Clause Linkage In Ket
Nefedov, A.

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Universiteit Leiden

Author: Nefedov, Andrey
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Chapter 3. Clause linkage: Theoretical preliminaries

The last few decades witness an increasing interest among linguists towards the issue of clause combining. This interest is supplemented by extensive research into the phenomenon on the basis of typologically diverse languages. The variation in ways of combining clauses found across the languages has challenged a number of traditional concepts belonging to the realm of complex sentences (cf. Foley and Van Valin 1984; Lehmann 1988; Matthiessen and Thompson 1988; Cristofaro 2003).

The present chapter aims to outline general theoretical foundations of the notion of clause linkage, i.e. how a language deals with the task of combining two (or more) clauses into a larger unit called complex sentence.[49] In the following sections, we present an overview of some of the most influential and insightful works related to clause linkage. We also cover some earlier studies on clause combining in Ket specifically.

The chapter is organized in the following way. Section 3.1 is concerned with the traditional approach to clause linkage. Section 3.2 outlines the approach adopted within the RRG framework. Section 3.3 deals with the functional approach and section 3.4 reviews the so-called parametric approach to the problem. Finally, section 3.5 surveys the earlier studies of Ket with respect to clause linkage.

3.1 Traditional formal approach

In most traditional grammatical descriptions, clause linkage is presented in a binary fashion as divisible into two basic types: coordination and subordination. The identification of these clause linkage types within the traditional approach has always been done in purely formal morphosyntactic terms of dependency and embedding. According to the dependency criterion, coordination implies a symmetric relation between clauses that have equal syntactic status, not being dependent on one another. Subordination, on the other hand, is defined as an asymmetric relation in which one clause is grammatically dependent on the other. In other words, the dependent clause,

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[49] In English linguistic literature, this term can also be used in a narrow sense referring to subordinate sentences only (Bussman 1996: 217). By contrast, in the Russian linguistic tradition, it is exclusively used as an umbrella term for both coordinate and subordinate sentences (Jarceva 2002: 471).

i.e. the subordinated one, cannot stand in isolation without its non-dependent counterpart often referred to as the main or matrix clause. The embedding criterion implies that the subordinated clause is embedded within the main clause and fulfills a certain syntactic function similar to that of a noun phrase, an adjective or an adverb in a simple sentence. Subordinate clauses can be further divided into three general types with regard to their relevant syntactic function. These types are complement clauses, relative clauses, and adverbial clauses, respectively. The clauses constituting a coordinate sentence do not fulfill any grammatical function and therefore are not considered to be embedded. The following examples from Russian (and their respective English translations) illustrate the different clause linkage types: coordinate clauses (3.1), a complement clause (3.2), a relative clause (3.3) and an adverbial clause (3.4).

(3.1) Russian

[*Vasja vstretil Mašu,*] *i* [*oni pošli na koncert*]
'Vasja met Masha and they went to the concert.'

(3.2) Russian

Vasja skazal, [*čto koncert budet klassnym*]
'Vasja said that the concert is going to be awesome.'

(3.3) Russian

No koncert, [*na kotoryj oni pošli*]*, byl otmenën*
'But the concert they went to was cancelled.'

(3.4) Russian

Koncert otmenili, [*potomu čto gruppa propustila svoj samolët*]
'The concert was cancelled, because the band missed their flight.'

Example (3.1) provides a clear instance of coordination. The bracketed clauses in (3.1) are grammatical on their own and therefore are not dependent on each other. Neither do they fulfill any particular syntactic function. This is not the case with the rest of the examples in which the bracketed clauses cannot be used in isolation. These clauses are characterized by the presence of a special element that signals dependency. In (3.2) and (3.4) it is special conjunctions *čto* 'that' and *potomu čto* 'because' whereas

in (3.3) it is the relative pronoun *kotoryj* 'which'. In addition to dependency, these bracketed clauses fulfill specific syntactic functions with respect to their main clauses. The bracketed clause in (3.2) functions as an argument of the verb *skazat'* 'say' in the main clause. In (3.3), the clause in brackets serves as a modifier to the noun *koncert* 'concert' from the main clause. And the bracketed clause in (3.4) modifies its main clause as an adverbial.

The majority of scholars criticizing the traditional approach to clause linkage emphasize the fact that it fails to suffice when applied to a typologically diverse set of languages outside the Indo-European family. For example, it is not clear how to deal with some constructions found in Amele, a Trans-New Guinea language, which exhibit a certain degree of dependency, but no embedding (see section 3.2, for more discussion). Moreover, the traditional approach may even fail within an Indo-European language, for example, in English; see (Culicover and Jackendoff 1997).

In what follows we will survey other approaches that try to avoid the shortcomings of the traditional approach by taking into account actual data from typologically diverse languages.

3.2 Role and Reference Grammar approach

One of the first studies that challenged the traditional binary opposition between coordination and subordination and laid the foundations for a new approach to clause combining was Foley and Van Valin's (1984) seminal study within the theory of Role and Reference Grammar (RRG). Unlike the traditional approach which, as we mentioned, is primarily based on the Indo-European languages, the RRG approach takes into consideration a set of languages that are different both genealogically and typologically.

There are three components that play a key role in the RRG approach to clause combining: (1) the nexus, (2) the juncture, and (3) the interclausal relation hierarchy. We consider them below in this order.

The notion of nexus is related to the type of the syntactic relation between the combined clauses. Each type is defined on the basis of the two formal criteria already

mentioned in section 3.1, dependency and embedding. Based on these criteria, RRG distinguishes the following three types of nexus: coordination, subordination and cosubordination. The first two types are defined in a way similar to the formal approach, i.e. coordinate constructions are neither embedded nor dependent and subordinate constructions are both embedded and dependent. The third type, cosubordination, represents constructions, in which one clause (or more) is dependent but not embedded. The most famous instances of cosubordination are the clause chaining constructions documented in non-Austronesian languages of New Guinea. An example from Amele, a Trans-New Guinea language, illustrates this type in (3.5) below.

(3.5) Amele, Papuan

ho busaleceb dana age qoiga

[ho	busale-ce-b]	dana	age	qo-ig-a
[pig	run.out-DS-3SG]	man	3PL	hit-3PL-TOD.PST

'The pig ran out and the men killed it' (Roberts 1988: 53)

The bracketed part of the sentence in (3.5), *ho busaleceb* 'pig ran out', does not constitute a grammatical independent sentence and its temporal interpretation depends solely on the tense of the verb in the final clause *dana age qoiga* 'the men killed it'. So it is clearly dependent. However, it is often argued in the literature (e.g. Haiman 1980; Reesink 1983; Roberts 1988) that such clauses do not seem to be embedded and differ from clearly subordinate clauses in these languages. For example, they do not allow cataphoric pronominal reference, which is often used as a test for subordination. This test is based on the ability of pronouns in initial subordinate clauses to refer cataphorically to a noun phrase in the following main clause (cf. Haspelmath 1995). Cf. the following examples in which (3.6) is a subordinate sentence, while (3.7) is a cosubordinate one.

(3.6) Amele, Papuan

(uqa)$_i$ sabjigian nu fred$_i$ hoia

[(uqa)$_i$	sab	j-igi-an	nu]	fred$_i$	ho-i-a
[he$_i$	food	eat-3.SG.FUT	PURP]	F.$_i$	come-3.SG-HOD

'Fred$_i$ came to eat food.' (Roberts 1988: 56)

(3.7) Amele, Papuan

> *(uqa) bibili fred jeia*
>
> [(uqa)ᵢ   bi-bil-i]   fredⱼ   je-i-a
>
> [heᵢ   SIM-sit-3.SG.SS]   F.ⱼ   eat-3.SG-HOD
>
> 'While heᵢ sat, Fredⱼ ate.' (Roberts 1988: 57)

As we can see, in (3.6) it is possible to add a pronoun to the first clause, so that the pronoun could refer to the noun Fred in the second clause. It provides a solid proof that the first clause is subordinate to the second one. A different situation can be observed in (3.7). While it is possible to add a pronoun to the first clause, the pronoun does not allow for a cataphorical interpretation, which means that *uqa* 'he' and Fred refer to different persons.

It should be noted that the RRG approach distinguishes between two kinds of dependency: (1) operator dependency and (2) structural dependency. The former refers to cases in which one clause is dependent on another for the interpretation of one or several of its features, e.g., tense. The latter implies that a dependent clause cannot stand on its own as a grammatical sentence (Van Valin and LaPolla 1997). That way, while subordinate clauses display only structural dependency, cosubordinate clauses display both as shown in examples (3.6) and (3.7) above. Table 3.1 below summarizes the information related to the nexus types in RRG.

Nexus relation types→ ↓**Components**	*Coordination*	*Subordination*	*Cosubordination*
Operator dependency	–	–	+
Structural dependency	–	+	+
Embeddedness	–	+	–

Table 3.1. *Types of nexus relations in RRG*

The notion of juncture is connected to the structuring of a clause in the RRG theory. According to RRG, the clause as a whole can be structured with respect to the three crosslinguistically valid semantic contrasts: nucleus, core and periphery (Van Valin 2005: 4ff). Consider, for example, the following clause in (3.8).

(3.8) English

> *John bought a book in the bookstore.*

It consists of the following layers: (1) the nucleus consisting of the predicate (*bought*), (2) the core consisting of the predicate and arguments (*John bought a book*), and (3) the periphery, i.e., non-arguments or adjuncts (*in the bookstore*). Figure 3.1 summarizes RRG's layered structure of the clause.
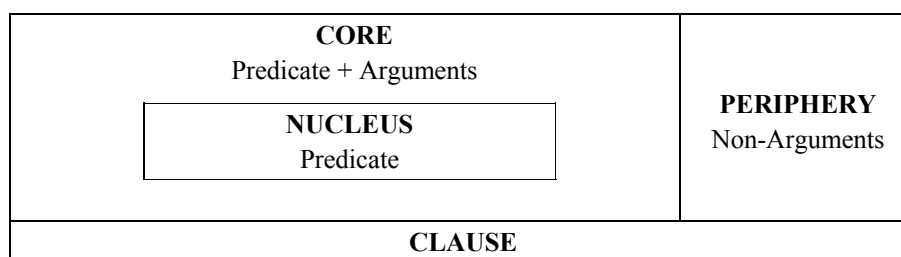
CORE Predicate + Arguments **NUCLEUS** Predicate	**PERIPHERY** Non-Arguments
CLAUSE	

Figure 3.1. *Layered structure of the clause in RRG*

Each layer can be modified by a set of operators. In RRG, operators are grammatical categories like aspect, negation, tense, and illocutionary force. Some operators can occur at all layers of the clause, for example, negation. Others are bound to one particular layer, for example, the aspect operator occurs only at the nuclear level. Languages may not have all of these operators as grammatical categories; the absolutely universal ones are negation and illocutionary force (Van Valin 2005: 9). The operators and the layers they modify are represented in Table 3.2 below.

Layer	**Operator**
Nuclear	Aspect
	Negation
	Directionals (*only those modifying orientation of action or event without reference to participants*)
Core	Directionals (*only those expressing the orientation or motion of one participant with reference to another participant or to the speaker*)
	Event quantification
	Modality (*root modals, e.g. ability, permission, obligation*)
	Internal (narrow scope) negation
Clause	Status (*epistemic modals, external negation*)
	Tense
	Evidentials
	Illocutionary Force

Table 3.2. *Operators in RRG*

Each of the three types of nexus relations (coordination, subordination, and cosubordination) may occur at each layer of the clause structure. Therefore, it is

possible to posit nine nexus-juncture types of complex sentences: clausal coordination, subordination and cosubordination; core coordination, subordination and cosubordination; and nuclear coordination, subordination and cosubordination.[50] The operators together with the shared arguments play an important role in diagnosing to what layer each type of nexus relations in a language belongs to.

Finally, the third important component in the RRG approach to clause linkage is the interclausal relation hierarchy provided in Figure 3.2. This hierarchy links together two separate hierarchies of complex constructions, one representing syntactic relations, and the other – semantic relations. The syntactic relation hierarchy provides the nine types of nexus-juncture combinations ranked with respect to the degree of morpho-syntactic tightness they convey (cf. the left side of Figure 3.2). Semantic relations that occur between units in complex constructions can be ranked in a similar fashion as well, i.e., from the tightest to the loosest integration (cf. the right side of Figure 3.2). The important point is that RRG assumes that there is a certain implicational relationship between the morpho-syntactic continuum, on the one hand, and the semantic continuum, on the other, i.e., the stronger the syntactic integration is, the tighter the semantic bond between clauses is going to be.

SYNTACTIC RELATIONS	SEMANTIC RELATIONS
TIGHTEST	STRONGEST
nuclear cosubordination	Causative
nuclear subordination	Phase
	Psych-Action
nuclear coordination	Purposive
core cosubordination	Jussive
core subordination	Direct Perception
	Propositional Attitude
core coordination	Cognition
clausal cosubordination	Indirect Discourse
	Conditional
clausal subordination	Simultaneous States of Affairs
clausal coordination	Sequential States of Affairs
	Unspecified Temporal Order
LOOSEST	WEAKEST

Figure 3.2. *The syntactic hierarchy of interclausal relations in RRG*

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[50] Van Valin (2005) suggests that coordination and subordination may also occur at the level of sentence, if we deal with a detached topic of each clause, like in *As for Sam, Mary saw him last week, and as for Paul, I saw him yesterday*.

Examples (3.9) – (3.13) illustrate some of the points along this hierarchy for the English language.

(3.9) *Harold pushed open the door*

(3.10) *Sam finished crying*

(3.11) *Yolanda heard the guests arrive*

(3.12) *John broke a glass, and then Mary entered the room*

(3.13) *Tyrone likes apples and Don likes oranges*

Examples in (3.9) and (3.10) represent the highest points on the hierarchies. The first one is a causative construction in which one state of affairs brings about another directly, so that the states of affairs are being perceived of as one sequence. The second example is the so-called phase construction in which the verb in the main clause describes a facet of the temporal envelope of a state of affair, namely, its termination. The last two examples (3.12) and (3.13) belong to the other end of the continuum and represent the lowest points on the hierarchies. Example (3.12) illustrates sequence relations in which one state of affairs takes place after another, with or without temporal overlap. The loosest type of relations is illustrated by (3.13) in which the temporal relation between two states of affairs is unexpressed (i.e. unordered). Finally, (3.11) is approximately situated in the middle of the hierarchies representing a case of direct perception, i.e. an unmediated apprehension of some act, event, etc.

It should be kept in mind that these two hierarchies do not really imply that there must be a strict one-to-one iconic correspondence between the syntactic and semantic relations. For example, a given syntactic type may convey more than one semantic relation whereas a given semantic relation may be expressed by more than one syntactic type in a certain language. However, Van Valin and LaPolla (1997) argue that it should always be the case in any language that the tightest syntactic linkage realizing a particular semantic relation is higher on the syntactic hierarchy (or at least as high) than the tightest syntactic linkage realizing a semantic relation situated lower on the semantic hierarchy. In this sense, the two hierarchies are indeed iconical.

Hence, it can be implicated that the tightest linkage type found in a language should always include causative relations. Likewise, the tightest syntactic linkage realizing, for instance, jussive relations should always be not less tight than the tightest syntactic linkage realizing, for instance, indirect discourse.

Other studies supporting the relevance of iconicity in clause combining include Silverstein (1976), Givón (1980, 1985), Kortmann (1997), and Cristofaro (2003).

3.3 Functional approach

Another approach that substantially differs from the traditional one was presented in Cristofaro's (2003) large-scale typological study of subordination based on approximately ninety languages. Later, a similar study based on the same theoretical assumptions but for coordination was done by Mauri (2008). In her study, Cristofaro adopts a strictly functional approach aimed at relating all kinds of subordination to semantic, pragmatic, and cognitive principles. According to her, the actual linguistic diversity in clause linkage constructions is too broad to fit into the traditional binary opposition between coordination and subordination. Therefore, defining the notion of subordination in morphosyntactic terms leads to exclusion of data from languages that lack certain structural features, which in turn might lead to the loss of some important typological evidence. In order to avoid the obvious shortcomings of the formal approach, Cristofaro (2003: 2) proposes the following definition of subordinate relations: a relation between two states of affairs is seen as subordinate only when 'one of them [...] lacks an autonomous profile, and is construed in the perspective of the other'. In other words, she equates subordinate clauses with clauses that do not make assertions of their own. It also implies that states of affairs can be considered coordinate if both have an autonomous profile and are not construed in the perspective of each other, i.e. can be asserted (cf. Mauri (2008: 41). The functional definition substantially broadens the range of structures that can be regarded as coordinate and subordinate in addition to the traditionally defined clause linkage types.

The assertiveness of the clause can be tested in several ways. Cristofaro (2003: 32) provides two basic types of tests. The first one is sentential negation which can target only the asserted (i.e. independent) part of a sentence. Example (3.14) illustrates this test.

(3.14) *It is not the case that, alarms ringing, the burglar fled.*

As we can see, the only thing negated in (3.14) is the fact that *the burglar fled*, the fact of *alarms ringing* remaining unaffected.

The second type of tests targets the illocutionary force of a sentence. Like sentential negation, illocutionary force can challenge only what is asserted. Cristofaro (2003: 32) illustrates it with a sentential question (3.15) and a tag question (3.16).

(3.15) *Is it the case that, alarms ringing, the burglar fled?*

(3.16) *Alarms ringing, the burglar fled, didn't he? (*didn't they?)*

In both examples, what is being targeted by questions is whether *the burglar fled*. It is not possible to apply these types of questions to the *alarms ringing* part of the sentence.

In a coordinate construction, however, these tests can challenge both parts of a sentence as illustrated in examples (3.17) – (3.19) (cf. Mauri 2008: 39).

(3.17) *It is not the case that the alarms rang and the burglar fled.*

(3.18) *Is it the case that the alarms rang and the burglar fled?*

(3.19) *The alarms rang and the burglar fled, didn't they?*

A major point made by Cristofaro (2003: 32) with regard to the assertiveness tests is that they can work for all languages.

With the functional definition of subordination, Cristofaro proceeds to examine how various types of subordinate clauses correlate with certain morphosyntactic properties. The properties she takes into consideration are the following: elimination or alternation of tense / aspect / mood (TAM) distinctions, elimination or alternation of agreement distinctions on the verb, use of case markers on the verb, and omission

or altered coding of verb arguments. Each of the parameters is measured by the deviation of a verb form in a subordinate clause from the verb in an independent declarative clause. The more the subordinate construction deviates from the basic pattern, the more it is deranked in Cristofaro's terms. The less it deviates, the more it is balanced. The difference between deranked and balanced forms as well as omission or some altered coding of verb arguments serves as a basis for formulating various implicational hierarchies. These hierarchies serve as a basis for the two general hierarchies proposed in the study: Subordination Deranking Hierarchy and Subordination Argument Hierarchy. The former is presented in Table 3.4, while the latter is in Table 3.5 below.

Phasal, Modals > Desideratives, Manipulatives, Purpose > Perception > Before, After, When, A relativization, S relativization > Reality condition, Reason, O relativization > Knowledge, Propositional attitude, Utterance, Indirect object relativization, Oblique relativization

Table 3.4. *The subordination deranking hierarchy* (Cristofaro 2003: 4)

This hierarchy holds for the distribution of deranked verb forms in general and reads as follows: If a deranked verb form is used to code the dependent state of affairs at any point of the hierarchy, it is also used for all relations to the left on the hierarchy.

Modals, Phasals, A relativization, S relativization > Desideratives, Manipulatives, Purpose > Perception > Before, When, After, Reason, Utterance, Propositional attitude, Knowledge, Reality condition

Table 3.5. *The subordination argument hierarchy* (Cristofaro 2003: 230)

The Subordination Argument Hierarchy holds for a lack of overtly expressed arguments (A and S). It reads in a similar way as the one above: If there is a lack of overtly expressed argument in a dependent state of affairs at any point of the hierarchy, it is also lacking in all relations to the left on the hierarchy.

The implicational hierarchies in Cristofaro's study also confirm the important role of iconicity in clause combining that was advocated in the RRG approach as well as in some other studies (e.g. Givón 1980, 1990). Cristofaro distinguishes between two

types of iconicity: (1) iconicity of independence, i.e. the correspondence between formal dependency (syntactic integration) and conceptual dependency (semantic integration), and (2) iconicity of distance, i.e. the correspondence between formal distance (number and type of morphemes) and conceptual distance (shared semantic features). Subordinate constructions expressing relations further to the left on the hierarchies show a tendency to both have higher syntactic integration and share more semantic features with the main clause. For example, according to Cristofaro, purpose clauses cross-linguistically are often formally reduced compared to independent clauses (i.e. less independent) and normally share the same A argument with the main clause, often absent in the purpose clause (i.e. less distant).

Cristofaro further integrates iconicity into a larger model of functional motivations underlying the syntax-semantics of clause linkage. Apart from the two types of iconicity, these functional motivations include: syntagmatic economy and the cognitive distinction between processes and things. Syntagmatic economy is used to account for the fact that subordinate clauses in relations further to the left on the hierarchies tend to avoid marking of semantic components which can be recovered or predicted from context (such as reference to participants or temporal setting). The distinction between processes and things assumes that there is a direct connection between the cognitive status of subordinate clauses and some of the morphosyntactic phenomena involved in the cross-linguistic coding of subordination such as case marking on the verb or coding of arguments as possessors. The subordinate clauses expressing relations to the left on the hierarchies show a greater tendency to be construed as things not processes and therefore have a greater ability to attract nominal features.

3.4 Parametric approach[51]

A number of approaches to clause linkage have suggested that it should not be defined in any discrete terms. Rather, it should be accounted for as a continuum consisting of mutually independent and freely combinable features or parameters (Haiman and

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[51] The term is taken from Gast and Diessel (2012). In Cristofaro (2003) a similar approach is termed 'continuum approach'.

Thompson 1984; Lehmann 1988; Bickel 1991; Hopper and Traugott 1993). The first sophisticated and elaborated study that follows along these lines was provided in Lehmann (1988). Lehmann's typology proposes six parallel continua that refer to different semantosyntactic parameters. All parameters are scalar in nature and share two extreme poles (or values) along which the lexical and/or grammatical information in combined clauses may be either elaborated or compressed. Table 3.6 illustrates these parameters and their respective values.

	Parameter	Value
1	hierarchical downgrading	none: parataxis strong: embedding
2	syntactic level	high: sentence low: word
3	desententialization	weak: clause strong: noun
4	grammaticalization of main predicate	weak: lexical verb strong: grammatical affix
5	interlacing	weak: separate clause properties strong: overlapping clause properties
6	explicitness of linking	maximal: syndesis minimal: asyndesis

Table 3.6. *Parallel continua in clause linkage* (Lehmann 1988: 183)

Following Lehmann (1988), these parameters can be grouped into three pairs which will be discussed below.

The first pair includes the parameters of hierarchical downgrading and syntactic level. The two poles of hierarchical downgrading are represented by parataxis, where there is no hierarchical relation between the clauses,[52] and embedding, where one clause functions as a constituent within the other. The second parameter concerns the level at which one clause is integrated with another, the highest pole being the level of sentence and the lowest one being that of an individual word. Between these two poles there is a continuum, where go various other constituent levels (e.g. main clause, VP). This parameter is similar to Foley and Van Valin's (1984) three levels of juncture:

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[52] In Lehmann's terms, parataxis is coordination of clauses, regardless of whether it is syndetic (marked overtly) or asyndetic (not marked overtly). In traditional grammars, parataxis is usually defined as asyndetic coordination of elements (cf. Crystal 1992).

nucleus, core and periphery. Examples (3.20)-(3.22) show extreme and intermediate values of these two parameters.

(3.20) *I was trimming a boomerang, there you came up* (Lehmann 1988: 183)

(3.21) Hittite

nu kwit LUGALus tezzi nu apat iyami

nu	kwit	LUGALu-s	tezzi	nu	apat	iyami
CONN	what	king-NOM	says	CONN	that	do.1SG

'And what the king says, that I do.' (Lehmann 1988: 184)

(3.22) Russian

Ja dumaju, čto ona umnaja

'I think that she is smart.'

Example (3.20) represents a juxtaposition of two clauses. Neither one is somehow dependent or embedded within the other. Thus, there is no hierarchical downgrading in this case, and the clauses are related at a high syntactic level (namely, that of text). The Hittite example in (3.21) represents the so-called correlative diptych. According to Lehmann, this construction is situated right in the middle between the two poles of hierarchical downgrading. The initial clause *nu kwit LUGALus tezzi* cannot stand in isolation and is therefore dependent. At the same time, it is not embedded into the second clause as its place is taken by the demonstrative. In (3.22), there is an example of a complement clause. The string *čto ona umnaja* is an obligatory constituent of the matrix clause and fulfills a syntactic function of object with respect to the verb *dumaju* 'I-think'. Thus, it is embedded very tightly at the level of the verb phrase.

The parameters of desententialization and grammaticalization of the main predicate both deal with the reduction of clausal properties. The difference between them is that the former concerns subordinate clauses whereas the latter matrix clauses. It should be mentioned that the way the reduction takes place is different as well. The two extremes of the desententialization parameter are represented by a fully-fledged clause at one endpoint and down to a verbal noun at the other. The common properties of a fully-fledged clause include illocutionary force, mood, tense, aspect, actants and circumstants. The more the clause is subordinated, the greater are constraints on,

or loss of, these properties. Moreover, Lehmann states that these properties show a clear tendency to be constrained/lost in a fixed order, starting with illocutionary force, and then followed by modal markers, tense/aspect markers, and arguments, respectively. Reduced clauses that appear at the lower pole of this continuum may acquire the ability to combine with prepositions and case affixes and, finally, turn to verbal nouns Thus, desententialization goes hand in hand with nominalization.

With respect to grammaticalization of the main predicate, the process of reduction works in a different way turning lexical verbs, which are the one extreme, into modals, auxiliaries and then finally into grammatical affixes, which are the other pole extreme. Such a process often affects constructions expressing causative and desiderative meanings. Example (3.23) illustrates one of the extreme poles of desententialization. The complement clause (in brackets) show clear nominal properties, which is manifested by the presence of the possessive pronoun *his*, the adjective *constant*, and the preposition *of*. The strongest extreme pole of the grammaticalization parameter is illustrated by a Ket clause in (3.24). It is a causative construction in which the causative meaning is not expressed by a separate predicate (as in the corresponding English translation), but by the marker *-q-* on the verb.

(3.23) *She objected to* [*his constant reading of magazines*]

(3.24) Ket

    bū danʲanʲbɛtqirit

    bū   da^8-nanbed^7-q^5-di^1-t^0

    3SG   3F^8-make.bread.ANOM^7-CAUS^5-1SG^1-MOM^0

    'She makes me bake bread.'

The last pair of Lehmann's parameters is interlacing and explicitness of linking. The parameter of interlacing concerns sharing of properties between two clauses, such as tense, aspect, or participants (actants in Lehmann's terms). The latter is the most central type of interlacing, according to Lehmann, and there are different ways in which this type is expressed in various languages (e.g. switch-reference, raising). Example (3.25) is an illustration of a construction with the shared participants (object-to-object raising).

(3.25) Italian

> *Mi feci* [*radere la barba*]
>
> mi   feci   [radere   la   barba]
>
> me   made:1SG   shave:INF   the   beard
>
> 'I had my beard shaved.' (Lehmann 1988: 209)

The final parameter is the explicitness of linking between the combined clauses. It is related to the notions of syndesis and asyndesis. The former refers to the use of any structural means that indicate a link between the clauses, whereas the latter denotes the absence of such means. It should be noted that syndesis, according to Lehmann, is a gradual phenomenon ranging between full explicitness of interclausal relations indicated by a connective phrase and its highly reduced indication in the form of a verbal mood or a change in intonation. Examples (3.26)-(3.29) illustrate various degrees of the explicitness of linking.

(3.26) *I could not enter the house yesterday, the door was locked.*

(3.27) Portuguese

> *O estudante comprou um monte de livros especializados*, [***a fim de que*** *o professor o tivesse por inteligente*].
>
> 'The student bought a heap of specialized books in order that the professor should consider him intelligent.' (Lehmann 1988: 212)

(3.28) Latin

> [*Haec* **cum** *Crassus dixisset*], *silentium est consecutum*.
>
> 'When Crassus had said this, silence followed.' (Lehmann 1988: 212)

(3.29) Latin

> *Si vis* [*amar**i***]*, ama*
>
> 'If you want to be loved, love.' (Lehmann 1988: 212)

The sentence in (3.26) is an example of asyndesis in which the causal relation between the two clauses is not marked explicitly but inferred from the meaning of the clauses. Examples (3.27)-(3.29) show various degrees of syndesis, from maximally to minimally explicit marking. In (3.17) it is marked by a prepositional phrase, in (3.28)

by a case form of a relative pronoun, and in (3.29) syndesis is signaled by the inflectional category of the Latin infinitive *amari*.

3.5 Clause linkage in Ket: Earlier studies

Compared to many of the world's endangered languages, Ket has a rather long and rich history of studies with the first known linguistic record dating from the beginning of the 18th century (cf. Vajda 2001: 2). However, syntactic issues and issues of clause-combining in particular still remain quite underrepresented in the existing literature on Ket (cf. Werner 1997: 320). The majority of the linguistic literature explores issues related to the domains of phonology (e.g. Hamp 1960; Dul'zon 1968; Denning 1971a; Verner 1974, 1990; Vall and Kanakin 1990; Werner 1996, 1997; Feer 1998; Vajda 2000; Georg 2007), nominal morphology (e.g. Dul'zon 1968; Vall 1970; Bibikova 1971; Živova 1978; Šerer 1983; Porotova 1990; Vall and Kanakin 1985; Werner 1994, 1997, 1998; Georg 2007) and, especially, verbal morphology (e.g. Dul'zon 1968; Krejnovič 1968; Uspenskij 1968; Kostjakov 1973; Šabaev 1984; Pavlenko 1986; Vall and Kanakin 1988, 1990; Butorin 1995; Rešetnikov and Starostin 1995; Werner 1997; Vajda 2000, 2003, 2004, 2008; Georg 2007). The latter is considered to be the most complex and controversial part of the language's grammar, which is why it has been attracting so much attention from scientists over the years. Likewise, most of the existing grammatical descriptions of Ket (for example, Castrén 1858; Karger 1934; Bouda 1957; Dul'zon 1968; Vajda 2004)[53] put primary focus on describing the Ket verbal system. They provide only a limited amount of information about Ket syntax, let alone Ket complex sentences. The only exception to date is 'Die ketische Sprache' by Werner (1997), with a chapter devoted to description of simple and complex sentences in Ket (we will consider it below).

Among the works devoted to the syntax of simple sentences, one can emphasize two major studies, namely, Tamara Kabanova's (1975) kandidatskaja degree dissertation "Sintaksis prostogo predloženija ketskogo jazyka [Syntax of the simple sentence in Ket]" and Ėduard Belimov's (1991) monograph "Ketskij sintaksis. Situacija,

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[53] Georg's (2007) Ket grammar represents the first volume of his description and is devoted to the Ket phonology and morphology only. The issues of Ket syntax are planned to be dealt with in the prospective second volume.

propozicija, predloženie [Ket syntax: situation, proposition, sentence]." Kabanova's work describes basic features and types of the Ket simple sentence. She distinguishes the following semantic types: 1) declarative sentences, 2) interrogative sentences, 3) imperative sentences, and 4) exclamatory sentences. From the structural point of view, Kabanova distinguishes one-member and two-member simple sentences in Ket. She also deals with sentence constituents and issues of word order. Her dissertation in general is heavily based on the ideas regarding the Ket verb proposed in Dul'zon (1968) and follows the Russian linguistic tradition in the analysis of Ket.

Belimov takes a different approach in his work. His main claim is that Ket belongs to the so-called 'role-dominated' languages (in terms of Foley and Van Valin 1984). Therefore, according to him, Ket verb agreement does not reflect notions such as subject and object, but instead reflects marking of the five semantic roles: agentive (active participant), factitive (experiencer or recipient indirectly affected by or involved in the action), reflexive, contra-agent (the active recipient of the force of the action) and patient (inactive participant or tool). Based on that, Belimov proposes that the Ket simple sentence has three basic constructions: 1) sentences with promoted Agent, 2) sentences with promoted Factitive, and 3) sentences with promoted Patient. He also provides some discussion on the parts-of-speech problem existing in Ket.

Of the studies devoted specifically to complex sentences, the majority focus on constructions formed with the help of postpositional relational morphemes. When attached to fully inflected verbs, these morphemes function as subordinating conjunctions forming a wide variety of (mostly adverbial) complex sentences.

The first scholar to notice this important feature was, presumably, the Finnish linguist Mathias A. Castrén. In his pioneering work, Castrén notes that the Prosecutive case marker -*bes* can attach to finite verb forms both in present and past tense (Castrén 1858: 56). Later, other scholars likewise pointed out the ability of relational morphemes to attach to fully inflected verbs (Krejnovič 1963: 255, 1968: 471, 1969: 20-90; Dul'zon 1968: 72-73, 1971a, 1974; Vall 1969: 96-98). In particular, Dul'zon (1974) provides a short description of various types of complex constructions

involving case markers. Another Russian scholar, Kostjakov (1976a,b, 1977), provides a more general description of (adverbial) complex sentences in Ket.

The most prominent work on this topic to date is Natalija Grišina's (1979b) kandidatskaja degree dissertation "Padežnye pokazateli i služebnye slova v strukture složnogo predloženija ketskogo jazyka [Case markers and function words in the structure of a Ket complex sentence]". This study provides a descriptive account of Ket subordinate constructions formed with the help of postpositional relational morphemes from a structural-functional perspective. Grišina proposes the following four means of combining two simple clauses into a complex one in Ket: 1) intonation, 2) conjunctions (and intonation), 3) case markers (and intonation), and 4) function words (and intonation) (Grišina 1979: 6). The author limits her study to the latter two. In respect to the traditionally distinguished case markers, the study concerns those built with the help of the possessive linker -*d*- such as the Dative -*diŋa*, the Ablative -*diŋal*, the Adessive -*diŋta* and the Benefactive -*dita*. Of the case markers which do not require the linker, only the Locative -*ka* is considered by the author. Constructions formed with the help of the other case markers without the linker like the Prosecutive -*bes* and the Comitative-Instrumental -*as* are considered by the author as simple sentences with adverbial participles (*deepričastnye oboroty*) and hence left outside the scope of the dissertation (Grišina 1979: 4). For the same reason the use of the Translative marker *esaŋ* is not considered in her work as well. The function words are divided by the author into postpositions proper and postpositional words. Among the Ket postpositional words considered in the study are *baˀŋ* 'earth, place, time' (and its case-marked forms *baŋka* and *baŋdiŋa*), *qaka* 'motion directed into the object', *kika* 'in the middle of, towards the middle of', *kubka* 'before' *doqot* 'for, on behalf of' and *qadika* 'after'. The postpositions surveyed in the dissertation include: *dukde* 'as long as' and *daan* 'while'. The use of the postposition *aas* 'with' is left out by the author on the same grounds as the abovementioned Prosecutive and Comitative-Instrumental case markers. The variety of semantic types of complex constructions covered in the study includes Temporal, Conditional, Reason, Purpose and Locative adverbial clauses. In addition to the survey of the relational morphemes and their functions in the domain of complex sentences, the author provides information concerning tense,

negation and word order properties of the surveyed constructions. This dissertation undoubtedly remains one of the most valuable studies related to the complex constructions formed with the help of relational morphemes in Ket.

The only study dealing solely with complement clauses in Ket is Galina Polenova's (1985) article published in an edited volume on the typology of constructions with predicate actants[54] (Xrakovskij 1985). In her article, Polenova presents a concise overview of various semantic groups of complement-taking predicates in Ket and describes what kinds of predicate actants each particular verb can take. She distinguishes the following groups of predicates: verbs of speaking and thinking, verbs of emotions and sensual perception, modal verbs and their equivalents, aspectual and phasal verbs, causative verbs, temporal verbs and verbs of motion. The types of predicate actants described in the article include: direct speech, supine, infinitive, medial infinitive and simple declarative clause. Despite being certainly informative and quite correct in many respects, this article suffers from some incorrectness in the interpretation of the morphological structure of certain verbs. Thus, for example, many constructions described as taking their predicate actants in the form of infinitives (e.g. causative verbs, temporal verbs, etc.) are actually single verb forms (see Chapter 2 for more details and discussion). The article also contains short remarks on the tense and modality interrelations between the main and dependent clauses in these constructions.

One of the few Ketologists whose research was to a large extent focused on Ket syntax is Èduard Belimov (see, for example, his monograph that we mentioned earlier). Of particular importance for the present study are the following two articles by him: "Opredelenie i ego vyraženie v enisejskix jazykax [Attributes and their expression in Yeniseian]" (1977) and "Otnošenija odnorodnosti v enisejskix jazykax [Parallel sentence elements in Yeniseian]" (1980). The first article provides a survey of morphological and syntactic means used to convey attributes in Ket. In particular, Belimov describes various types of relative clauses and discusses some of their properties. The second article deals with coordination relations both at the phrase and

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[54] The definition of a predicate actant employed in Xrakovskij (1985) is somewhat similar to the notion of 'complement type' in Noonan's (2007) terms.

sentence level. The author also surveys conjunctions and particles involved in coordination.

Finally, one of the latest publications dealing with issues relating to complex constructions in Ket is the grammar by Heinrich Werner that we have already mentioned above. In the chapter on syntax, he provides, among other things, a concise overview of complex constructions in Ket distinguishing the following structural types:

(1) complex constructions formed by means of intonation only;
(2) complex constructions formed by means of the commentative form of the verb 'to say';
(3) complex constructions formed by means of conjunctions;
(4) complex constructions formed by means of pronouns and adverbs;
(5) complex constructions formed by means of case markers;
(6) complex constructions formed by means of postpositions;
(7) attributive complex constructions.

In the remainder of the chapter, Werner briefly surveys each of the indicated structural types. The survey of the fifth and sixth structural types is largely based on Grišina (1979), though, following Vall (1969: 96) and Kostjakov (1976b: 76-77), Werner treats constructions formed with the help of the Prosecutive *-bes* as complex sentences.[55] This description remains, to date, the only source providing a more or less unified overview of the majority of complex constructions in Ket.

In sum, as we can see, Ketology is still lacking a comprehensive and coherent description of strategies used for combining two clauses. Moreover, the majority of the existing studies are biased towards the most frequent structural type of complex constructions (i.e. the one involving relational morphemes) and are done mainly from a formal-structural perspective. Lastly, not of the least importance is the fact that most of these studies were done in the 70s-80s of the 20th century and lack any glossing (even Werner's grammar has no glosses). For that reason, they are quite reader-unfriendly for non-Ketologists. The present study seeks to change the situation and

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[55] Nevertheless, he does not mention constructions involving the postposition *às / ās* with similar function in his survey.

provide a unified description of strategies used to form complex sentences in Ket. It incorporates all the advances made during the last decades with respect to Ketology and the study of clause linkage typology to ensure its descriptive and typological value. The study is also intended to fill in gaps where it is necessary.