V[+aux]} \end{bmatrix} \rangle \Rightarrow$ =*at.*

c. $\langle X, \begin{bmatrix} \text{MPS} & \sigma\text{:}\{3\text{ sg}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[–aux]} \end{bmatrix} \rangle \Rightarrow$ X*t.*

d. $\langle X, \begin{bmatrix} \text{MPS} & \sigma\text{:}\{\text{pl}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V} \end{bmatrix} \rangle \Rightarrow$ X*an.*

e. $\langle X, \begin{bmatrix} \text{MPS} & \sigma\text{:}\{2\text{ pl}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[–aux]} \end{bmatrix} \rangle \Rightarrow$ X*at.*

f. $\langle X, \begin{bmatrix} \text{MPS} & \sigma\text{:}\{2\text{ pl}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V} \end{bmatrix} \rangle \Rightarrow$ X*af.*

g. $\langle \varnothing, \begin{bmatrix} \text{MPS} & \sigma\text{:}\{3\text{ pl }\} \\ \text{LXM} & \text{copula} \\ \text{CAT} & \text{V[+aux]} \end{bmatrix} \rangle \Rightarrow$ =*af.*

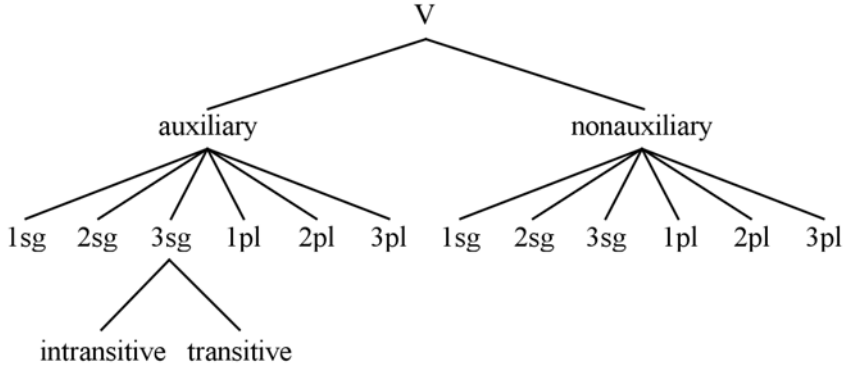
3.2 Shughni

Shughni introduces one type of valence sensitivity: special ergative agreement in the third-person singular of transitive verbs in the past tense. Thus, the grammatical distinctions underlying subject-agreement inflection in Shughni are schematized in Figure 2, and this inflection is realized by the Shughni rules of exponence in (12).

Rules (12a,f,g,h) apply both to the copula and to nonauxiliary verbs; rule (12c) applies only to the copula; and rules (12b,d) apply only to nonauxiliary verbs. Rule (12e) is special: it overrides the rules of referral in (10), applying to the phonologically empty stem of the past-tense auxiliary to express third-person singular subject agreement in the realization of transitive verbs; thus, unlike all other forms of the past-tense auxiliary in Shughni, the realization of the cell in (12e) is not syncretized with a corresponding present-tense form of

the copula. Because of (12e), transitive verbs exhibit a third-person singular agreement auxiliary in the past tense even though intransitive verbs do not; the examples in (13) illustrate.

Figure 2. Grammatical distinctions underlying subject-agreement inflection in Shughni



(12) Shughni rules of exponence

a. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{1\ \text{sg}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V} \end{bmatrix} \rangle \Rightarrow$ X*um*.

b. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{2\ \text{sg}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[–aux]} \end{bmatrix} \rangle \Rightarrow$ X*i*.

c. $\langle \varnothing, \begin{bmatrix} \text{MPS} & \sigma:\{2\ \text{sg}\} \\ \text{LXM} & \text{copula} \\ \text{CAT} & \text{V[+aux]} \end{bmatrix} \rangle \Rightarrow$ =*at*.

d. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{3\ \text{sg}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[–aux]} \end{bmatrix} \rangle \Rightarrow$ X*t*.

e. $\langle \varnothing, \begin{bmatrix} \text{MPS} & \sigma:\{3\ \text{sg}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[+aux]} \\ \text{VAL} & \langle \text{NP, NP...} \rangle \end{bmatrix} \rangle \Rightarrow$ =*i*.

f. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{1\ \text{pl}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V} \end{bmatrix} \rangle \Rightarrow$ X*ām*.

g. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{2\ \text{pl}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V} \end{bmatrix} \rangle \Rightarrow$ X*et*.

h. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{3\ \text{pl}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V} \end{bmatrix} \rangle \Rightarrow$ X*en*.

(13) Shughni

a. Past-tense intransitive:
Yā nos-t.
she sit.down.FEM-PAST.PPLE
"She sat down."

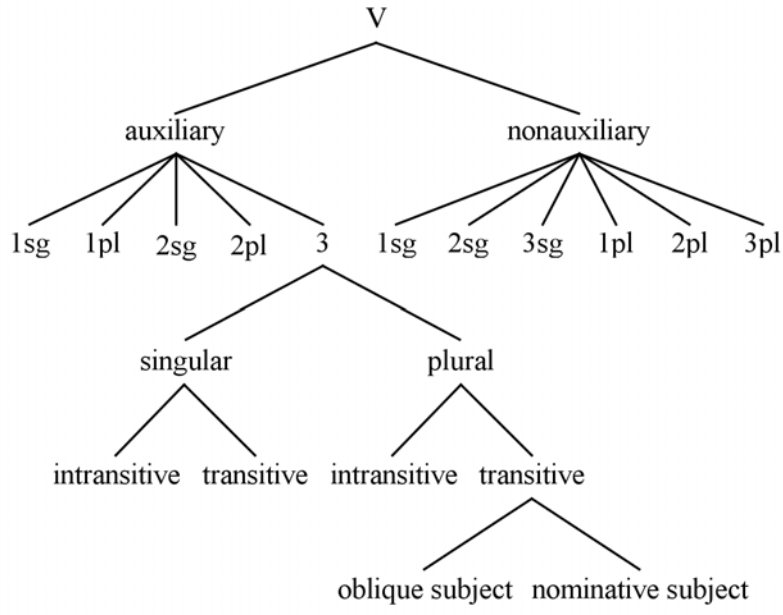
b. Past-tense transitive:[9]
Yā=yi kud wīn-t.
she=3SG dog see-PAST.PPLE
"She saw a dog."

[9] Note that a rule of sandhi inserts *y* to break up vowel hiatus before the subject-agreement clitic.

3.3 Bartangi

Bartangi past-tense verb inflection exhibits two types of sensitivity to valence: like Shughni, it exhibits special ergative agreement (and not merely in the third-person singular, but in the third-person plural as well); in addition, in the third-person plural inflection of transitive verbs, it exhibits covariation of agreement marking with subject case (which may be nominative or oblique). (See (2b), (3b).) Thus, the grammatical distinctions underlying subject-agreement inflection in Bartangi are schematized in Figure 3.

Figure 3. Grammatical distinctions underlying subject-agreement inflection in Bartangi



This inflection is realized by the Bartangi rules of exponence in (14). Rules (14a,c,f,g,h) apply both to the copula and to nonauxiliary verbs, and rules (14b,d) apply only to nonauxiliary verbs. Rules (14e,i) are special: they override (10), applying to the past-tense auxiliary to express third-person agreement in the realization of transitive verbs; thus, unlike all other forms of the past-tense auxiliary in Bartangi, the realizations introduced by (14e,i) are not syncretized with corresponding forms of the copula (whose third-person inflection is not effected by (14e,i) because its VAL specification is not transitive). In addition, the nominative case required of the first member of the VAL list associated with the third-person plural rule (14h) guarantees that the clitic introduced by rule (14i) is the only possible expression of third-person plural subject agreement in the double-oblique construction even though either (14h) or (14i) may realize subject agreement in the nominative+oblique construction; the examples in (15) illustrate.

(14) Bartangi rules of exponence

a. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{1\ \text{sg}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V} \end{bmatrix} \rangle \Rightarrow$ X*um*.

b. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{2\ \text{sg}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[–aux]} \end{bmatrix} \rangle \Rightarrow$ X*i* or X.

c. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{2\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V} \end{bmatrix} \rangle \Rightarrow$ X*at*.

d. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{3\ \text{sg}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[–aux]} \end{bmatrix} \rangle \Rightarrow$ X*t*.

e. $\langle \varnothing, \begin{bmatrix} \text{MPS} & \sigma:\{3\ \text{sg}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[+aux]} \\ \text{VAL} & \langle \text{NP, NP...} \rangle \end{bmatrix} \rangle \Rightarrow$ =*i*.

f. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{1\ \text{pl}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V} \end{bmatrix} \rangle \Rightarrow$ X*an*.

g. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{2\ \text{pl}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V} \end{bmatrix} \rangle \Rightarrow$ X*af*.

h. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{3\ \text{pl}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V} \\ \text{VAL} & \langle \text{NP:nom...} \rangle \end{bmatrix} \rangle \Rightarrow$ X*an*.

i. $\langle \varnothing, \begin{bmatrix} \text{MPS} & \sigma:\{3\ \text{pl}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[+aux]} \\ \text{VAL} & \langle \text{NP, NP...} \rangle \end{bmatrix} \rangle \Rightarrow$ =*af*.

(15) Bartangi (PAYNE 1980:166)

a. *Uf=af*
they.OBL=AUX.3PL

b. **Uf=an*
they.OBL=AUX.3PL

c. *Wāδ=an*
they.NOM=AUX.3PL

d. *Wāδ=af*
they.NOM=AUX.3PL

ik-dif *ǰinaw* *kitob* *xu-ri* *zoxč* *vud*
these-same as book REFL-for buy.PERF.PPLE be.PAST.PPLE

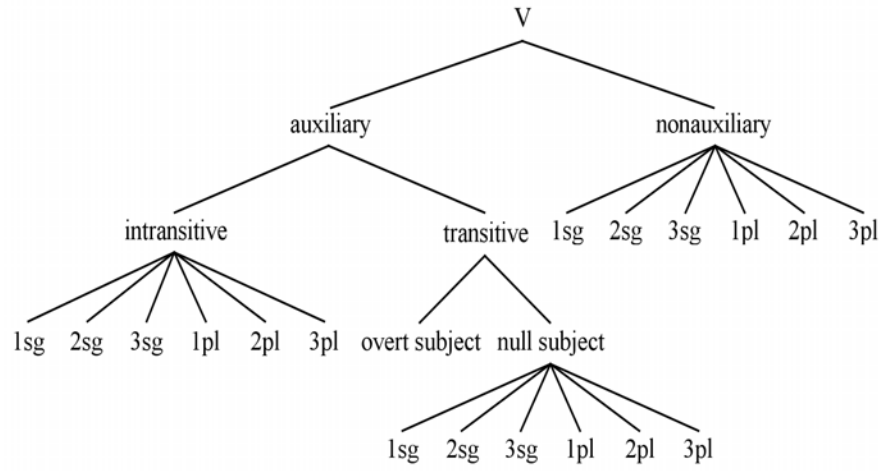
"They had bought themselves the same kind of books."

3.4 Yazgulyam

Yazgulyam past-tense verb inflection exhibits two types of sensitivity to valence: like Shughni and Bartangi, it exhibits special ergative agreement (in both the singular and the plural of the third person, as in Bartangi); in addition, it exhibits clitic complementarity with overt transitive subjects. Thus, the grammatical distinctions underlying subject-agreement inflection in Yazgulyam are schematized in Figure 4, and this inflection is realized by the rules of exponence in (16).

Rule (16l) applies both to the copula and to nonauxiliary verbs, rules (16b,d,i,k) apply only to the copula, and rules (16a,c,e,h,j) only to nonauxiliary verbs. Rules (16f,g,m) are special: they determine the expression of the past-tense auxiliary in the realization of transitive verbs. Because (16f,m) override the rule of referral in (10), the realizations they introduce for the past-tense auxiliary are not syncretized with corresponding forms of the copula.

Figure 4. Grammatical distinctions underlying subject-agreement inflection in Yazgulyam



(16) Yazgulyam rules of exponence

a. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{1\ \text{sg}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[–aux]} \end{bmatrix} \rangle \Rightarrow$ X*in*.

b. $\langle \varnothing, \begin{bmatrix} \text{MPS} & \sigma:\{1\ \text{sg}\} \\ \text{LXM} & \text{copula} \\ \text{CAT} & \text{V[+aux]} \end{bmatrix} \rangle \Rightarrow$ =*əm*.

c. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{2\ \text{sg}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[–aux]} \end{bmatrix} \rangle \Rightarrow$ X*ay*.

d. $\langle \varnothing, \begin{bmatrix} \text{MPS} & \sigma:\{2\ \text{sg}\} \\ \text{LXM} & \text{copula} \\ \text{CAT} & \text{V[+aux]} \end{bmatrix} \rangle \Rightarrow$ =*at*.

e. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{3\ \text{sg}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[–aux]} \end{bmatrix} \rangle \Rightarrow$ X*t*.

f. $\langle \varnothing, \begin{bmatrix} \text{MPS} & \sigma:\{3\ \text{sg}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[+aux]} \\ \text{VAL} & \langle[\text{pro}], \text{NP...}\rangle \end{bmatrix} \rangle \Rightarrow$ =*ay*.

g. $\langle \varnothing, \begin{bmatrix} \text{MPS} & \{\text{PER}:\alpha, \text{NUM}:\beta\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[+aux]} \\ \text{VAL} & \langle \text{NP}_1[\text{-pro}], \text{NP}_2\text{...}\rangle \end{bmatrix} \rangle$ is unrealized.

h. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{1\ \text{pl}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[–aux]} \end{bmatrix} \rangle \Rightarrow$ X*əm*.

i. $\langle \varnothing, \begin{bmatrix} \text{MPS} & \sigma:\{1\ \text{pl}\} \\ \text{LXM} & \text{copula} \\ \text{CAT} & \text{V[+aux]} \end{bmatrix} \rangle \Rightarrow$ =*an*.

j. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{2\ \text{pl}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[–aux]} \end{bmatrix} \rangle \Rightarrow$ X*it*.

k. $\langle \varnothing, \begin{bmatrix} \text{MPS} & \sigma:\{2\ \text{pl}\} \\ \text{LXM} & \text{copula} \\ \text{CAT} & \text{V[+aux]} \end{bmatrix} \rangle \Rightarrow$ =*əf*.

l. $\langle X, \begin{bmatrix} \text{MPS} & \sigma:\{3\ \text{pl}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V} \end{bmatrix} \rangle \Rightarrow$ X*an*.

m. $\langle \varnothing, \begin{bmatrix} \text{MPS} & \sigma:\{3\ \text{pl}\} \\ \text{LXM} & \text{L} \\ \text{CAT} & \text{V[+aux]} \\ \text{VAL} & \langle[\text{pro}], \text{NP...}\rangle \end{bmatrix} \rangle \Rightarrow$ =*əf*.

The rule of defectiveness in (16g) overrides (16f,m) as well as (10), guaranteeing that the past-tense auxiliary will be realized only in the presence of an empty subject (= [pro], under our assumptions)[10]; the examples in (17) illustrate.

(17) Yazgulyam (PAYNE 1980:176)

a.	*Ž-mon=ay*	[pro]	*wint.*
	ACC-I=AUX.3SG	3SG	see.PAST.PPLE
	"He saw me."		
b.	*Way* (* *=ay*)	*ž-mon*	*wint.*
	he (*= AUX.3SG)	ACC-I	see.PAST.PPLE
	"He saw me."		

4. Conclusion

We have shown that the Pamir languages (here represented by Oroshori, Shughni, Bartangi and Yazgulyam) are alike in possessing a past-tense auxiliary clitic expressing subject agreement. The precise properties of this clitic do, however, vary from language to language; the dimensions of this variation relate to the kinds of valence sensitivity that this auxiliary exhibits. In all of the Pamir languages, the forms of the past-tense agreement clitic are ordinarily syncretic with the present-tense forms of the copula, but (i) in Shughni, Bartangi and Yazgulyam, this clitic exhibits special ergative agreement in the inflection of transitive verbs, (ii) in Bartangi, its form covaries with the case (nominative or oblique) of the subject of a transitive verb, and (iii) in Yazgulyam, its presence in the inflection of a transitive verb is contingent on the presence of an empty subject.

We have proposed an explicit formal account of the morphology of the past-tense auxiliary. In our analysis, the differences among Oroshori, Shughni, Bartangi and Yazgulyam are confined to one domain of their morphological architecture. They are alike in sharing both a property cooccurrence restriction defining the structure of their verbal paradigms (= (9)) and a rule of referral defining the default syncretism of the forms of the past-tense auxiliary with the copula's present-tense forms (= (10)). Their differences reside in the inventories of rules of exponence defining the phonological realization of the past-tense auxiliary.

Abbreviations

1	first person	LXM	lexeme	PL	plural
2	second person	MPS	morphosyntactic property set	PPLE	participle
3	third person	NOM	nominative	PRES	present
ACC	accusative	NUM	number	REFL	reflexive
AUX	auxiliary	OBL	oblique	SG	singular
CAT	syntactic category	PER	person	VAL	valence
FEM	feminine	PERF	perfect		

[10] See SIMS 2011 for discussion of similar instances of stipulated defectiveness in other languages.

References

BONAMI, Olivier, and Pollet SAMVELIAN 2008: "Degrees of Periphrasis in Persian Conjugation." Paper presented at Décembrettes 6, Bordeaux.

—— 2009: "Inflectional Periphrasis in Persian." In: Stefan MÜLLER (ed.): *Proceedings of the HPSG 2009 Conference*. Stanford: CSLI Publications, pp. 26-46.

DODYXUDOEVA, Lejla R. 1988: *Šugnanskij glagol v istoričeskom osveščenii*. Dushanbe: Donish.

ĖDEL'MAN, Džoj I. 1966: *Jazguljamskij jazyk*. Moscow: Nauka.

—— 2000: "Jazguljamskij jazyk." In: Vera S. RASTORGUEVA, Džoj I. ĖDEL'MAN, Vjačeslav V. MOŠKALO (eds.): *Jazyki mira: Iranskie jazyki. III. Vostočnoiranskie jazyki*. Moscow: Indrik, pp. 274-290.

HIPPISLEY, Andrew, and Gregory STUMP 2010: "Alternative Trajectories toward Accusativity in the Pamir Languages." Paper presented at the 43rd Annual Meeting of the Societas Linguistica Europaea, Vilnius University, Lithuania, September 3-5 2010.

KARAMXUDOEV, Nodir 1973: *Bartangskij jazyk.* Dushanbe: Donish.

KURBANOV, Xuškadam 1976: *Rošorvskij jazyk*. Dushanbe: Donish.

PAYNE, John R. 1980: "The Decay of Ergativity in Pamir Languages." In: *Lingua* 51, pp. 147-186.

SIMS, Andrea 2011: "On Some Parallels between Defective and Normal Inflection." Paper presented at the Quantitative Measures in Morphology & Morphological Development Workshop, University of California, San Diego, January 16-17, 2011.

STUMP, Gregory T. 2001: *Inflectional Morphology: A theory of paradigm structure*. Cambridge: Cambridge University Press.

WENDTLAND, Antje 2008: "The Position of the Pamir Languages within East Iranian." In: *Orientalia Suecana* 58, pp. 172-188.

Table of Contents

Editors' Preface 7

Part I. Historical and Comparative Iranian Syntax

Definite Articles in Bactrian
SALOUMEH GHOLAMI 11

Differential Object Marking in Bactrian
NICHOLAS SIMS-WILLIAMS 23

The Emergence and Development of the Sogdian Perfect
ANTJE WENDTLAND 39

Pronouns as Verbs, Verbs as Pronouns:
Demonstratives and the Copula in Iranian
AGNES KORN 53

Counterfactual Mood in Iranian
ARSENIY VYDRIN 71

Part II. The Morpho-Syntax of Lesser-known Iranian Languages

A Glance at the Deixis of Nominal Demonstratives in Iranian Taleshi
DANIEL PAUL 89

Valence Sensitivity in Pamirian Past-tense Inflection:
A Realizational Analysis
GREGORY STUMP, ANDREW HIPPISLEY 103

Participle-Converbs in Iron Ossetic:
Syntactic and Semantic Properties
OLEG BELYAEV, ARSENIY VYDRIN 117

On Negation, Negative Concord,
and Negative Imperatives in Digor Ossetic
DAVID ERSCHLER, VITALY VOLK 135

Part III. Linguistics of Modern Persian

Reducing the Number of Farsi Epenthetic Consonants
NAVID NADERI, MARC VAN OOSTENDORP 153

On Direct Objects in Persian:
The Case of the Non-*râ*-Marked DOs
SHADI GANJAVI 167

Finite Control in Persian
MOHAMMADREZA PIROOZ 183

Bilingual Speech of Highly Proficient Persian-French Speakers
FARZANEH DERAVI, JEAN-YVES DOMMERGUES 197

List of Contributors 213