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The evolution of finite complementation in Tocharian

Olav Hackstein

The present article explores the origins of finite complementation in Tocharian, employing methods of syntactic reconstruction that focus on the synchronic coexistence of source and target structures as well as the persistence of source-structure properties (e.g. preposing of relative and complement clauses, resumptive pronouns in correlative and matrix clauses). Like other Indo-European languages, Tocharian exemplifies the conversion of relative-correlative clauses into complement-matrix clauses. Interestingly, interrogative phrases served as an additional source of complementizers. Tocharian also displays an anomalous subtype of complementation, in which verbs of cognition and utterance are followed by a complementizer and direct speech. This construction, which is attested in other Indo-European languages as well, permits two explanations. It is either due to the reduction of a formulaic relative or interrogative clause, used to introduce direct speech, or it exemplifies a widely attested main-clause phenomenon which is pragmatically driven, allowing for greater assertiveness in the semantically dependent complement clause.

1 The rise of finite complementation in Indo-European

Within Indo-European, the zero-embedding of sentential complements after verbs of cognition and utterance is arguably original: it is more pervasive in the prehistory of all Indo-European languages the further

back one goes in time. While many Indo-European languages have developed various forms of indirect speech reporting, restricting zero-embedding to informal and spoken registers, direct speech after utterance verbs remains the overall norm for instance in Anatolian (second-position quotative particle *-wa(r)*), in Vedic (postposed quotative marker and similative *iti* ‘thus’) and in the Modern Iranian and Indo-Aryan languages.

It is the purpose of the present article to explore the evolution of finite complementation in Tocharian, an extinct Indo-European language of Central Asia. Zero-embedding after verbs of cognition and utterance remains especially pervasive in Tocharian, as in the following passages from Tocharian B [1].

(1) Toch. B zero-embedding after verbs of cognition and utterance¹

se pälskanam Ø *waike weñau* ·
 REL think.PRS.3SG.ACT Ø lie tell.SBJV.FUT.1SG.ACT
 Who thinks: ‘I will tell a lie,’

weskemane aišträ Ø *waike weskau* ·
 tell.PTCP.PRS.MP know.PRS.3SG.ACT Ø lie tell.PRS.1SG.ACT
 [and who] in telling it, knows: ‘I’m telling a lie.’

postäm aišträ Ø *waike weñāwa*
 afterwards know.PRS.3SG.ACT Ø lie tell.PST.1SG.ACT
 [and] afterwards knows: ‘I have told a lie’ (PK NS 58 a4; Pinault 1994: 137, 166)

1 The glossing of the textual attestations cited in this article complies with the Leipzig glossing rules, as accessed on Oct. 23, 2011 at <http://www.eva.mpg.de/lingua/resources/glossing-rules.php>. In addition to these, the following abbreviations are used: Ø marks the absence of a complementizer; AOR = aorist; CORREL = correlative demonstrative pronoun; MP = mediopassive; OBL = oblique case; OPT = optative.

The prominence of direct speech and scarcity of indirect speech with utterance verbs is not a random pattern. Givón famously demonstrated the “systematic correlations ... between the semantic structure of complement-taking verbs and the syntactic structure of their complements” (Givón 1980: 333) or, to put it differently, the correlation between the semantics of complement-taking predicates and the strength or looseness of syntactic binding. From Givón’s binding hierarchy, it emerges that speech reporting demands the least amount of syntactic tightness; for a schematic correlation of complement-taking predicates and binding strength, cf. Givón (1980: 369; 2001: 43, 49, 51).

The synchronic propensity of zero-embedding to occur after utterance verbs even in languages that have developed indirect speech-reporting was borne out by subsequent research, cf. e.g. Auer (1998: 288 and 290) on present-day German, who demonstrated the increasing likeliness for non-overtly-embedded main clauses to occur along the scale of ‘hope’ > ‘see’ > ‘know’ > ‘think’ > ‘believe’ > ‘say’.

The effect of the binding hierarchy is not confined to the synchronic distribution across the semantic domains of complement-taking predicates, but also has diachronic effects. Thus the decreased binding strength of verbs of cognition and utterance causes finite complementation to be established latest in these domains. Finite complementation typically develops first in factive adjunct clauses and spreads from there to complement-taking predicates, mostly in the order predicted by Givón’s binding hierarchy.

The above generalizations are widely supported by data from the ancient Indo-European languages. For Latin, Scherer (1975: 236) observed the marked persistence of zero-embedding after verbs of cognition and utterance (“Besonders oft findet sich Parataxe anstelle des A.c.I. bei “glauben”, “wissen” und “sagen”.”) The historical development from Latin to the Romance languages shows that finite complementation (mostly based on originally factive Latin *quod* and factive-causal *quia*) arose **outside** the domain of cognition and utterance verbs.

Hittite similarly bears out the expected chronological layering. Sentential *kuit*-clauses occur first in the domain of adverbial adjuncts in Old Hittite, then gain ground in later stages. In Neo-Hittite, *kuit* expands its function to include indirect statements (e.g. after *know* or

write), but never begins to be used with sentential complements of utterance verbs; for examples see Hoffner & Melchert (2008: 415, 426f.); for the relative chronology of the spread of complementizing *kuit*, cf. Cotticelli-Kurras (1995: 98f.).

The Tocharian situation closely resembles that of Hittite. Complementizing clauses with Toch. B *k_uce*, A *kucne* are especially prominent in the domain of adverbial adjuncts, but are only sparsely used as object complements after (verbal and nominal) predicates. Zero-embedding has clearly remained the norm in Tocharian.

The comparatively rare occurrence of complementizing Toch. B *k_uce*, A *kucne* after speech-act verbs and utterance-transmitting verbs (e.g. *write*, *report*) makes Tocharian an interesting test case for the evolution of finite complementation. The present investigation explores the evolution of finite complementation with complementizing Toch. B *k_uce*, *ce* and Toch. A *kucne*.

2 The methods of syntactic reconstruction

Before turning to the evolution of sentential complementation in Tocharian, some methodological remarks are necessary, given that syntactic reconstruction differs significantly from morphological reconstruction. While the latter concerns the reconstruction of forms and can rely upon sound laws and their reversal, syntactic reconstruction aims at reconstructing patterns of forms,² and thus requires methods that go beyond those customarily employed in morphological reconstruction. Three principal methods are the following.

First, syntactic change need not be confined to the change of patterns alone. It also involves the complex interface between syntax and mor-

2 Cf. in the same vein Winter (1984: 615 = Kleine Schriften II 809): “phonological and morphological reconstruction deal with manifestations of structures (...), whereas syntactic reconstruction (...) is concerned only with generalized patterns.”

phonology and the combined change of syntactic patterns and morphological forms. For instance, the association of constructions and construction markers with semantic, prosodic, and morphological parameters necessitates the inclusion of morphonological reconstruction; an example is the reconstruction of patterns relating to the interface between syntax and prosody in Hackstein (2011). Furthermore, etymology as a method of syntactic reconstruction is not a priori out of the question. It comes into play e.g. in the morphonological reconstruction of construction markers. With due reserve, and heeding the caveat of the marker-structure fallacy (Harris and Campbell 1995: 284), the etymology of construction markers may and often does shed light on the history of the pertinent constructions. For one example, cf. the evolution of interrogative conjunctions from stimulus questions in various Indo-European languages (Hackstein 2004a).

Second, linguistic change often involves incomplete replacement or even non-replacement of older forms and patterns, and syntactic change is no exception in this respect. The sources of syntactic constructions frequently persist, mostly in the guise of anomalies or minor or peripheral patterns or constructions. These then offer important hints for syntactic reconstruction. In the best of all cases, the syntactic prototypes of the target constructions are still attested.

Third, the possibility and likeliness of a postulated syntactic change can be assessed typologically by referring to typological parallels. For further discussion of the latter two points, cf. Hackstein (2004c: 264f.).

3 Types and history of complementizing clauses in Tocharian

In accordance with the three approaches to syntactic reconstruction set out in the previous paragraph, the following sections will explore the source(s) of finite complementation in Tocharian. To begin with, Tocharian attests the synchronic projection of some of the diachronic strata of complementizing clause types. Two basic pathways and source constructions may be discerned: relative-correlative clauses and interrogative clauses.

3.1 *Relative-correlative clauses*

Tocharian attests the reanalysis of relative clauses as complementizing clauses. We find a three-stage development, leading from relative-correlative structures to explicative factive clauses and eventually sentential complementation of complement-taking predicates. In the following, I will illustrate this continuum for Tocharian (3.1.1) and provide parallels from other languages (3.1.2).

3.1.1 Tocharian: from relative to explicative/factive to complementizer

At stage A, the reanalysis of relative clauses as factive clauses is furthered by a peculiarity of the information structure. Prototypical source structures are relative clauses whose nucleus encompasses a proposition and is represented by an abstract noun and/or a correlative pronoun. An information structure of this kind typically causes the focus to shift from the arguments of a given proposition to the proposition itself, thereby converting the former relative into a factive clause. Prototypical are clauses like [2].

(2) Toch. B relative-correlative construction

ce	<i>wessi</i>	<i>(pu)ttewante</i> ³	<i>snai</i>	<i>paille</i>
REL.OBL.SG.N	WE.GEN	Puttewante	without	justice

<i>yāmu</i>	<i>ste</i>
DO.PST.PTCP.NOM.SG.M	BE.COP.PRS.3SG

[That] what Puttewante has done wrongly to us

ce	<i>wat</i>	<i>wāntare</i>	<i>kakāmau</i>
REL.OBL.SG.M	OR	thing.OBL.SG.M	take.PRT.PTCP.NOM.SG.M

3 Reading according to Ching (2011: 67).

ste

be.COP.PRS.3SG

or which item he has taken,

su... *nauṣameṃ* *papaikau*

CORREL.DEM.NOM.SG.M ... before write.PRT.PTCP.NOM.SG.M

ste

be.COP.PRS.3SG

this has been written above. (Cp. 36.28–30, Pinault 1984: 24, 27)

Here, the relative clause (*ce ... yāmu ste*) propositionally conveys the content of the nucleus (*su*) and the object of writing. Due to the semantic overlap between the resumptive pronoun referring to the content of writing (*su*) and the proposition of the relative clause, a reanalysis of the relative clause as an object clause becomes possible, since [2a] propositionally implies [2b]. (Cf. Lühr 1993: 246.)

(2a) What P. has done to us unjustly, has been written above.

(2b) That P. has done us an injustice, has been written above.

[2] provides an example of a typical correlative construction. The relative plus correlative ordering, which is still prominent in Tocharian (cf. Pinault 1997: 465, 467–70), represents an archaism inherited from PIE. Crucially, the relative pronoun *ce* (for *k_uce*) here is governed by the verb *yāmu ste*.

Upon its reanalysis, the factive relative clause occurs at first as an adverbial adjunct to certain complement-taking predicates, e.g. *the fact that, as for the fact that, because of the fact that*.

The factive clause then expands its syntactic function to include the object of certain complement-taking predicates. This pathway of development is well attested and documented for a number of ancient Indo-European languages, cf. e.g. Rix (1979: 733–735).

[3] provides an example of a relative-correlative construction in which the former relative is no longer verb-governed (cf. Rix 1979: 735) and has become a complementizer, but where certain traits of the source con-

struction persist, namely the preposed relative clause and the resumptive pronoun in the main clause (*ce yāmorsa* ‘by this deed’).

(3) Toch. B *k_uce* (factive *k_uce*) complementizing an abstract noun

k_uce *ñiś* *ṣuk* *kauntsa* *wsāwa*
 COMP I.NOM seven day.OBL.PL.PERL give.PRT.1SG.ACT

wno(lmeṃts s)n(aī) *meṃtsñe*,
 being.GEN.PL without worry

That I have given to the beings seven days long without worrying

k_uce =*ṣp* *puḍñäkte* (*ṣuk* *kaum* *kakāwa*
 COMP =and Buddha seven day.OBL.PL invite.PRT.1SG.ACT

sāṅkāmpa)

Saṅgha.COM

and that I have invited Buddha to stay with the Saṅgha for seven days

ce *krent* *yāmorsa*
 CORREL.DEM.OBL.SG.M good.OBL.SG.M deed.OBL.SG.PERL

källoym *perne* *poysīññe*
 obtain.OPT.1SG.ACT rank.OBL.SG Buddha.ADJ.OBL.SG.M

by this good deed may I obtain the rank of a Buddha. (Toch. B 28 a8)

Factive adjunct clauses complementizing (verbal) abstract nouns as in [3] and [6] below prepare the ground for their spread to complement-taking predicates, as can also be illustrated for Latin, Greek, Hittite, Vedic and Avestan (Rix 1979: 733f.).

In [4] we have an explicative adjunct clause, again with persistent preposing and a resumptive pronoun.

(4) Toch. B *k_uce tu* (factive *k_uce*) complementizing a pronominal adjunct

k_uce *tu* *pwārtse* *yarke*
 COMP CORREL.DEM.OBL.SG.N fire.GEN reverence.OBL

yamaṣṣeñcam *ṣeyem*
 do.PRS.PTCP.NOM.PL be.IMPF.3PL.ACT
 [because of] that they were worshipers of the fire,

tu *ɣ(pa)rwe* *tuwak* *kottarce*
 COREL.PRN regarding.POSTP DEM.OBL.SG.N family.ADJ.OBL.SG

pelaik(n)e *āksi* *añmassu* *kakā-me*
 law.OBL.SG proclaim.INF wishing call.PRT.3SG.ACT-PRON.3PL

weñā-me-ś
 say.PRT.3SG.ACT-PRON.3PL-ALL
 given this/with respect to this/because of this he summoned them
 wishing to proclaim the Law of the family [and] spoke to them. (B
 108 b9)

(The latter example was classified as causal by Thomas (1957: 75), repeated by Adams (1999: 182), but is better explained as explicative, as later accepted by Thomas 1964, who in his glossary (II 195) translates *k_uce* ... *tu yparwe* as ‘mit Rücksicht darauf, daß ...’)

Another peculiarity of the example in [4] is its onset *k_uce tu*, and in particular the demonstrative pronoun *tu*. Complementizing *k_uce tu* most likely has as its source the onset of an archaic clause-initial relative with inverted pronominal nucleus *tu*, as attested in [5].

(5) Toch. B relative *k_uce tu* plus correlative

k_uce *tu* *ñāssa* *ritantrā*,
 REL.OBL.SG.N CORREL.DEM.OBL.SG.N greed.PERL seek.SBJV.3PL.MP,
 Which one they long for greedily,

kwri *cau* *kallaṃ* *naumiye* ...
 if CORREL.PRN.OBL.SG.M obtain.SBJV.3SG jewel.OBL.SG.M ...
 if they obtain that jewel, ... (B 231 b3)

The occurrence of the pronominal nucleus *tu* after the relative *k_uce* disambiguates the number and gender of the otherwise number- and gender-indifferent relative. Relative clauses like [5] can also be identified as

the source of the formulaic explicative relative *k_uce tu* ‘which is; namely’, for which see section 3.1.3 below.

To sum up, the examples above illustrate the gradual conversion of relative-correlative structures into complementizing structures. Example [2] presents a relative-correlative whose semantic ambiguity would permit its reanalysis as a complementizing structure (cf. [2a–b]). Examples [3–4] show the former relative pronoun dependentially detached from the constituents of the subordinate clause in which it occurs, thus marking its innovative complementizing value. At the same time, however, we note the persistence of other features of the underlying relative-correlative source construction, especially the preposing of the complementizing clause, which is typically found in combination with main-clause resumptive pronoun(s). Crucially, both the preposing and the resumptive pronoun are persistent properties of the underlying relative-correlative source construction. (Note that the same phenomenon is found in Latin, Greek, Indo-Iranian, and in Hittite, where preposed factive *kuit* is followed by resumptive *-at*, *-aš*; cf. Rix 1979: 733f. and for Hittite Cotticelli-Kurras 1995: 96; for Sanskrit see examples [26–27] below.) As we see in [6, 7] and [18], this eventually changes. The complementizing clause begins to be postposed, and resumptive pronouns are no longer obligatory.

(6) Toch. A *kucne* (factive) complementizing an abstract noun

šokyo nu yaṃtrācāre nṣaṃ p_ukolyune ...
 much.ADV now mechanic I.LOC confidence ...

lalākṣu

show.PTCP.PST.NOM.SG

The mechanic has shown a lot of confidence in me

kucne tāṣ taṃne krāṃtsonāṃ śomināṃ
 COMP DEM.OBL.SG.F SO beautiful.OBL.SG.F girl.OBL.SG.F

snākyāṃ nṣaśāl tārko
 alone.OBL.SG.F I.COM leave.PTCP.NOM.SG.M

in that he left this so beautiful girl alone with me. (A 6a4f.)

(7) Toch. A *kucne* (factive) complementizing an adjective

perāk *te nu* *u_upādhyāy*
 believable Q now teacher.VOC
 Is it believable now, oh teacher,

kucne ... *ptāñkät* *ārkišoṣṣam* *pākär* *tāṣ*
 COMP ... Buddha earth.LOC apparent be.SBJV.FUT.3SG.ACT
 that ... a Buddha will appear on earth? (MSN 2 [II.1] b₁, cf. Ji, Winter
 and Pinault 1998: 69)

3.1.2 Italic, Indic, Germanic: from relative to explicative/factive to complementizer

The entire pathway of development documented for Tocharian is paralleled by other languages, e.g. Italic. The Oscan example [8] exemplifies the source structure with correlative pronoun, abstract noun and explicative relative clause.

(8) Oscan, correlative abstract noun plus explicative relative

siom ... *idic* *tangineis* *deicum*
 REFL.ACC.SG.M ... CORREL.ACC.SG.N decree.GEN.SG.N say.INF
 that he pleads for such a decree

pod *valaemom* *touticom*
 REL.NOM.SG.N best.NOM.SG.N public.NOM.SG.N

tadait *ezum*
 deem.PRS.SBJV.3SG.ACT be.INF
 which he deems to be best for the people (Lu 1 = T[abula]B[antina] 1, 9f.)

A comparable structure has been converted into an explicative-factive complementizing clause with persistence of the correlative structure [9]:

(9) Old Latin *quod*, complementizing an abstract noun

tantum *flagitium* *te* *scire*
 CORREL.ACC.SG.N crime.ACC.SG.N you.ACC.SG know.INF

audivi *meum*
 hear.PRF.1SG.ACT mine.ACC.SG.N

I heard you know about this big crime of mine

quod *cum* *peregrini* *cubui* *uxore*
 COMP with foreign.GEN.SG.M sleep.PRF.1SG.ACT spouse.ABL.SG.F

militis.
 soldier.GEN.SG.M

that I slept with the foreign soldier's spouse. (Pl. Bacch. 1007f.)

Examples of this construction with persistent pronominal nucleus are [10] and [11]:

(10) Classical Latin, persistent correlative plus complementizer (*hoc-quod* construction)

ne *hoc* *quidem* [*dictum*
 NEG CORREL.ACC.SG.N even [say.PRF.PTCP.ACC.SG.N

putas],
 think.PRS.2SG.ACT]

[Do you think that] not even this was said

quod ... *Taurum* *ipse* *transisti?*
 COMP ... Taurus.ACC.SG.M self.NOM.SG.M surmount.PRF.2.SG.ACT
 that he himself surmounted the Taurus? (Cic. fam. 3,8,6)

(11) Classical Latin, complementizer plus persistent correlative (*quod-hoc* construction)

quod *multa* *milia* ... *paucos*
 COMP many.ACC.PL.N thousand.ACC.PL.N ... few.ACC.PL.M

cecidērunt *et* *ceperunt,*
 kill.PRF.3PL.ACT and capture.PRF.3.PL.ACT

That many thousand killed and captured (only) a few,

hoc ... *vos* ... *scituros* ...
CORREL.ACC.SG.N ... YOU.2PL.ACC KNOW.FUT.PTCP.ACC.PL.M ...

non credunt?

NEG believe.PRS.3PL.ACT

that you would know this, they don't believe? (Liv. 38,49,10)

By deletion of the correlative pronoun, sentential complementation of complement-taking predicates obtains. In accordance with the factive origin of the complementizer, this construction occurs first with factive verbs, then spreads to verbs of utterance [12].

(12) Old Latin

equidem scio iam filius
anyway know.PRS.1SG.ACT already son.NOM.SG.M
I for my part already know

quod amet meus istanc
COMP love.PRS.SBJV.3SG.ACT my.NOM.SG.M DEM.ACC.SG.F

meretricem.

courtesan.ACC.SG.F

that my son loves this courtesan. (Pl. Asin. 52f.)

In the same vein, Sanskrit provides examples of explicative-factive clauses with persistent correlative as in [13].

(13) Vedic Sanskrit, correlative abstract noun plus complementizer

vidúṣ ʔe asyá
know.PRF.3PL.ACT you.2SG.GEN CORREL.GEN.SG.N

vīryásya pūrávaḥ
heroic.deed.GEN.SG.ACT Pūru.NOM.PL.M

The Pūrus know of this heroic deed of yours

púrō yád śāradīr avātiraḥ
fortress.ACC.PL.F COMP autumnal.ACC.PL.F defeat.AOR.2SG.ACT

that you defeated their autumnal fortresses (RV 1.131,4)

In Classical Sanskrit, such explicative *yat*-clauses begin to be used as the complements of verbs, notably with the persistence of the correlative-relative frame *tat-yat*. For examples, see below [26–27].

Old West Germanic preserves the analogue of Latin *hoc-quod* and Sanskrit *tat-yat*, which is attested in old formulae; for a collection of attestations see Lühr (1982: 378–381).

(14) Old High German, persistent correlative plus complementizer

gihortun *thaz*
hear.pst.3 PL CORREL
They heard that/the following

thaz *heilant* ... *furifuori*
COMP savior ... through.travel.pst.sbjv.3 sg.act
that the savior ... would travel through (Tatian 115,1)

3.1.3 Formulaic explicative relative clauses in Tocharian

Beside the reanalyzed correlative of the Tocharian type illustrated in section 3.1.1, a subtype of complementizing *k_uce*-clauses evolved from the reduction of correlative speech-act formulas like ‘which is’; cf. Hackstein (2004b: 354–356). Clauses of this type occupy an intermediate position between the proposition to be explained and the explanation. Toch. B *k_uce tu* is typically found in commentaries. An example is [15], commenting on Mātṛceṭa, Śatapañcāśatka 144:

(15) Toch. B explicative *k_uce tu*

saim-wāsta *k_uce tu* *onolme* ...
support-refuge.VOC REL CORREL.DEM.NOM.SG.N being ...
‘o support and refuge [i.e., epithet of the Buddha], which is: being ...’
(B H add. 149.62 b2, ed. Couvreur 1966: 165f.)

Furthermore, Toch. B *k_uce tu* is given as the translation equivalent for Skt. *yad uta* ‘which is, namely, i.e.’ in bilingual fragments, e.g. B 528 a1, 547 a3.⁴ An interpretation of explicative Toch. B *k_uce tu* as ‘which is the following/as follows’ is unlikely in light of the fact that Toch. B *tu* is primarily anaphoric; see Stumpf (1971: 14, 96).

A typological parallel is provided by Vedic (Sanskrit) explicative *yad* ‘viz.’ (see Migron 1994[95]: 109ff.), also termed the “invariable *yad*-construction” by Hock (2007: 88), cf. e.g.

(16) Sanskrit explicative *yad*

<i>tad</i>	<i>etat</i>	<i>padanīyam</i>	<i>asya</i>
DEM.NOM.SG.N	DEM.PROX.NOM.SG.N	foot.trace	DEM.GEN.SG.N

sarvasya

entirety.GEN.SG

This is the foot-trace of this entire (world)

<i>yad</i>	<i>ayam</i>	<i>ātmā</i>
REL.NOM.SG.N	DEM.NOM.SG.M	ātman

which is/namely ātman. (BĀU (M) 1,4,4of.; Hock 2007: 88)

3.2 *Interrogative clauses as prototypes of complementizing clauses*

In general, interrogative clauses are a frequent source to topic constructions in ancient Indo-European languages (Hackstein 2004b: 354-56). It can be argued that formulaic interrogative(-relative) clauses which served to raise a topic provided an additional source to complementizing *k_uce*-clauses, see Hackstein (2004b). An example of a topic-raising adjunct clause is [17]:

4 Cf. furthermore IOL Toch 187/ H.add.149.62 a2, b2, ed. Couvreur (1966: 165f.), and the Tocharian rendering of Skt. *kiñcit* by Toch. B *k_use tek warñai* (Broomhead 1962 I: 153 and 1962 II: 107), which can be glossed as ‘which [is] whatever/so-and-so.’

(17) Toch. B focal topic-raising interrogative(-relative) clause

k_uce ... *śak rūpī-āyatanta*,
 FOC.COMP ... ten Rūpāyatana.PL,

sū ... *rūpaskantä westrä*.
 CORREL.NOM.SG Rūpaskandha call.PRS.3SG.MP

What/How about the ten Rūpāyatana's? (= as for the ten Rūpāyatana's), this is called a Rūpaskandha. (B 192 b1)

It is true that relative and interrogative pronouns cannot be formally distinguished in Tocharian B, but the inclusion of stimulus questions among the sources of complementizing *k_uce* remains attractive in light of the *k_uce*-construction with split complementation to be discussed in the next section. Formulaic stimulus questions typically lead to split complementation (the persistence of sentence boundaries of the underlying microtext structure; see Hackstein 2004a, 2011).

4 An anomalous case: main-clause phenomena and split complementation in Tocharian

Tocharian also attests instances of a construction in which the complementizer is followed by direct speech. This construction is crosslinguistically well attested, and can be referred to as *split complementation*; its most significant trait is the absence of shift in person after the complementizer. Examples of the *ce* + direct speech construction in Tocharian have been known at least since Broomhead (1962: 172f.).

(18) Toch. B (*k_u*)*ce* plus direct speech

A *poñ* *ce*
 say.IMP COMP

Say that

B *ñiś* *te-ñemtsa* *pañäkte* *saim*
 I this-name.PERL Buddha refuge.OBL.SG.M

yamaskemar.

make.PRS.1SG.MP

I, named so-and-so, take the Buddha as refuge! (B H149.299a4, ed. Broomhead 1962: 172f., Pinault 1994a: 105, 1995: 15 = IOL Toch. 92,4, ed. Peyrot 2007)

5 Split complementation in quotative complementation

Main-clause phenomena after verbs of cognition and utterance have been known at least since Kieckers's (1915: 14–34) survey of examples from a wealth of Indo-European and non-Indo-European languages. In the following, I provide additional examples from East Slavic, Ancient Greek, Old Armenian, and Sanskrit, in which the complementizer functions as a quotative particle, introducing the following discourse, which is direct discourse as indicated by the absence of person shift in [19b–27b].

The Russian complementizer *čto* may introduce direct speech; cf. Eckert, Crome and Fleckenstein (1983: 186) (“Die indirekte Rede wurde im Russ. wie die direkte Rede wiedergegeben”) and Issatschenko (1983: 514f.). This construction is attested both for Old Russian [19] and Modern Russian [20].

(19) Old Russian quotative *čto*

a *i posle poučen'ja skazalū čto*
and after worship say.PST.SG.M COMP

And upon the worship he said that

b *ja vpred' ne budu patriarxū*
I henceforth NEG be.FUT.1SG patriarch

I will henceforth not be Patriarch. (Nikon [1605–1681], cited by Ivanov 1964: 439, Eckert/Crome/Fleckenstein 1983: 186)

(20) Modern Russian quotative *čto*

a *vot teper' traktirščik skazal, čto*
there now landlord say.PST.SG.M COMP

The innkeeper just said that

b *ne dam vam est'*
 NEG give.FUT.1SG YOU.DAT.PL eat.INF

I will not give you to eat ... (Gogol, *Revizor*, ed. 1951: 27, end of section 2.1)

A similar construction can be found in Ancient Greek, which sporadically employs the complementizer *ὅτι* to introduce direct discourse (so-called “ὅτι recitativum”). One of the first examples comes from Herodotus (6th century B.C.) [21]; the construction is sparsely attested in Attic prose [22].

(21) Ancient Greek quotative *ὅτι*

a *λόγον τόνδε ἐκφαίνει ὁ Πρωτεύς,*
 word.ACC.SG.M this.ACC.SG.M voice.PRS.3SG DEM Proteus

λέγων ὅτι
 say.PTCP.NOM.SG.M COMP

Proteus voices this word, saying that:

b *ἐγὼ εἰ μὴ περὶ πολλοῦ ἠγεύμην ...*
 I if not about a.lot.GEN.SG.N consider.AOR.1SG.MP ...

ἐγὼ ἄν σε ... ἐτεισάμην.
 I PTC PRN.2SG.ACC.SG ... punish.AOR.1SG.MP

I, if I hadn't considered highly ..., I would have punished you. (Hdt. 2.115,4)

(22) Ancient Greek

a *Πρόξεινος εἶπεν ὅτι*
 Proxenos say.AOR.3SG COMP

Proxenos said that

b *αὐτός εἰμι, ὃν ζητεῖς.*
 self be.PRS.1SG REL.ACC.SG.M look.for.prs.2SG

I'm the one you are looking for. (X. An. 2.4,16)

The same quotative use of an otherwise subordinating complementizer recurs with Old Armenian *et^cē/t^cē* [23–24]. In contrast to Ancient Greek *ὄτι* and East Slavic *čto*, however, the Old Armenian employment of *et^cē/t^cē* to introduce direct discourse is not exceptional but the norm (Jensen 1959: 207).

(23) Old Armenian quotative *et^cē/t^cē*

a *asac^c-n* *et^cē*
 say.AOR.3SG-PRN COMP
 that one said that:

b *z-bown* ... *i* *jez* *darjowc^cic^c*
 ACC-root ... to you.ACC.PL return.AOR.SBJV.1SG
 I will give your root back to you. (M. X. II 67, p. 246; Thomson 1978: 214)

(24) Old Armenian

a *ayn* *asē* *t^cē*
 That.one say.PRS.3SG COMP
 One says that:

b *i* *merowm* *gewł* *covac^cowl* *z-kov*
 in POSS.1PL village sea.creature ACC-cow
gorceac^c
 give.birth.to.AOR.3SG
 in our village a sea creature gave birth to a cow. (Ezrik 25)

Schmitt (1995: 244f.) drew attention to a similar construction in Old Persian:

(25) Old Persian

a *yadi-pati* *maniyāhaj* *taya*
 if think.PRS.SBJV.MP.2SG COMP
 If you should think about that

b *ciyakaram āha avā dayāva ...*
 how.many be.PST.3PL.ACT DEM.NOM.PL.F country.NOM.PL.F
 How many were those countries ... ? (DNa 38ff.)

Finally, turning to Classical Sanskrit, finally, we encounter a relative-correlative structure, which serves to introduce direct discourse [26–27].

(26) Sanskrit relative-correlative *tat-yat* construction followed by direct speech

a **tat** ... *vaktavyam* **ca yat**
 DEM.NOM.SG.N ... tell.GERUNDIVE.NOM.SG.N =and COMP
 About this he ought to be informed (namely) that

b *candras tvām atra hrada*
 moon.NOM.SG PRON.2SG.ACC here lake.LOC.SG

āgacchantam niṣedhayati
 go.PRS.ACT.PTCP.ACC.SG.M forbid.PRS.CAUS.3SG.ACT
 the moon forbids you to go to this lake,

yato śmatparigraho śya hradasya samantāt
 for of.us.attendant DEM.GEN.SG.N lake.GEN.SG around

prativasati.

live.PRS.3SG.ACT

for around this lake live my people. (*Pañcatantra* 160.24)

(27) Sanskrit

a **tat** ... *niveditam* **yat**
 DEM.NOM.SG.N ... announce.PST.PTCP.NOM.SG.N COMP
 It (this) was announced that:

b *tava- ariḥ samprati bhītaḥ kvacit*
 2SG.GEN enemy now frighten.PST.PTCP somewhere

pracalitaḥ saparivāra iti
 fled.PST.PTCP with.entourage.NOM.SG.M QUOT

your enemy, now frightened, has fled somewhere, accompanied by his entourage. (*Pañcatantra* 172.7)

In sum, the phenomenon in question is hardly isolated, but parallels are of course not tantamount to an explanation. In the following section, I will suggest two mechanisms that typically generate split complementation.

6 Explanation: Speech-act construction

Two mechanisms may cause otherwise subordinating complementizers to be followed by main clauses, pragmatically conditioned ad-hoc main-clause phenomena and the reduction of formulaic linking clauses.

6.1 *Ad hoc main-clause phenomena*

There is ample evidence that certain constructions can have regular main-clause variants. For instance, main-clause phenomena are crosslinguistically frequent enough in the syntactic domains of cognition and utterance verb complementation and causal complementation so as not to be entirely random.

a. Complementation after verbs of cognition and utterance

Present-Day English paratactic *that*

(28) *He said that: No, I'm not gonna do this.* (Overheard in Boston, January 2003. O.H.)

b. Causal complementation

(29) PD English paratactic *because*

A *Let's go for a picnic, because:*

B *isn't it a beautiful day?* (Lakoff 1984: 473)

An especially clear example is furnished by Present-Day German *weil* plus verb-second (*weil-V2*), i.e. subordinating causal complementizer *weil* followed by (a prosodic break) and main-clause word order.

(30) Present-Day German *weil-V2* speech-act construction: supposition and justification

a *Er* *hat* *sicher* *wieder* *getrunken*,
 PRON.3SG.M have.PRS.3SG surely again drink.PRT.PTCP

weil:

CAUSAL.COMP

He's no doubt drunk again, because

b *er* *läuft* *so* *deprimiert* *durch*
 PRON.3SG.M run.PRS.3SG so depressed through

die *Gegend*.

ART.ACC.SG.F area.ACC.SG.F

he's running around so depressed.

(Selting 1999: 173; cf. Günthner 1996: 328)

Recent research has established that *weil-V2* typically occurs as a speech-act construction, i.e. *weil-V2* typically serves to assert the preceding speech act (German *Sprechaktbegründung*). Thus [30b] provides a justification for the supposition made in [30a].

By contrast, *weil-Verb-Last* introduces a presuppositionally linked cause (German *Sachverhaltsbegründung*), e.g. [31].

(31) German *weil-Verb-Last*: propositionally causal link

Er konnte nicht kommen, weil er krank war.

He couldn't come because he was ill.

The recurrence of the phenomenon under the same syntactic and pragmatic parameters suggests that it is not to be conceived of as an infringement of grammatical rules and well-formedness or as an anacoluthic structure, but as a regular constructional subtype. Recent research has substantiated the claim that main-clause phenomena are related to

and favored by certain syntactic and pragmatic parameters, especially by a pragmatically conditioned need for assertiveness; cf. Green's observation (1976: 382ff.) that main-clause phenomena occur "basically, when the speaker desires to be understood as committed to the truth of the subordinate clause."

The pragmatic motivation behind this phenomenon has long been recognized. (The link between pragmatics and main-clause phenomena was first explicitly stated in Lakoff 1984.) Normally and under the classical conception, main clauses assert, while dependent clauses presuppose (Hettrich 1988: 24f.). Within the functional range of subordinate clauses, however, certain conceptual domains have a greater need (and allow greater leeway) for assertion than others. This demonstrably holds for complements governed by verbs of cognition and utterance, and for causal clauses. Verbs of cognition and utterance may refer to propositions that are factually true, or they may simply encode the subject's (and speaker's) assertion of a claim that the dependent proposition is true. Likewise, among the core usages of causal clauses is the statement of factual causes, but those causes may encode a (personal) justification. It is therefore not coincidental that we encounter main-clause phenomena especially frequently in the domains of cause, cognition and utterance.

In short, main-clause phenomena are motivated by a conceptual structure which involves an increased need for performative instantiation. And it is in precisely these domains that the constructional split into a hypotactic presuppositional clause and a paratactic assertive clause typically occurs in Tocharian and other Indo-European languages.

6.2 *Microtext reduction*

The second mechanism that generates main-clause phenomena in the domains of cognition and utterance verb complementation and causal clauses is the reduction of a microtext construction with a formulaic explicative relative clause, as in Section 3.1.3 above, or formulaic stimulus questions (3.2) followed by an inherited and persistent sentence boundary and direct discourse.

a. Complementation after verbs of cognition and utterance

Both Tocharian languages attest a microtext structure comprising a proposition followed by a quotative linking formula and the adjoined direct discourse [32].

(32) Interrogative quotative formulae, e.g. Toch. A *tām nu mänt wäkñā*, Toch. B *tu no k_uce yäknesa* (Pinault 2000: 155).

b. Causal complementation

Tocharian employs the interrogative formulae Toch. A *k_uyalte*, B *katu* (*kātu*), and B *kättsi* ‘how so, why’ as causal linkers (Hackstein 2004a: 172f., 2011: 199f.). The reduction of formulaic interrogative clauses is illustrated for Latin in [33]. Note that the reduction is not to be conceived of in terms of ellipsis (which would presuppose a fixed prototype), but rather in terms of the minimal instantiation of a formulaic linking clause, i.e. formulaic reduction.

(33) Latin, reduction of formulaic linking clauses containing *quare* ‘why’

<i>in inritum cedit ista iactatio.</i>	Quaeris quare te fuga ista non adiuvet?	<i>Tecum fugis. Onus animi depo- nendum est: non ante tibi ullus placebit locus.</i>
This restlessness is in vain.	You ask why this flight won't help you?	You are fleeing with yourself. You have to free yourself from the burden of your soul; otherwise there'll be no place that pleases you. (Seneca, <i>Ep.</i> 28.2)
 <i>cenavit tamquam pro filio exorasset.</i> He dined, as if he had had success in	 Quaeris quare? You ask why?	 <i>Habebat alterum.</i> He had another son. (Seneca, <i>Ira</i> 2.33.4f.)

begging for his son.

<i>Peccavimus, hospes.</i>	Si dices, quare:	<i>Nulla matella fuit.</i>
We sinned, innkeeper.	If you (will) ask why	There wasn't any pot. (CIL 4.4957)
<i>Non es eques.</i>	Quare?	<i>Non sunt tibi milia centum.</i>
You are not a knight.	Why?	You don't own a fortune. (Sueton, <i>Tib.</i> 59)

The minimal representation of the linking formulae containing *quare* in [33] became productive in Latin everyday speech, as reflected by the Pompeian graffito in [34]:

(34) Colloquial Pompeian Latin

Rufa ita vale, quare bene felas
So farewell, Rufa, **for** you suck well. (CIL IV 2421, before 79 A.D.)

Eventually, Latin *quare* was to develop into a causal connective, providing the source of French *car* 'for' [35].

(35) French *car*

Il n'est pas venu, car il est tombé malade.
He didn't come, for he has fallen ill.

7 Excursus: Etymology of the construction marker

Let us finally turn to the etymology of the Tocharian construction marker. The Toch. B complementizer *k_uce* has traditionally been equated with the oblique form of the relative-interrogative pronoun, cf. Hackstein (2004c: 276 fn. 25). Yet the clue to a modified etymology is provided by the fact that it is possible to diagnose regular correspondences between complex pronouns in Tocharian, Greek and Armenian, and in doing so, to establish their genetic relationship. In particular, Tocharian

shares with Armenian the pronoun $*k^{wi}/k^{wo}/k^{we}$ - as the first compound member, in contrast to Greek and Indo-Iranian, both of which have innovated by regularly substituting relative $*H_{i\bar{o}}$ -. The correspondences are given below in [36].

(36)	Recurrent pronominal correspondences in complex pronouns	
I.a $*k^{wo}/e$ -	Old Armenian o/e - < PIE $*k^{wo}/e$ - ----- $o-r ok^c$ ‘whoever’, $o-r (z)in\check{c}^c$ < $*k^{wo}$ - + $*k^{wos}$ - k^{we} , $*k^{wo}$ - + $*k^{wid}$ - k^{wid}	Tocharian ku - < PIE $*k^{wi}$ - ----- B k_u - $s\acute{e}$ k_{sa} < $*k^{wis}$ - so + $*k^{wis}$ - so
I.b $*H_{i\bar{o}}$ -	Ancient Greek \check{o} - < PIE $*H_{i\bar{o}}$ - ----- Myc. jo - qi , $\check{o}(\sigma)\tau\iota\varsigma$ < $*H_{i\bar{o}}(s)$ + $*k^{wis}$	Sanskrit, Avestan ya - < PIE $*H_{i\bar{o}}$ - ----- GAv. yas ... $ci\check{s}c\acute{a}$ GAv. yas ... $kasci$ Ved. $ya\check{h}$ $ka\check{s}ca$ < $*H_{i\bar{o}}(s)$ + $*k^{wis}/k^{wos}$
II.a $*k^{wo}/e$ -	Old Armenian e - rb ‘when?’ < $*k^{we}$ - b^{hr} -	Tocharian A ku - pre ‘when’ < $*k^{wi}$ - b^{hr} -
II.b $*H_{i\bar{o}}$ -	Ancient Greek \check{o} - $\varphi\rho\alpha$ ‘so long as’ < $*H_{i\bar{o}}$ - b^{hr} - t	Sanskrit, Avestan --
III.a $*k^{wo}/e$ -	Old Armenian e - $t\check{e}$ ‘that’ compl. < $*k^{we}$ - te	Tocharian k_u - ce/ce ‘that’ interrog., compl. < $*k^{wid}$ + te
III.b $*H_{i\bar{o}}$ -	Ancient Greek Myc. ho - te , Hom. \check{o} - $\tau\epsilon$ temporal and compl. < $*H_{i\bar{o}}$ - te	Sanskrit, Avestan Cf. $y\acute{a}$ - $th\acute{a}$ ‘in which way’, comp. and compl. < $*H_{i\bar{o}}$ - th_2eh_1

(I have treated III in an unpublished paper presented at the 21st East-Coast Indo-European Conference in Philadelphia in 2002, and I and II in Hackstein 2004c: 286; for set I, cf. Hackstein 2004c: 283, 286; for Greek and Indo-Iranian Oettinger 1983 and Risch 1985.) Particularly significant is set II because of the uniqueness of the second morpheme $*-b^{hr}$ -/ $-b^{hr}$ - (meaning ‘time, incident’, German *Mal*, or ‘case’; cf. Pinault

1997: 479ff, 491ff. on B *kwri* ‘if’) in Old Armenian *erb*, East Tocharian *kupre* and Greek $\delta\text{-}\varphi\rho\alpha$. All of these were recognized as cognate expressions already by Meillet (1914), but it is the pronominal alternation under discussion that for the first time explains the differing first compound member in Armenian *erb*, Tocharian A *kupre* as compared to Greek $\delta\text{-}\varphi\rho\alpha$.

Integrating the complementizer *k_uce* into the same pattern of recurring pronominal correspondences leads to the insight that *k_uce* can be aligned with Armenian *et^cē*, and Greek $\delta\tau\epsilon$. All of these can function as complementizers (set III).

It follows that it is possible to identify Toch. B *k_uce* as introducing a presentational clause, either relative ‘which [is] thus’ (cf. 3.1.3 above) or interrogative ‘how so?’ (cf. 3.2 above).

8 Summary

The results of the present article can be summarized as follows. Tocharian developed sentential complementation employing the interrogative-relative pronoun Toch. B *k_uce/ce* and the relative pronoun A *kucne* as complementizers. However, finite sentential complementation appears as a secondary and incipient construction, which is typically found with the complementation of adjuncts, less often as the object of complement-taking predicates. After verbs of cognition and especially after verbs of utterance, the most pervasive construction is to add the sentential complement with no overt embedding, i.e. one lacking a complementizer and any shift of person, tense or mood. As for the developmental stage of finite complementation, Tocharian resembles Anatolian and Hittite more closely than the other branches of Indo-European.

The Tocharian B *k_uce/ce*, A *kucne* construction has multiple origins. The two major source constructions are relative-correlative clauses and interrogative clauses. Two corresponding mechanisms for the conversion of these source constructions into complementizing clauses have been identified in this paper:

a. Reanalysis of relative-correlative clauses by metonymic shift to the propositional content, which is contained by the former nucleus plus relative clause structure (shift from an attribute to a factual statement). The transition from relative pronoun to complementizer is indicated by its dependential separation from the former relative clause; the relative pronoun ceases to be a constituent of the relative clause. The transition appears to be underway, as the Tocharian complementizing clause still shows persistent traits of the underlying relative-correlative structure (preposing of the B *k_uce*-clause; occurrence of resumptive pronouns in the matrix clause).

b. In addition, Tocharian attests the employment of formulaic relative clauses or formulaic interrogative clauses to introduce sentential complements. It is natural for such linking clauses to undergo reduction and appear in their minimal representation as the relative-interrogative pronoun followed by the unshifted sentential complement. It is also possible for finite complement clauses to show ad-hoc main clause phenomena, which are conditioned pragmatically by the need for greater assertiveness in semantically dependent finite clauses.

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