

Emergence of Embedded Relative Clauses in Old Persian

Yexin Qu (yq248@cornell.edu)

0 Introduction

Some old Indo-European languages like Vedic and Hittite do not make productive use of embedded postnominal relative clauses¹, unlike modern Romance and modern Germanic languages, where the head noun and the *verbed* relative clause form a complex NP.

Vedic and Hittite strategy:

- Correlative: [_{CorC} rel-pn ...]_i ... NP_i ...

- (1) [_{CorC} yéna gácchathah sukṛto duroṇám]_i
REL.INS.SG go.PRES.2DU good-doer.GEN.SG home.ACC.SG

téna_i narā vartír asmábhya yātam
DEM.INS.SG man.VOC.DU course.ACC.SG 1PL.DAT go.IMP.2DU

“By which (chariot) you go to the home of the good ritual performer, by that, o men, travel your course to us.”² (RV 1.117.02cd)

- (2) [_{CorC} ŠÀ^{BI} KUR^{URU.d}U-tašša=ya=kan kuiēš URU.DIDLI.ĤI.A ŠA
within land Tarhuntassa=PTC=PTC REL.NOM.PL city.NOM.PL of
LUGAL KUR^{URU}ĤATTI ešer ... (list of cities)^{URU}Uppaššanaš]_i
king land Hatti COP.PRET.3PL Uppassana
LÚ.MEŠ MUŠEN.DÛ.A ANA ZAG KUR^{TI}=as=kan ēšzi apūšš_i=a=šši
augurs to border land COP they=also=him
piyanteš
give.PTCP.PL

“And also the cities within the land of Tarhuntassa which were of the king of Hatti... (list of cities), Uppassana, the augurs ((insofar as) one resides in the border territories), they too are given to him.”³ (Bo 86/299 i 68-77)

- Extraposed Relative: NP_i ... [_{RC} rel-pn ...]_i

- (3) huvé vaḥ sudyótmanam suvr̥ktím
call.PRES.MID.1SG 2PL.ENCL one.of.good.brilliance.ACC.SG well-twisted.ACC.SG

viśám agnīm_i átithim suprayásam
clan.GEN.PL Agni.ACC guest.ACC.SG receiving.good.offering.ACC.SG

[_{RC} mitráḥ iva yáḥ didhišáyyaḥ bhút
envoy.NOM.SG like REL.NOM.SG desirable.to.install.NOM.SG become.INJ.3SG

¹By embedded, I mean center-embedded as in example (5). Old Hittite may have embedded relative clauses, cf. discussion in Probert (2006:52-3) and Hock (2015:65-6). Vedic also have some examples of embedding, cf. Hock (1989:111-4) and Jamison (2022).

²All Vedic translations are from Jamison & Brereton (2014), unless noted otherwise.

³All Hittite translations are from the data used for Motter (2023).

deváh ádeve jáne jātávedāḥ]_i
 god.NOM.SG god-directed.LOC.SG people.LOC.SG Jātavedas.NOM

“I call for you upon the one of good brilliance, on Agni, the guest of the clans, who receives well-twisted (hymns), who receives very pleasurable offerings, who, like an envoy, has become desirable to install as god among the god-directed people, as Jātavedas.” (RV 2.4.1)

- (4) nu=za ^dKumarbiš_i GALGA-tar ZI-ni kattan daškizzi
 CONN=REFL Kumarbi wisdom soul-DAT.SG down take.PRES.3SG

[_{RC} UD^{KAM}-an kuiš LÚ ḤUL-an šallanuškizzi]
 day.ACC.SG REL.NOM.SG person evil-ACC.SG raise.PRES.3SG

“Kumarbi takes wisdom into his mind, (he) who raises the day as an evil being.”
 (KUB 33.98+ i 4-5)

Romance and Germanic strategy:

- Embedded Relative: ... [_{NP} N_i [_{RC} rel-pn ...]_i] ...

- (5) The [_{NP} headway_i [_{RC} that we made *t_i*]] was satisfactory. (Schachter 1973, attributed to Brame 1968)

Previous literature has hypothesized various directions of the development of relative clauses, however, no one seemed to believe that PIE had center-embedded postnominal restrictive relative clause, except for Ram-Prasad (2022:167) mentioning the possibility for it to exist in PIE but still marginal, and it was probably innovative.

Ram-Prasad’s (2022) analysis focused on the reanalysis of ambiguous examples which could be interpreted as either a postposed relative clause or a (non-center-)embedded postnominal relative clause (cf. Hettrich 1988:608, Hock 1989:112-3, Davison 2009):

- (6) imám agne śaráṇim mīmṛṣaḥ naḥ
 this.ACC.SG.F Agni.VOC.SG breach.ACC.SG forget.AOR.CAUS.2SG 1PL.GEN.ENCL

imám ádhvānam_i [_{RC} yám ágāma dārát]
 this.ACC.SG.M way.ACC.SG REL.ACC.SG come.AOR.1PL distance.ABL.SG

“This (ritual) breach of ours, Agni—make it forgotten; make us forget this way which we have come on from afar.” (RV 1.31.16ab)

This suggests that the reanalysis of postposed relative clauses to (non-center-)embedded postnominal relative clauses must be independent in the different branches, and center-embedded relative clause must be developed later. This paper will focus on the Indo-Iranian branch, which offers a case study for the development of embedding due to the varying degrees of freedom to embed in the three oldest attested Indo-Iranian languages, namely Vedic, Avestan, and Old Persian, and provide an alternative mechanism for the development of embedded relative clauses in Old Persian.

1 Headedness in Indo-Iranian Relativization

1.1 Headedness

The headedness of a relative construction can be defined in many different ways. For the purpose of this paper, the term headedness is used to describe the headedness of the (cor)relative clause. A (cor)relative clause can be:

1. externally headed: where the head is situated in the host clause (main clause), and the (cor)relative clause does not have an overt head;

[_{Host Clause} ... head ...] [_{RC} rel-pn ...]

2. internally headed: where the head is in the (cor)relative clause without movement;

[_{RC} rel-pn ... head ...]

3. raised headed: where the head is base generated in the (cor)relative clause but moves to the left periphery of the (cor)relative, preceding the relative pronoun.

[_{TopP} head_i [_{RC} rel-pn ... head_T ...]]

Raised headedness is only possible in languages where there is a Topic Phrase projection in (cor)relative clause as such Vedic.

1.2 Vedic

Qu (2020) illustrates that Vedic has all three types:

- (7) tám u stuṣe índram_i [_{RC} yáḥ vídānaḥ]_i
 DEM.ACC.SG PT praise.1SG Indra.ACC.SG REL.NOM.SG know.MP.NOM.

gīrvāhasam gīrbhīḥ yajñāvṛddham
 song-vehicled.ACC.SG song.INS.PL sacrifice-strengthened.ACC.SG

“I will praise him - Indra, as he is known - whose vehicle is songs, who is strengthened by sacrifice along with songs.” (RV 7.21.2ab; externally headed)

- (8) índraḥ [_{CorC} yáḥ śúṣṇam aśúṣam ní
 Indra.NOM REL.NOM.SG Śuṣṇa.ACC.SG insatiable.ACC.SG down
 ávṛṇak] ...
 wretch.IMPF.3SG

“Indra, who wrenched down insatiable Śúṣṇa.” (RV 1.101.2c; raised headed)

- (9) tvé tát naḥ suvédam usríyam
 2SG.LOC DEM.NOM.SG 1PL.DAT.ENCL easy.to.find.NOM.SG.N reddish.NOM.SG
 vásu [_{RC} yám tvám hinóṣi mártiyam]
 good.NOM.SG REL.ACC.SG 2SG.NOM drive.PRES.2SG mortal.ACC.SG

“In you is that ruddy good [=cattle] easy to find for us (and for) the mortal whom you urge on.” (RV 8.4.16cd; internally headed)

1.3 Avestan

Dashti (2022) has demonstrated that Avestan has type 1 and 2:

- (10) yazamaidē ahurəm mazdām_i [_{RC} yō gām=cā
praise.PRES.1PL Ahura.ACC Mazda.ACC REL.NOM.SG cow.ACC=and
ašəm=cā dāt_i]
truth.ACC=and create.AOR.3SG

“We praise the wise Ahura, who created the cow and truth.”⁴ (Yasna 37.1; OAv. externally headed)

- (11) [_{CorCP} yā vō vaṇuhīš ahurō mazdā nāmam
REL.ACC.PL 2PL.DAT best.VOC.PL Ahura.NOM Mazda.NOM name.ACC.PL
dadāt_i tāiš_i vā yazamaidē ...
give.INJ.3SG DEM.INS.PL 2PL.ACC praise.PRES.1PL

“The names which Ahura Mazda, o best ones, gave you, with them we praise you...” (Yasna 38.4; OAv. internally headed)

1.4 Old Persian

Old Persian has types 1 and 3:

- (12) pasāva hauv kāra_i ašiyava [_{RC} tayam Vahyazdāta
thereupon DEM army set.forth.PAST.3SG REL.ACC.SG Vahyazdata.NOM
frāišya abiy Vivānam hamaranam cartanay_i]
sent.forth.PERF.3SG against Vivana.ACC battle.ACC.SG make.INF

“Thereupon the army marched off, which Vahyazdata had sent forth against Vivana to join battle.”⁵ (DB 3.59-60; externally headed)

- (13) [_{CorC} kāra Pārsa utā Māda haya upā
army.NOM.SG Persian.NOM.SG and Median.NOM.SG REL.NOM.SG with
mām āha]_i hauv_i kamnam āha
1SG.ACC COP.PAST.3SG DEM.NOM.SG small.NOM.SG COP.PAST.3SG

“The Persian and Median army which was with me, this was a small (force).” (DB 2.18-9; raised headed)

2 Izafe Stages

Hale (1989) pointed out that the relationship between the structure of Old Persian relative clauses the izafe-construction must be investigated. Meyer (2015) separated the Iranian izafe development into three stages:

Stage 1: nominal relative clause;

⁴Example (10) and (11) are translated by Dashti (2022).

⁵All Old Persian translations are from Kent (1989).

Stage 2: nominal relative clause with case attraction;

Stage 3: true izafe with the relative pronoun grammaticalized.

2.1 Vedic

Jamison (2022) examined a similar structure in Vedic, all of the examples of which belong to Stage I. Example (7) is repeated here as example (14):

- (14) *tám* *u* *stuṣe* *índram_i* [_{RC} *yáh* *vídānaḥ_i*]
DEM.ACC.SG PT praise.1SG Indra.ACC.SG REL.NOM.SG know.MP.NOM.

gīrvāhasam *gīrbhīḥ* *yajñávṛddham*
song-vehicled.ACC.SG song.INS.PL sacrifice-strengthened.ACC.SG

“I will praise him - Indra, as he is known - whose vehicle is songs, who is strengthened by sacrifice along with songs”⁶ (RV 7.21.2ab; Stage 1)

2.2 Old Avestan

Meyer (2015) showed that examples in both Stage I and Stage II can be found in Old Avestan:

- (15) *maṭ* *vā* *padāiš_i* [_{RC} *yā* *frasrūtā* *īzaiiā_i*]
with 2PL.ACC footstep.INS.PL REL.NOM.PL famous.NOM.PL Iža.GEN
pairijasāi
walk-around.SUBJ.1SG

“with the footsteps, which (are) famous (as those) of Iža, I shall walk around you.” (Y. 50.8; OAv. Stage 1)

- (16) *tāiš* *šiiiaθanāiš_i* [_{RC} *yāiš* *vahištāiš_i*]
DEM.INS.PL deed.INS.PL REL.INS.PL best.INS.PL

“with the best (of) deeds.” (Y.35.4; OAv, Stage 2)

2.3 Young Avestan

Meyer (2015) also showed that examples of all stages can be found in Young Avestan:

- (17) *miθrəm_i* ... [_{RC} *yō* *nōit* *kahmāi* *aiβi.draoxdō_i*]
Mithra.ACC REL.NOM.SG NEG INDEF.DAT.SG PV.to.be.deceived.NOM.SG

“Mithra..., who (is) not to be deceived by anyone.” (Yt. 10.17; YAv. Stage 1)

- (18) *miθrəm_i* [_{RC} *yim* *vouro.gaoiiaotīm_i*]
Mithra.ACC.SG REL.ACC.SG wide-pastured.ACC.SG

“Mithra with wide pastures.” (Yt. 10.1; YAv, Stage 2)

⁶Translation from Jamison’s Rigveda translation commentary (2024-1-6)

- (19) puθrəm_i [I_Z yaṭ pouruśaspahē]_i
 son.ACC.SG YAT Pouruśaspa.GEN.SG
 “the son of Pouruśaspa.” (Yt. 5.18; YAv, Stage 3)

2.4 Old Persian

Meyer (2015) also showed that examples of all stages can be found in Old Persian:

- (20) adam Bardiya_i amiy [R_C haya Kūrauś
 1SG.NOM Smerdis.NOM.SG COP.PRES.1SG REL.NOM.SG Cyrus.GEN.SG
 puça Kabūjiyahyā brātā]_i
 son.NOM.SG Cambyses.GEN.SG brother.NOM.SG
 “I am Smerdis, the son of Cyrus, brother of Cambyses.” (DB 1.39; OP, Stage 1)

- (21) adam . . . avam Gaumātam_i [R_C tayam magum
 1SG.NOM DEM.ACC.SG Gaumata.ACC.SG REL.ACC.SG magian.ACC.SG
 avājanam]_i
 slay.PAST.1SG
 “I . . . slew that Gaumata, the Magian.” (DB 1.56–7; OP, Stage 2)

- (22) ustacanām_i [I_Z taya aθangainām]_i
 staircase.ACC.SG TAYA of-stone.ACC.SG
 “this stone staircase.” (A²Sc 5-6; OP, Stage 3)

3 Analysis

The modern Romance and German type of relative clause differs from the Vedic and Hittite type in two senses: 1. sentential embedding, 2. raised-headedness

The only candidate for embedding in Old Indo-European languages is appositive nominal relative clause, namely izafe Stage 1 (cf. Qu 2023). But izafe Stage 1 can only provide sentential embedding, not raised-headedness, since the head can be in any case but the relative pronoun is always nominative.

- (23) tám u stuṣe índram_i [R_C yáḥ (*índram_i)
 DEM.ACC.SG PT praise.1SG Indra.ACC.SG REL.NOM.SG
 vídānah]_i
 know.MP.NOM.
 “I will praise him - Indra, as he is known (RV 7.21.2a)

This explains why Vedic embeddings are always izafe Stage 1.

If a language has izafe stage II, which are *embedded* verbless relative clauses whose head nouns’ cases match with the relative clause, but it does not have raised headed (cor)relative clauses, then it is difficult to insert a verb into the izafe stage 2 configuration, since [head rel-pn . . . V] is not a structure for relative clause anywhere in the sentence.

This explains why Avestan does not have verbed embedded relative clauses.

If a language, like Old Persian, has both the izafe stage II structures, which are *embedded* verbless relative clauses whose head nouns' cases match with the relative clause, and also the raised head (cor)relative clauses, which are non-embedded (mostly) *verbed* (cor)relative clauses whose head nouns precede the relative pronoun, then *embedded postnominal verbed relative clauses* can be developed through a combination the usage of these two aforementioned structures.

[_{RC} k̄ara P̄arsa utā Māda haya upā mām āha] is underlyingly

[[_i k̄ara P̄arsa utā Māda]_i [_{RC} haya [~~k̄ara P̄arsa utā Māda~~]_r upā mām āha]]

thus, an embedded structure like [Gaumātam] [tayam magum] can be reanalyzed as [Gaumātam_i, [tayam Gaumātam_r magum]], which is an embedded relative clause.

This provides an explanation for the emergence of Old Persian embedded verbed relative clauses.

- (24) iyam dahyāuš P̄arsa_i [_{RC} taya adam dārayāmiy]_i
 this.NOM.SG country.NOM.SG Persia.NOM REL.ACC.SG 1SG.NOM hold.PRES.1SG
 [_{IZ} haya uvaspā umartiyā]_i manā бага
 REL.NOM.SG good-horsed.NOM.SG good-manned.NOM.SG 1SG.GEN god.NOM.SG
 vazraka Auramazdā frābara
 great.NOM.SG Ahuramazda.NOM bestow.PAST.3SG

“This country Persia which I hold, which is possessed of good horses, of good men, upon me the Great God Ahuramazda bestowed (it).” (AmH 5-7)

	Izafe stage	Raised headedness	Verbed embedded RC
Vedic	I	Yes	No
Old Avestan	II	No	No
Young Avestan	III	No	No
Old Persian	III	Yes	Yes

4 Future Work

This case study exemplifies how analogy can apply to a syntactic structure and offers a potential explanation for the emergence of embedded relative clauses in other Indo-European branches. Since embedded relative clauses are attested in other branches such as Greek and Latin:

- (25) δαμόνι' οὐκ ἄν τις τοι ἀνὴρ_i [_{RC} ὄς
 strange.man.VOC.SG NEG PT IND.NOM.SG 2SG.DAT man.NOM.SG REL.NOM.SG
 ἐνάσιμος εἶη]_i |
 right-minded.NOM.SG COP.PRES.OPT.3SG

ἔργον ἀτιμήσειε μάχης, ...
 work.ACC.SG dishonor.AOR.OPT.3SG battle.GEN.SG

“Strange man, no one who is right-minded would make light of your work in battle.” (Z.521-2)

- (26) Agedum istum_i ostende [RC quem conscripsi]_i
 come.on that.ACC.SG show.PRES.IMP.2SG REL.ACC.SG compose.PERF.2SG
 syngraphum_i
 contract.ACC.SG

“Come on, show that contract which you wrote.” (Plautus *As.* 746)

The relationship between verbed relative clauses and izafe-like structures in these branches may show how embedded relative clauses developed in these branches, if embedded relative clauses were innovated in these branches.

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