The syntax of reported discourse from a typological perspective: embedding or not?

Tom Güldemann

Humboldt Universität zu Berlin and

Max-Planck-Institut für Evolutionäre Anthropologie Leipzig

1 Introduction

1.1 The data base (Güldemann 2008)

- detailed synchronic morphosyntactic (as well as diachronic) analysis of reported

discourse constructions in a sample of 39 African languages (cf. Table 1, appendix)

> according to types and tokens - token analysis on the basis of a text corpus for

each language (cf. Table 2, appendix)

- wide typological literature survey on reported discourse and "complementation"
- focus on "quotative indexes" signalling the presence of direct quotes (see below)

1.2 Theoretical preliminaries on reported discourse (constructions)

+ reported discourse

> **Reported discourse is the representation of a spoken or mental text from which the reporter distances him-/herself by indicating that it is produced by a source of consciousness in a pragmatic and deictic setting that is different from that of the immediate discourse.**

> not tied to externalized speech but includes internal cognition and perception
> "text" refers to the requirement of potential speech act force of reported part
> continuum approach instead of clear-cut categories like "direct speech" and

"indirect speech" according to irrelevant verbatim criterion, various subcategories

defined by different degree and type of reporter interference (Roncador 1988)

+ canonical bipartite construction and terminology

(1)   *He said to me, 'Come back tomorrow!'*   = "Reported discourse construction"

>   *He said to me*   = "Quotative index (QI)"

>   *He*   = "Speaker"

>   *said*   = QI nucleus (often no speech verb)

>   *(to) me*   = "Addressee"

>   *Come back tomorrow!*   = "Quote" (not in literal sense)

+ quotative index

> **A quotative index is a segmentally discrete linguistic expression which is used by the reporter for the orientation of the audience to signal in his/her discourse the occurrence of an adjacent representation of reported discourse.**

> includes also expressions not based on verbs with utterance meaning

(2)   *and uh **and he's** {oh oh what does that have to do with it}* (Clark and Gerrig
        1990: 772-FN9)

(3)   *So George comes at Louis with the knife, **and Louis goes,** {...}* (Butters 1980:
        305)

(4)   ***This is them** {what area are you from . what part?} **This is me** {I'm from (inner
        London)}* (Cheshire and Fox 2007)

2. "Sentential complementation" and embedding

2.1 The syntax of direct reported discourse

!!! reported discourse evaluated as a **syntactic** phenomenon > following criteria are

primarily **structural** properties

(1) "embedding" primarily discussed in syntactic terms (cf. Pirahã discussion)

(2) necessary separation of form and meaning, specific relation between the two:

semantics is a necessary but not sufficient criterion for syntax (cf.,e.g., Poletiek and

Monaghan yesterday)

2.1.1 Embedding

+ traditional hypothesis: syntactic bond on the level of QI-predicate and quote -

quote analyzed as direct object of transitive speech verb

> such a syntactic relation defined in individual languages by certain morpho-

syntactic properties of the entire construction as well as its subparts:

>   - two separate constituents defined in terms of their category status

>   > VERBAL constituent as head with syntactic slot for another constituent

>   > NOMINAL constituent as satellite filling this slot

>   - potential marking of the relation on both constituents (e.g., transitive

>   marker on verb, object marker on noun phrase)

>   - coherent internally structured higher constituent ("verb phrase")

- this analysis of reported discourse flourishes in spite of long-established criticism:

i.a. Longacre (1968,2: 165-6), Partee (1973), Munro (1982), Haiman and Thompson

(1984), Halliday (1985), McGregor (1994), Roeck (1994)

+ properties of the quote as the "would-be" noun-like complement

- no marking of nominalized status and/or its grammatical relation: single case in sample - two verbs ('swear', 'testify') in Dongolese (Nubian) with non-shifted quote marked by object suffix (cf. Longacre 1968,2: 166 citing Elkins; Munro 1982: 302-4)

- instead greater semantic and syntactic autonomy than in "canonical" subordination of adverbial and relative clauses, which regularly exclude morphosyntactic features of main clauses due to their reduced assertive and illocutionary force

+ properties of the QI and the assumed "complement-taking" predicate

- tendency towards restricted clausehood (predication operators etc.)

> QI often formulaic grammatical construction rather than fully grown main clause

- QI nucleus not a verb at all (Munro 1982: 313-4): attested in 24 of 39 languages, partly with high frequency

Table 3. Non-predicative QIs across the language sample

Language	QI total	Predicative total	in %	Non-predicative total	in %
Kanuri	198	181	91	17	8
Ik	89	88	99	1	1
Ngambay	86	85	99	1	1
Kunama	126	123	98	3	2
Dongola	136	121	89	15	11
Murle	100	99	99	1	1
Hadza	64	14	22	49	77
Sandawe	61	13	21	48	79
Khoekhoe	117	96	82	21	18
Taa	140	138	98	2	1
Tigre	72	70	97	2	3
Bedauye	126	125	99	1	1
Burunge	193	64	33	129	67
Kera	50	17	34	33	66
Lamang	128	49	38	79	62
Mandinka	181	175	97	6	3
Izon	54	48	89	6	11
Donno Sɔ	16	5	31	11	69
Kouya	51	50	98	1	2
Koromfe	47	44	94	3	6
Waja	90	8	9	82	91
Ngbaka Ma'bo	85	11	13	74	87
Ewe	25	24	96	1	4
Yoruba	10	9	90	1	10

- QI verb not a (typical) transitive verb outside reported discourse (Munro 1982: 305-6); rather defectively transitive, transitive to addressee only, or intransitive

(5)   *he said this*   vs.   **he said the news*

(6)   Shona (Bantu, Niger-Congo)

a.   **ndi-cha-**chi-ti***
       1S-FUT-7IA.OBJ-QV
       I will say it.

b.   **waka-**a-ti***   *ma-zita*   *aya*
       2S:REM.PST-6OBJ-QV   6-name   6:DEM
       You said these names.

c.   *a-no-**ti***   *chi-Shona*
       3S-PRS-QV 7-PN
       He says, "Chishona". (*He speaks in Shona/ the Shona language.)

d.   *aka-**ti***   *zvikuru*
       3S:REM.PST-QV   much/extensively
       He said, "Zvikuru". (*He said/spoke a lot/extensively.)

(7)   Koromfe (Gur, Niger-Congo)

       gω ***bo*** *a*   *tife*   *mɔ̃ nɛ* ***lɛ***   {...}
       3S say DET elephant also to   thus
       Il dit la même (chose) à l'éléphant aussi (Rennison 1986a: 40-1)

(8)   Dongolese (Nubian)

As a general rule, the direct object of a verb of *saying*, i.e. what is said, does not bear the objective suffix, but the indirect object, i.e. the person addressed, does bear it:

a.   *ékki*   *sámil* {***súttɛ tár̃!***}   ***ɛ-n***   **súttɛ tár̃-gi*
       2S:OBJ sheikh{come quickly!} QV-IPFV:3S
       the sheikh says to you 'come quickly' (Armbruster 1960: §4676)

This is the usage so long as the direct object is reproduced speech, or speech to be reproduced, a sentence, in fact; but when it is some word representing a sentence, e.g. a pronoun, then it bears the objective suffix:

b. *sámil* ***iŋ-g***   ***ɛ-gó***
   sheikh DEM-OBJ   QV-PFV:3S
   the sheikh said this. (Armbruster 1960: §4677)

- transitive QI verb syntactically and semantically saturated

(9)   Supyire (Senufo, Niger-Congo)

> ... some verbs ... require "anticipatory" pronouns in the main clause. With other verbs ... such pronouns are optional, with still others ... they are disallowed. ... With most verbs, the anticipatory pronoun, which in some sense refers to the "extraposed" complement, is put in direct object position. (Carlson 1994: 450)

> *kà* u ú **yí** **jwó** u ɲyii na na {...}
>
> DS 3S NAR ATC.PRO say 3S eye LOC Q
>
> Then he said to him "... (Carlson 1994: 446)

- QI verb without agreement to quote (Munro 1982: 306-7) or transitive marking

while requiring it elsewhere

+ properties of the entire reported discourse construction

- quote with "privilege of free occurrence" (McGregor 1994: 66): frequently without

QI - "free direct reported discourse" (cf. Table 2, appendix) - "complement" of zero-

head?, impossible the other way around

- QI is "modification (the dependent indicates the kind of the head)" (McGregor

1994: 67) of quote with respect to its source and context

> if anything, head status for quote rather than QI

- QI and quote - allegedly forming a verb-object-like constituent - with frequent

intonational break, without precedent in verb phrase

- QI and quote interrupted by other linguistic material: addressee, quote orienter

(including "complementizer")

- linear order of QI and quote do not reflect in various ways quote-as-object pattern

(10)a.   *John said, "I'm fine, but how are you?"*

  b.   *"I'm fine, but how are you?" said John.*

  c.   *"I'm fine." said John. "But how are you?"*

> common QI intraposition produces quote-"complement" frame around QI "head" -

"internal head"?

> general preference of order [QI quote] irrespective of VO or OV, order according

to quote-as-object principle rarely and only under specific circumstances outranks

other possibly conflicting factors

> The fact that a nominal complement must be preverbal does not necessarily entail that clausal complements will be linearized the same way. (Nevins et al. 2009b: 673)

+ results corroborated by other cross-linguistic studies (cf. Cristofaro 2005

"utterance complement clauses" strongly preferred to be non-deranked = balanced)

2.1.2 Parataxis

> alternative approach: parataxis as a non-hierarchical linkage between two clauses

(Longacre 1985: 251-63, Halliday 1985, Everett 2005)

+ parataxis account not confronted with some of the above problems but also

contradicted by several empirical facts of reported discourse (McGregor 1994: 67-8,

Güldemann 2008: 230-1)

- order change without meaning change

- no important semantic effect by connecting quote and QI

- lack of QI as one of the two linked clauses

- frequent imbalance of QI and quote in terms of structural complexity

- QI not clause-like

- QI intraposed within quote

2.1.3 An alternative approach

+ semanto-syntactic scope of quote often with higher textual/discourse scope -

direct quotes appear "like raisins in a pudding" (Haiman 1989: 134)

> QI anchors quote in ongoing discourse - McGregor (1994): "whole-whole

relationship between a **picture** and its **frame**" (cf. Davidson (1984: 83-4) for

terminological precedent):

> The picture, its frame, and the framed picture may be regarded as distinct wholes, none of which is in any significant sense a part of some larger whole. ... The picture and the frame are entities of very different characters: the picture represents some referent world - it is an icon. The frame clearly is neither an icon, nor does it represent something in the referent world. What it does is set the icon off from the context ... In doing this it also provides information as to how the icon is to be viewed ... (ibid.: 77)

> Güldemann (2008: 231-3) with largely parallel analysis: QI is a **tag** (in common

non-technical sense) on the direct quote - difference to "picture-frame" model

  - QI tag and quote do form a larger constituent

  - QI tag alone is incomplete and depends semantically on quote

> head-satellite relationship reversed!!!

> both analyses account for/are compatible with the syntactic "anomalies" of direct

reported discourse constructions like autonomy of quote, lack of QI, multiple or

multi-positional QI, grammaticalization of QI etc.

What consequence does the observation that direct reported discourse is very

rarely embedding have for "canonical" complement clauses?

2.2 Reported discourse and "complement" clauses

+ often no strict differentiation between direct reported discourse and canonical "sentence complementation" - correlates with frequent uniform syntactic analysis

(11) *He said (that) she is sick/'She is sick!'.*

(12) *He saw (that) she was sick.*

- uniform treatment in line with empirical finding that cross-linguistically many QI types not dedicated to either direct or non-direct quotes: >40% in African sample

Table 4. Morphosyntactic QI types over RD-categories in the sample

Type	DRD	Both	Non-DRD	Total
Monoclausal	22	27	2	51
(Monoclausal) bipartite	4	26	27	57
Biclausal (bipartite)	14	1	0	15
Non-clausal	9	6	1	16
Total	49	60	30	139

+ most of the anomalies of direct reported discourse carry over to a large portion of canonical sentential complementation:

- QI is modification
- lack of QI ("free indirect reported discourse")
- non-verbal QI
- lack of valence slot in QI-nucleus
- illocutionary prominence of "complement" (cf., e.g., predication focus in
    Bantu (Stucky 1979: 366-7, Güldemann 1996: 172-3, 176, 180-2))
- non-nominal status of the "complement"
- lack of canonical marking on "complement"
- great freedom in the relative order of the two constituents
- loose intonational linkage between the two
- linguistic material intervening between the two
- > complementizer not always part of quote, "boundary shift" not universal
- > complementizer not evidence for the integration of the quote in the QI

... sentences in indirect discourse, as it happens, wear their logical form on their sleeves (except for one small point). They consist of an expression referring to a speaker, the two-place predicate 'said', and a demonstrative referring to an utterance. Period. What follows gives the content of the subject's saying, but has no logical or semantic connection with the original attribution of a saying. This last point is no doubt the novel one, and upon it everything depends: from a semantic point of view the content-sentence in indirect discourse is not contained in the sentence whose truth counts. (Davidson 1968/9: 142-3)

+ "complement-taking" predicates in some languages associate with sentences overtly on more shallow syntactic levels, e.g. in so-called "co-subordinating" clause-chaining construction - Kombai (Awyu-Dumut, Trans-New-Guinea)

(13) *ya fibima-no-n-a*   {*khe gabükhe*}
    3P think-3P.NFUT-TR-DS.and {3S angry}
    They think he is angry. ["they think and he is angry"] (Vries 1990: 301)

(14) *nu fera-def-a*   {*khe bo-me*}
    1S see-1S.NFUT-DS.and {3S DUR-come:3S.NFUT}
    I saw him come. ["I saw and he came"] (ibid.: 305)

+ tag model and reversed headedness transferable to large portion of "complement clauses" - many tokens of "matrix clauses" can be analyzed synchronically as comment clauses (and develop diachronically to modifying clause satellites)

(15) a. *And then people shout, 'He's the thief!'*
    b. *People say (that) he is the thief.*
    c. *He is the thief, they say.*
    d. *Purportedly, he is the thief.*

(16) a. *Everybody knows (that) this was a fraud.*
    b. *This was a fraud, everybody knows that.*[1]

(17) a. *I hope (that) the next one won't be that bad.*
    b. *The next one, I hope, won't be that bad.*
    c. *Hopefully, the next one won't be that bad.*

(18) a. *You see (that) there must be a mistake.*
    b. *There must be a mistake, you see.*
    c. *Apparently/obviously, there must be a mistake.*

> confirmed by data from child language acquisition (Diessel and Tomasello 2001) and discourse analysis (Thompson 2002)

+ traditional clausal "complements" after relevant verbs are a disparate group of entities with a typologically robust binary opposition:

The big surprise in these data was the polarization between 'Reduced' and 'Proposition'-type Complement Clauses. Since *all* Complement Clauses function as arguments, they should all presumably manifest the EVENT = OBJECT metaphor even more directly than Relative Clauses (which modify arguments), or than Adverbial Clauses (which modify events). Consequently, we should expect to find Complement Clauses particularly susceptible to nominalization.

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1 In German, this can also be expressed by sentence adverbs like *bekanntermaßen* or *bekanntlich* 'as is well known'.

Instead, we find a systematic formal differentiation in the 29 languages which allow both nominalized and verbal strategies for subordination. In these languages, one type of Complement Clause is never obligatorily nominalized, while the other must be nominalized in 28 out of 29 languages ... This differentiation splits the Complement Clause category. It relegates 'Reduced' and 'Propositional' Clauses to opposite ends of the preference hierarchy for nominalization ... as if they were categorially more distinct from each other than from Adverbial or Relative Clauses.   (O'Dowd 1992: 65-6, 71-2)

(19)a. *Suddenly he noticed, 'She's kissing the frog!'*

   b. *He suddenly noticed, she was kissing the frog.*

   c. *He suddenly noticed that she was kissing the frog.*

(20)   *He suddenly noticed her kissing of the frog/her kissing the frog.*

> traditional "sentential complementation" is not a unitary domain but subsumes categorially quite distinct syntactic structures:

(1) desentialized type (= "reduced" clause), as in (20), as clause complementation in a more literal sense

(2) sentential type (= "propositional" clause), as in (19)a.-c., subsumed with traditional "reported speech" under the above wide conception of reported discourse

> different cooccurrence patterns of verb and variable constituent types (noun, reduced complement clause, reported discourse) across languages and lexemes

+ some languages with single verb spanning the entire meaning range of "wide" reported discourse from direct speech on the one end to perception on the other end

(21)   Telefol (Ok, Trans-New-Guinea)

   a. {*unoón*}   *oó*   *akeeta*   *koo*

      {I'll go}   Q   AKANKALIN:NONFINITE   IND

      I must go

   b. {*unoón*}   *oó*   *akeéla*   *koo*

      {I'll go}   Q   AKANKALIN:3S   IND

      He wanted to go

   c. *boómi win*   {*Fuúmeen*} *oó*   *akeéla*   *koo*

      her   name {PN}   Q   AKANKALIN:3S   IND

      He called her Fuumeen

   d. {*unbí*}   *yoó*   *akeéla*   *koo*

      {I went}   Q   AKANKALIN:3S   IND

      He said he went

   e. {*únbú*}   *kalaá* *akeéla*   *koo*

      {he went}   Q   AKANKALIN:3S   IND

      He saw her go [? a.k.a. he saw that she went]   (Healey 1972: 217)

2.3 "Complementation" as a categorially heterogeneous domain

+ clear examples of both direct and non-direct reported discourse constructions whose syntax are better compatible with a complement analysis

(22)a. *ich   hab'   nicht gesagt   {Hau ab!}*

      I   have   not   said   Get off!

   b. *ich   hab'   nicht {Hau ab!} gesagt*

      I didn't say, 'Piss off!'

(23)   *You'd rather spare your {Thank you, boss!} for other occasions.*

- subordinate status as particular type of salience relation between quote and "matrix" verb: stronger the more the former deviates from direct reporting and is semantically and structurally "compact" (short, desentialized, referential etc.), and the latter imposes a semantic-pragmatic contribution on the entire construction (e.g., more than a plain reference to canonical speech) (cf. Boye and Harder 2007)

   - tighter intonational integration

   - grammaticalized logophoric marking of cross-clause pronoun reference

   - "sequence-of-tense" rules

   - exclusion of various types of marking in the quote like expressives, attitude and speech-act markers, and certain predication operators

   - marked word order (as with German *daß*-clauses)

   - "extraction" of the quote's speech-act specification by expressing it in the matrix verb and/or the complementizer (cf. English *whether*-clause)

   - marking associated with canonical verb phrases

   etc. etc.

> tag analysis account for the majority of but not necessarily for every token of direct let alone indirect reported discourse

+ Collins and Branigan (1997: 12): direct quotes have variable status as

(1) "direct speech complement ... and bears a θ-role" assigned by a QI verb

(2) "matrix expression" with the QI as "a parenthetical expression which serves only to provide a commentary on the quote" - cf. present tag model

(3) independent expression "licensed as a part of the discourse" - cf. QI-less quote

> transferable to "wide" reported discourse as a whole - domain cut up by different types of linguistic structures according to different language-specific patterns

> type (1) relation is overall the minor, exceptional one - embedding as default analysis unfounded (cf. Boye and Harder 2007 for a compatible treatment)

3. An excursion to recursion

3.1 Definition

> the computational mechanisms for recursion, providing the capacity to generate an infinite range of expressions from a finite set of elements (Hauser, Chomsky and Fitch 2002: 1569)

> Recursion, in mathematics and computer science, is a method of defining functions in which the function being defined is applied within its own definition; specifically it is defining an infinite statement using finite components. The term is also used more generally to describe a process of repeating objects in a self-similar way. For instance, when the surfaces of two mirrors are exactly parallel with each other the nested images that occur are a form of infinite recursion. (http://en.wikipedia.org/wiki/Recursion, accessed 15/2/2010)

+ two types of linguistic recursion according to Nevins et al. (2009a: 366, FN11):

(1) "old": reiterated application of one operation on the output of the same operation (e.g., nested genitives, multiple clause embedding, etc.)

(2) "current/relevant": possible application of one operation in different morphosyntactic domains (e.g., "merge" in both noun and verb phrases)

3.2 Reported discourse and iterative constructional recursion

- iterative sentence embedding treated (?until recently) as a/THE prototypical instance of recursion - "if if if" of Pinker (1994: 205), Fitch (yesterday), etc.
- syntactic analysis of reported discourse as sentence embedding, parataxis, tagging or whatever does not seem to influence evaluation
- rather requires empirical testing: so far little evidence for wide-spread existence of multiple, let alone "non-finite" nested reported discourse (latter not even testable)
- Karlsson (2007a-c): quite specific limits in all types of embedding, presumably carries over to reported discourse as a whole
- most complex cases involve **written** languages of antiquity with continuity into **written** 'Standard Average European' - Eurocentric bias of current debate
- observed distribution defined by areal, cultural and diaphasic properties (cf., e.g., Michaelis 1994 regarding clause-linkage complexity in spoken vs. written language)
> data seemingly compatible with some form of culture-grammar linkage

3.3 Reported discourse and cross-domain recursion

- reported discourse (including traditional non-reduced "complementation") structurally heterogeneous, major portion of phenomenal space does not comply with **syntactic** criteria of embedding
> necessity to identify the data relevant for embedding language by language and subsequently determine how they contribute to the recursion debate
- given the restricted empirical attestation, alternative interpretation: cross-domain application of operation as a specific case of "lexeme-driven" syntactic **analogy**
> semanto-syntactic character of constructing a given verb with truly nominal complements (verb phrase domain) imposed on its constructions with non-nominal, sentential constituents (clause linkage domain)

    - traditional linguistics: by default - collision with empirical data
    - language users: restricted to specific semanto-syntactic conditions

Rather than trying to show that a sentence is the complement of a verb, one can alternatively investigate under what conditions a sentence can be treated as a noun.

Abbreviations

ATC anticipatory, DEM demonstrative, DET determiner, DS different subject, DUR durative, FUT future, IA inanimate, IND indicative, IPFV imperfective, LOC locative, NAR narrative, NFUT non-future, OBJ object, P plural, PN proper name, PFV perfective, PRO pronoun, PRS present, PST past, Q quotative, QI quotative index, QV quotative verb, REM remote, S singular, TR transitive

Arabic number   agreement class or, if followed by S/P, person

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Appendix

Table 1. Sample languages and genealogical classification

	Language	Family (subbranch)	Stock	Greenberg (1963)
1.	Koyra Chiini	Songhay	-	Nilo-Saharan
2.	Kanuri	Saharan	-	Nilo-Saharan
3.	Ik	Kuliak	-	Nilo-Saharan
4.	Aiki	Maban	-	Nilo-Saharan
5.	Fur	Furan	-	Nilo-Saharan
6.	Ngiti	Moru-Mangbetu	Central Sudanic	Nilo-Saharan
7.	Ngambay	Bongo-Bagirmi	Central Sudanic	Nilo-Saharan
8.	Kunama	Isolate	-	Nilo-Saharan
9.	Dongola	Nubian	East Sudanic	Nilo-Saharan
10.	Murle	Surmic	East Sudanic	Nilo-Saharan
11.	Anywa	Nilotic	East Sudanic	Nilo-Saharan
12.	Krongo	Kadu	-	Nilo-Saharan
13.	Hadza	Isolate	-	Khoisan
14.	Sandawe	Isolate	-	Khoisan
15.	Khoekhoe	Khoe-Kwadi	-	Khoisan
16.	Ju|'hoan	Ju	-	Khoisan
17.	Taa	Tuu	-	Khoisan
18.	Tigre	Semitic	Afroasiatic	
19.	Tamajeq	Berber	Afroasiatic	
20.	Bedauye	Cushitic (North)	Afroasiatic	
21.	Burunge	Cushitic (South)	Afroasiatic	
22.	Kera	Chadic (East)	Afroasiatic	
23.	Lamang	Chadic (Central)	Afroasiatic	
24.	Hausa	Chadic (West)	Afroasiatic	
25.	Mandinka	Mande	-	Niger-Kordofanian
26.	Izon	Ijoid	-	Niger-Kordofanian
27.	Kisi	Atlantic	-	Niger-Kordofanian
28.	Donno Sɔ	Dogon	-	Niger-Kordofanian
29.	Kouya	Kru	Niger-Congo	Niger-Kordofanian
30.	Supyire	Gur (Senufo)	Niger-Congo	Niger-Kordofanian
31.	Koromfe	Gur (Central)	Niger-Congo	Niger-Kordofanian
32.	Waja	Adamawa	Niger-Congo	Niger-Kordofanian
33.	Ngbaka Ma'bo	Ubangi	Niger-Congo	Niger-Kordofanian
34.	Ewe	Kwa	Niger-Congo	Niger-Kordofanian
35.	Yoruba	Benue-Congo (Defoid)	Niger-Congo	Niger-Kordofanian
36.	Igbo	Benue-Congo (Igboid)	Niger-Congo	Niger-Kordofanian
37.	Birom	Benue-Congo (Platoid)	Niger-Congo	Niger-Kordofanian
38.	Tikar	Benue-Congo (Bantoid)	Niger-Congo	Niger-Kordofanian
39.	Nguni	Benue-Congo (Bantoid)	Niger-Congo	Niger-Kordofanian

Table 2. RD-constructions with(out) a QI across the language sample

Language	QI	QI for non-DRD		DRD	DRD without QI	
	total	total	in %	total	total	in %
Koyra Chiini	303	180	59	126	3	2
Kanuri	202	4	2	254	56	22
Ik	97	8	8	121	32	26
Aiki	24	3	12	40	19	48
Fur	22	1	4	25	4	16
Ngiti	15	0	0	15	0	0
Ngambay	97	11	11	109	23	21
Kunama	129	3	2	126	0	0
Dongola	138	2	1	146	10	7
Murle	108	8	7	117	17	14
Anywa	85	15	18	72	2	3
Krongo	49	22	45	28	1	4
Hadza	64	0	0	129	65	50
Sandawe	64	3	5	73	12	16
Khoekhoe	124	7	6	145	28	19
Ju|'hoan	163	26	16	138	1	1
Taa	173	33	19	143	3	2
Tigre	81	9	11	72	0	0
Tamajeq	133	15	11	134	16	12
Bedauye	127	1	1	127	1	1
Burunge	195	2	1	256	63	25
Kera	103	53	51	58	8	14
Lamang	128	0	0	133	5	4
Hausa	242	43	18	212	13	6
Mandinka	203	22	11	212	31	15
Izon	72	18	25	57	3	5
Kisi	13	1	8	12	0	0
Donno Sɔ	65	49	75	30	14	47
Kouya	55	4	7	51	0	0
Supyire	31	15	48	17	1	6
Koromfe	87	40	46	54	7	13
Waja	102	12	12	99	9	9
Ngbaka Ma'bo	99	14	14	103	18	17
Ewe	60	35	58	29	4	14
Yoruba	94	84	89	17	7	41
Igbo	72	45	62	27	0	0
Birom	148	11	7	137	0	0
Tikar	27	18	67	9	0	0
Nguni	69	21	30	56	8	14
Total	**4063**	**838**	**21**	**3709**	**484**	**13**