Adjective attribution

Michael Rießler

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За най-любимите ми Алма, Ива и Кристина

Contents

Preface

This is a thoroughly revised version of my doctoral dissertation *Typology and evolution of adjective attribution marking in the languages of northern Eurasia*, which I defended at Leipzig University in January 2011 and published electronically as Rießler (2011). I am indebted to my family members, friends, project collaborators, data consultants, listeners, supporters, sources of inspiration, opponents and other people who assisted in completing my dissertation.

I am very thankful to the series editors who accepted my manuscript for publication with this prestigious open-access publisher, to the technical staff at Language Science Press, as well as to proofreaders and other individuals who have spent their valuable time producing of this book.

My sincere thanks are due to my thesis supervisor and *Doktorvater* Balthasar Bickel,, to my second thesis supervisor and mentor throughout my whole career as a linguist Jurij Kusmenko, as well as to Martin Haspelmath, who provided particularly valuable comments after his careful reading of my manuscript. Other important comments on the manuscript where provided by Rogier Blokland, Ciprian Gerstenberger, Martin Kümmel and Joshua Wilbur as well as two anonymous reviewers.

Freiburg, 1st July 2016 Michael Rießler

Abbreviations and notational conventions

1 Morphological glosses

The following list includes only abbreviations for glossing of linguistic examples not defined by the Leipzig Glossing Rules.[1]

ABESS	abessive	HUM	human (gender)
ADJZ	adjectivizer, adjectivization	ILL	illative
AGR	(any kind of) agreement	INFL	(any) inflection
ATTR	or (attr.); attribution, attributive	MOD	modification
		NAR	narrative (case)
ANR	action nominal(izer)	NONFUT	non-future
COMPAR	comparative (adjective derivation)	NONHUM	non-human (gender)
		PFCT	perfective (verb derivation)
CONTR	contrastive focus	PRED	or (pred.); predication, predicative
CRS	currently relevant state	PREPOS	prepositional
DERIV	derivative, derivation (unspecified)	REAL	realis
		STAT	stative (verb derivation)
DIM	diminutive	SUPER	superlative
ESS	essive	UTR	utrum, common (gender)

2 Syntactic classes and phrase constituents

A	adjective
AdP	adposition phrase
AP	adjective phrase
ART	(attributive) article
CASE	case (clitic)
DEF	definite article

[1] http://www.eva.mpg.de/lingua/resources/glossing-rules/ 16.02.2014

Deg	degree word
HEAD	phrase head
INDEF	indefinite article
N	noun
NP	noun phrase
PSD	possessed (head in possessive noun phrase)
PSR	possessor (dependent in possessive noun phrase)
Rel	relative clause
V	verb

3 Abbreviations for cardinal directions

C	Central	S	South(ern)
E	East(ern)	SE	South-East(ern)
N	North(ern)	SW	South-West(ern)
NE	North-East(ern)	W	West(ern)
NW	North-West(ern)		

4 Other symbols

The following symbols are used for the illustration of linguistic changes.

~	variant
<	borrowing
←	derivation or other synchronic process
⇐	grammaticalization or other diachronic process[2]

[2] Note that the term GRAMMATICALIZATION is used for different types of linguistic changes leading to re-analysis of a given construction's grammatical meaning. A prototypical instance in this rather broad sense of grammaticalization is the morphologization of a formerly lexical morpheme to a grammatical morpheme, as the development of definite markers from anaphoric pronouns in Germanic languages, like in English *the house* (*the* ⇐ Old English *þæt*) and Swedish *hus-et* (*-et* ⇐ Old Norse *hið*).

Part I

Preliminaries

1 Introduction

Aim

The aim of this investigation is to typologize adjective attribution marking devices in the languages of northern Eurasia. Agreement and construct state marking are commonly known morphological devices for the licensing of adjectival modifiers; an example of a purely syntactic device is juxtaposition.

The main parts of this book include an ontological classification of all attested devices in the geographic area of investigation and a survey of adjective attribution marking devices occurring across the northern Eurasian language families. Finally, several attested scenarios for the evolution of adjective attribution marking devices in languages of northern Eurasia are discussed.

Question

The most central questions dealt with in this investigation regard the formal licensing of the syntactic relation between a head noun and its adjectival dependent inside a noun phrase:

- What syntactic, morphological or other adjective attribution marking devices are available in languages?
- How can these devices be systematically described and typologized?
- How is the occurrence of the different types distributed geographically?
- How does attribution marking arise and diffuse across languages?

Method

The present study is the result of empirical research based on data from grammatical descriptions on the investigated languages. It follows a data-driven, bottom-up and framework-neutral approach (cf. Haspelmath 2010b and also the method of "Autotypology" following Bickel & Nichols 2003 and Bickel 2007).

The method of sampling and mapping of data is inspired by the AUTOTYP[1] and EUROTYP[2] research programs as well as the WALS project (Dryer & Haspelmath 2013). The approach presented here is closer to EUROTYP than to WALS or AUTOTYP in coding as many different genera from the geographic area of investigation as possible.

Content

The book is divided into four main parts. In Part I (Preliminaries), a few basic comparative concepts relevant to a framework-neutral description of a noun phrase and its constituents are introduced. This part also discusses the syntax-morphology interface in noun-phrase structure which is of central importance for the present study.

Part II (Typology) presents a general ontology of adjective attribution marking devices based on data from northern Eurasian and other languages.

In Part III (Synchrony), a synchronic-typological survey of noun phrase structure with attributive adjectives in northern Eurasia is presented and exemplified with data from all genera of the area.

Part IV (Diachrony) is devoted to the evolution of adjective attribution marking devices. It describes several different paths of evolving and abolishing adjective attribution marking devices in northern Eurasian languages.

The book's last Part V (Conclusions) summarizes my findings. In addition, there is an appendix, containing maps and the sample of languages used for my study, as well as indices with references to names, languages and subjects.

[1] Cf. http://www.autotyp.uzh.ch 19.07.2016

[2] Cf. http://www.degruyter.com/view/serial/16329 19.07.2016

2 Noun phrases and adjectival modifiers

2.1 Noun phrases

A noun phrase is a referential syntactic unit which can serve as subject, object or oblique argument of a verb or as a predicative complement of a nominal sentence. Furthermore, a noun phrase can be used in adverbial and adnominal functions. According to common syntactic models, the head determines the category of the phrase and governs the dependent constituent(s) in the phrase (cf. Nichols 1986: 57). Consequently, the head of a noun phrase is a noun (or a pronoun). Dependent constituents in noun phrases, also called "attributes", narrow the denotation, i.e., modify the head noun descriptively. Typical modifiers in noun phrases are "nominal attributes" (or noun phrases), "adjectival attributes" (or adjective phrases), "adpositional attributes" (or adposition phrases) and "clausal attributes" (or relative clauses), as in the following example.[1]

(1) [$_{\text{NP}}$ [$_{\text{PSR}}$ *her*] [$_{\text{AP}}$ *brand new*] *house* [$_{\text{AdP}}$ *over there*] [$_{\text{Rel}}$ *which is big*]]

Noun phrases can thus contain simple modifiers, like nouns or adjectives, or more complex types of modifiers which are complex phrases themselves: for instance (possessor) noun phrases (*my father's*), adjective phrases (*brand new*), adposition phrases (*in the village*) or relative clauses (*which was expensive*).

2.2 Adjectival modifiers

This book presents a cross-linguistic comparison of "adjectival attributes", or ATTRIBUTIVE ADJECTIVES. It investigates the syntactic and morpho-syntactic behavior of adjectives inside noun phrases, in particular how they are formally licensed as dependent constituents in noun phrases.

The notion "adjective" needs some clarification because adjectives do not constitute a universal syntactic category. Whereas in some languages adjectives

[1] Possible syntactic dependencies between modifying constituents inside this noun phrase are ignored in this illustrating example.

form a distinct word class, in other languages adjectives may not be clearly distinguishable from other parts of speech and constitute a flexible category together with nouns or with verbs. In a third group of languages, adjectives do not exist as a distinct word class at all.

For the survey of languages considered in this investigation, the term ADJECTIVE had thus to be defined in a purely semantic sense, as words with a lexical meaning referring to properties or qualities such as 'high', 'beautiful', 'red', etc. "Qualifying modifiers" (Rijkhoff 2002: 100, passim) in this broad sense are all lexical elements specifying properties of their referents. This definition excludes possessive pronouns, demonstratives, numerals, and words meaning 'other', all of which may behave syntactically like adjectival modifiers in several languages. On the other hand, the semantic definition of adjectives includes adjectival nouns and adjectival verbs (cf. "nouny" and "verby" adjectives in Wetzer 1996: 25–34, passim) and even qualifying modifiers which are true verbs or true nouns in some languages. On the comparative concept of adjectives, see also also Haspelmath (2010a: 670).

Even though adjectives do not constitute a universal syntactic category, almost all languages seem to exhibit some type of modifier construction in the noun phrase to specify qualitative properties. Hixkaryana, a Carib language spoken in Brazil, however, has been mentioned as a counterexample because qualitative properties are only expressed in predicative constructions (Derbyshire 1979: 37, 131; Rijkhoff 2002: 138).

Type 1 languages	(Flexible)	V/N/A
Type 2 languages	(Flexible)	V | N/A
Type 3 languages	(Differentiated)	V | N | A
Type 4 languages	(Rigid)	V | N
Type 5 languages	(Rigid)	V

Figure 2.1: Parts-of-speech systems (based on Hengeveld, Rijkhoff & Siewierska 2004)

If a language does not exhibit a distinct class of adjectives, inherent properties of the referent are most often expressed by other lexical means, for example by a relative clause (headed by a finite stative or descriptive verb) used as an adnominal modifier, or by a qualifying noun phrase (headed by an abstract, property marking noun) as an adnominal modifier (cf. Rijkhoff 2002: 100).

Similar to Hengeveld, Rijkhoff & Siewierska (2004), the present study is based on the characterization of adjectives as semantic predicates which can be used as modifiers of nouns without further (derivational) operations. A typology of parts-of-speech systems is illustrated in Figure 2.1.

In the "flexible" language types 1–2 in Figure 2.1, certain classes of lexemes can occur in more than one function (as verbs/nouns/adjectives in Type 1 or as nouns/adjectives in Type 2). In the "differentiated" type of languages, on the other hand, the various classes of lexemes are strictly divided according to their function and constitute a tripartite system of lexeme classes with verbs/nouns/adjectives (Type 3). The "rigid" types of languages exhibit either a bipartite system with verbs/nouns (Type 4) or a system exhibiting only one class of lexemes: verbs (Type 5).[2]

Most northern Eurasian languages belong to a type of language which exhibits a distinct class of adjectives, whether flexible or rigid (and whether this class is open or closed and counts only very few lexemes). Languages spoken on the European subcontinent predominantly belong to Type 3 and exhibit adjectives as a distinct major class. Most Indo-European languages of northern Eurasia belong to this type, but also Basque, the Uralic languages of Europe and most languages belonging to one of the three Caucasian language families.

Type 2 languages with a flexible class of "noun-adjectives" are also well represented in northern Eurasia. In practically all Mongolic, Tungusic and Turkic languages, for example, there is usually no sharp distinction between adjectives and nouns (Rijkhoff 2002: 122–123; Poppe 1964: 9).

Type 4 languages lacking a flexible or distinct class of adjectives are represented, for example, by Ainu, Korean and Nivkh. In these languages, verbs are normally employed as qualifying adnominal modifiers.

Languages of Type 1 (with a flexible class of "verb-adjectives") or 5 (exhibiting exclusively verbs) are not represented in the northern Eurasian area.

2.3 Syntax of adjectival modification

The present book deals with noun phrases in which adjectives occur as attributes. Predicative adjectives are not dealt with systematically,[3] although in some cases

[2] The classification of Hengeveld, Rijkhoff & Siewierska (2004) has seven types because the authors also include manner adverbs as a distinct class. According to the original classification, Type 3 in Table 2.1 should thus be divided further yielding the three subtypes V–N–A/Adv (flexible), V–N–A–Adv (rigid) and V–N–A (rigid).

[3] A typology of adjective predication is Wetzer (1996).

attributive and predicative adjectives will be contrasted to each other, especially if the languages in question code them differently in their morpho-syntax. The main question to answer with my investigation is how different languages license the syntactic position of adjectival modifiers inside noun phrases, i.e., what grammatical devices are used for the encoding of the syntactic relationship between an adjectival dependent and its head noun.

2.3.1 Noun phrase internal syntax

The syntactic relationship between noun phrase constituents can be encoded by means of purely syntactic structures, i.e., simply stringing together constituents, or by adding syntactic or morphological devices.

The adjective can take up the modifier slot in the noun phrase without further syntactic or morphological marking taking place inside the noun phrase. Such syntactic licensing means that the relationship between dependent and head is encoded purely structurally in terms of designated positions. An instance of purely syntactic licensing are noun phrases with adjectival modifiers in English. The adjective obligatorily precedes the noun but is not marked otherwise.

(2) English (Indo-European; personal knowledge)
large houses

An example of a syntactic device is the dummy head *one* in English which occurs obligatorily in noun phrases without lexical heads.

(3) English (Indo-European; personal knowledge)

a. *a large one*
INDEF large HEAD:SG
'a large one'

b. *large ones*
large HEAD:PL
'large ones'

The dummy head *one* is a noun phrase constituent itself, hence a true syntactic attribution marking device, even though morphology is also involved in this syntactic structure because *one* is inflected for number. The difference between covert and overt syntactic attribution marking devices can also be illustrated with different relative clauses in English.

(4) English (Indo-European; personal knowledge)

a. [$_{NP}$ *the house* [$_{REL}$ *I built*]]

b. [$_{NP}$ *the house* [$_{REL}$ *that I built*]]

i. [$_{NP}$ *the man* [$_{REL}$ *who*$_{nom}$ *built a house*]]

ii. [$_{NP}$ *the man* [$_{REL}$ *whose*$_{gen}$ *house was built*]]

Whereas (4a) exemplifies a covert syntactic device because the relative clause is simply juxtaposed, (4b) is an overt syntactic device because the relative clause is marked by an invariable formative. In (4b-i, 4b-ii), the relativizer *who* is also an overt syntactic device. But in the marking of this relative clause construction, morphology is involved too because the relativizer inflects for case according to the semantic role of the relativized noun.

Morphological attribution marking devices are either overt (linear or else) morphemes bound to constituents or covert morphological processes, like incorporation.[4] A prototypical instance of a morphological adjective attribution marking device is agreement inflection, as in German.

(5) German (Indo-European; personal knowledge)
groß-e Häus-er
big-PL house-PL
'large houses'

Agreement inflection of attributive adjectives in German is a morphological device, it exists only because syntax requires it, hence a morpho-syntactic device. Other morphological marking in German occurs on syntactic units or on constituents of syntactic units without belonging to morpho-syntax. For instance, the plural inflection on the head noun (*Häus-er*) or the inflectional circumfix yielding a participle (*ge-bau-t*) in (6) belongs exclusively to the level of (inflectional and derivational) morphology but not to syntax.

(6) German (Indo-European; personal knowledge)
***ge-bau-t**-e* *Häus-er*
PTCP-build-PTCP-PL house-PL
'built houses'

[4] Morphological attribution marking devices can also attach to complex constituents, as the possessor marking clitics in English or Swedish which attaches to noun phrases: Swedish [$_{NP}$ [$_{NP}$ kungen]=s rike] the_king=POSS empire 'the empire of the king', [$_{NP}$ [$_{NP}$ kungen av Sverige]=s rike] the_king of Sweden=POSS empire 'the empire of the King of Sweden'.

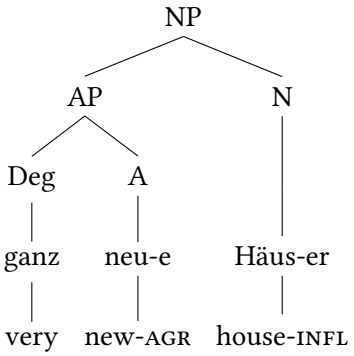
Note that adjectives have been characterized as predicates which can be used as modifiers of nouns without further (derivational) operations. Consequently, the German participle stem *gebaut* (← *bauen* + *ge- … -t*) is an adjective in this broad sense. Syntactically, the participle behaves like a true adjective and takes similar attribution marking. The attribution marking device (i.e., the agreement inflection) attaches to the participle stem as such (in boldface in example 6). The participle derivation of the verb root *bau-* yielding this new stem does not belong to the sphere of syntax. Similarly, category-changing derivational morphology in other languages yielding, for example, a stative verb or a participle function, is not considered to be morphological licensing of adjectival modification.

2.3.2 Headless noun phrases

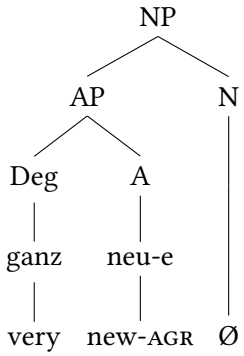
Adjectives as well as various other modifiers can also occur in noun phrases without a noun. Normally, this is the case with adjectives in elliptical constructions or adjectives which are made to nouns by means of a derivational process ("substantivized"). In many languages, noun phrases with and without an overtly expressed head noun exhibit a similar phrase structure, as in the following examples from German.

(7) German (Indo-European; personal knowledge)

a. *ganz neue Häuser*



b. *ganz neue* (viz. *Häuser*)



The syntactic structure of the two examples in (7) is principally identical except for the missing head noun 'house' with its morphological plural marking in the second structure. The attributive adjective 'new' is marked for the same morpho-syntactic agreement features in both examples. Even though the adjective in the headless phrase is semantically a noun and used referentially, it is

still syntactically the modifier of the (elliptic) noun 'house'. The syntactic status of the modifier as head of an adjective phrase is indicated by its ability to take dependents, such as the degree word 'very'. German thus allows the syntactic head position of a noun phrase to remain empty in elliptical constructions.

In other languages, accepting an empty head position in the (elliptical) noun phrase seems less straightforward. In Kildin Saami, for example, nouns and adjectives share identical inflection paradigms. As modifiers of nouns, however, adjectives are not inflected but are simply juxtaposed,[5] as in (8a) and (8b). Only when attributive adjectives occur in elliptical noun phrases are they inflected identically to nouns, as in (8c) and (8d).[6]

(8) Kildin Saami (Uralic; personal knowledge)

a. *čofta odt pērrht*
very new house(NOM:SG)
'a very new house'

b. *čofta odt pērht-es't*
very new house-LOC:SG
'in a very new house'

c. *čofta odt* (viz. *pērrht*)
very new(NOM:SG)
'a very new one'

d. *čofta od-es't* (viz. *pērht-es't*)
very new-LOC:SG
'in a very new one'

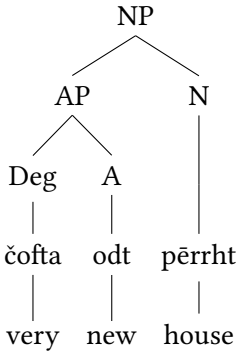
If the elliptical construction in Kildin Saami is analyzed as having an empty syntactic head position, as in German, an explanation for the different behavior of the (nominal) case inflection is needed. Unlike in German, where (nominal) inflection is always bound to the noun, inflection in Kildin Saami can occur bound to nouns or adjectives. Case marking in Kildin Saami could thus be analyzed as clitic and bound to the whole noun phrase and hence showing up on the rightmost phrase constituent.

[5] This is true only for one class of adjectives. Other adjective classes show different morpho-syntactic behavior, see §?? below.

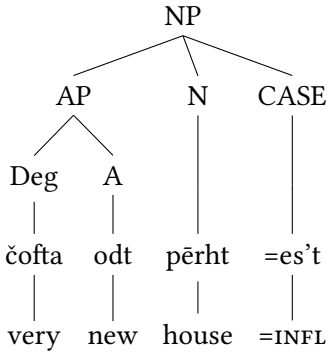
[6] The stem alternation in the adjective *odt : od-* is due to a regular morpho-phonological process.

(9) Kildin Saami (Uralic; personal knowledge)

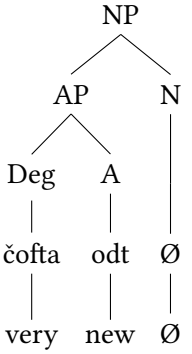
a.



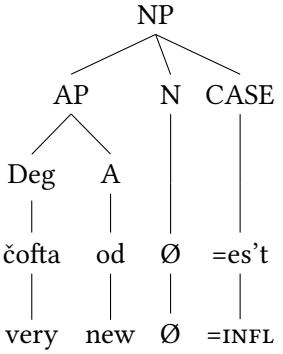
b.



c.



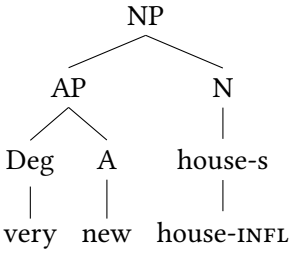
d.



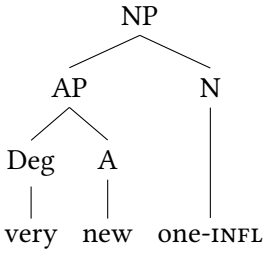
Another type of language in which elliptical noun phrases behave differently is exemplified by English. In elliptic constructions, attributive adjectives are obligatorily marked with the marker *one*. This marker is exclusively used in headless noun phrases with adjectival (and some other) modifiers. It never occurs if the head noun is overtly expressed.

(10) English (Indo-European; personal knowledge)

a. very new houses



b. very new ones (viz. houses)



Being a grammatical word, hence a constituent in the phrase structure, *one* is sometimes described as "dummy head" in English (cf., e.g., Rijkhoff 2002: 23) replacing the noun at the syntactic head position. Consequently, it could be argued that the syntactic head position is never empty in English.

2.3.3 Appositional modification

Apposition[7] is commonly described as a sequence of two (or more) co-referential constituents on the same syntactic level and hence with the same syntactic function, as in the following expression.

(11) ($_{\text{np}}$ [$_{\text{NP}}$ *Alma and Iva*] [$_{\text{NP}}$ *my daughters*]) *are in this picture.*

Syntactically, the two independent noun phrases *Alma and Iva, my daughters* together serve as one argument phrase in (11).[8] In other words, apposition can be defined as a single semantic phrase which consists of several independent syntactic phrases which together serve one syntactic function.

Appositional modification differs from true apposition in that the apposed constituent phrase is semantically and syntactically dependent on the other constituent phrase. Similar to the definition presented in Rijkhoff (2002: 22), appositional (noun) modification is here understood as a construction in which the dependent constituent is not part of the (integral) phrase headed by the modified noun. Semantically, the appositional modifier is headed by the modified noun. Syntactically, however, the appositional modifier has an empty head which is co-referential with the head noun of the apposed noun phrase.

Appositional modification seems to occur as a secondary marked type of adjective attribution marking in several languages, for instance in Georgian. Attributive adjectives are normally preposed and show only limited agreement (see 12a). In postposition (marking emphasis), however, the adjective inflects for the full set of cases and numbers (12b). This construction thus resembles an independent (headless) noun phrase in apposition to the semantic head (Testelets 1998: 652, 677); cf. also §?? below.

(12) Georgian (Kartvelian; Testelets 1998: 652)

a. *am* *or* ***lamaz*** *kal-s*
that:OBL two nice:OBL woman-DAT
'to those two nice women'

[7] Note the different meaning of "juxtaposition", which is defined as a distinct functional type in §4.2.

[8] The notation of the appositional unit in round brackets is borrowed from Rijkhoff (2002: 21).

b. *kal-eb-s* ***lamaz-eb-s***
woman-PL-DAT nice-PL-DAT
'to the NICE women'

Even without differentiated attribution marking, constituent order change between attribute and head can indicate apposition, as in Bulgarian. Note that the constituent order in noun phrases of Bulgarian is strictly head-final. In poetic language, however, it is possible to move the adjective after the noun.

(13) Bulgarian (Indo-European; personal knowledge)

a. *tezi* ***golem-i*** *gradove*
these big-PL towns
'these big towns'

b. *tezi* *gradove* ***golem-i***
these towns big-PL
'these big towns'

It seems impossible to prove that Bulgarian presents an example of appositional modification. The emphasized noun phrase in (13b) could simply be analyzed as an integral noun phrase differentiated from other non-emphasized noun phrases by constituent order. Georgian, however, is different from Bulgarian. The emphasized noun phrase in (12b) exhibits different morpho-syntactic marking due to the additional agreement features and is very likely to be analyzed as an attributive appositional construction.

Evidence for appositional modification as a syntactically distinguished noun phrase type is also found in constructions were the apposed headless noun phrase is overtly marked by means of attributive nominalization (see §4.5.2.3). Attributive nominalization can be illustrated with the epithet construction in German.

(14) German (Indo-European; personal knowledge)
[$_{NP}$ *Friedrich* [$_{NP}$ *der Große*]] 'Frederick the Great'

3 The syntax-morphology interface

3.1 Morpho-syntax

An inventory of grammatical features relevant to morphology and its interfaces with semantics and syntax has recently been systematized and presented in a volume edited by Kibort & Corbett (2010), specifically in the chapter by Kibort (2010). Kibort and Corbett's typology of morpho-syntactic features, which is grounded in other work, for instance by Aronoff (1994); Corbett (1987); Carstairs-McCarthy (1999); Corbett (2006); Corbett & Baerman (2006); Bickel & Nichols (2007); Kibort (2008+), will be evaluated in the following sections. It will be shown that true morpho-syntactic features (i.e., features not interfacing with semantics) relevant to noun phrase structure are missing but have to be added to such an inventory.

Note that "morpho-syntax" (or "morphosyntax") is sometimes inaccurately used for any type of syntactic construction in which morphological processes take place. It is also commonly used as a homonym for "grammar" or "morphology and/or syntax" thus subsuming all kinds of morphological and syntactic structure of a language. For the present study, however the scopes of syntactic and morphological processes are differentiated from each other. Consequently morpho-syntax is here understood as the interface between syntax and morphology, i.e., syntactic structure assigning morphology on one or more of its constituents.

Morphological features Strictly morphological features have only inherent values, i.e., the assignment of these values is not sensitive to syntax. Morphological features include values which are either fixed, i.e., supplied on the lexical level, or selected from a range of values. The selection of these values is based only on formal criteria. A prototypical example of a purely morphological feature is inflection class.

Morphosemantic features Morphosemantic features also only have inherent values whose assignment is not sensitive to syntax. The values of morphosemantic features are selected from a range of values. However, unlike purely mor-

phological features, the selection is based on semantic criteria. A prototypical example of the assignment of a morphosemantic feature is definiteness marking.

Morpho-syntactic features Morpho-syntactic features are sensitive to syntax because either agreement or government is involved in the assignment of their values. In the case of agreement, however, a morpho-syntactic feature belongs per definition both to morpho-syntax – due to the feature's contextual assignment to the agreement target – and simultaneously to pure morphology (or morphosemantics) – due to the feature's status inherent in the agreement trigger.

The difference between morpho-syntactic and purely morphological (or morphosemantic) features can be illustrated by definiteness marking in Albanian, Bulgarian and Rumanian. The definite markers in these three Balkan languages are bound morphemes in postposition (1a, 2a, 3a). The syntactic behavior of the definite marker in all three languages is also similar: in noun phrases with modifying adjectives the marker attaches enclitically to the first constituent.

(1) Albanian (Indo-European; Buchholz & Fiedler 1987)

a. *djal=i*
boy(M)=DEF:M.SG
'the boy'

b. *djal=i* *i* *mire*
boy(M)=DEF:M.SG ATTR:DEF.M.SG good.M.SG
'the good boy'

c. *i* *mir=i* *djalë*
ATTR:DEF.M.SG good=DEF:M.SG boy(M)
'the GOOD boy'

(2) Rumanian (Beyer, Bochmann & Bronsert 1987)

a. *băiat=ul*
boy(M)=DEF.M.SG
'the boy'

b. *băiat=ul* *bun*
boy(M)=DEF.M.SG good.M.SG
'the good boy'

c. *bun=ul* *băiat*
good=DEF.M.SG boy(M)
'the GOOD boy'

(3) Bulgarian (personal knowledge)

a. *momče=to*
boy(N)=DEF.N.SG
'the boy'

b. *dobro=to momče*
good=DEF.M.SG boy(N)
'the good boy'

The feature SPECIES,[1] however, does not belong to morpho-syntax in all of these three languages. Even though the definite marker shows the same syntactic behavior (i.e., attaching in second-position), the morphological feature SPECIES is sensitive to syntax only in Albanian. Whereas definiteness is a purely morpho-semantic feature not involved in any syntactic triggering in Bulgarian and Rumanian, in Albanian a second marker of definiteness occurs on the adjective. This marker is required by syntax through the mechanism of agreement. Hence, definiteness is morpho-syntactic only in Albanian. In Bulgarian and Rumanian definiteness is purely morphological.

3.2 Morpho-syntactic features

As shown in the previous section, MORPHO-SYNTACTIC MARKING can basically be defined as 'morphological marking relevant to syntax'. According to Kibort (2010), the syntactic relevance of a certain morphological marker is determined by the involvement of this marker in either agreement or government. Kibort's view of morpho-syntax, however, is based on definitions of agreement and government which imply obligatory interfacing of the respective grammatical features with all three components: morphology, syntax and semantics. Hence, the most accurate term would be 'morpho-semantico-syntactic' features" (Kibort 2010: cf.).

Both agreement and government require a syntactic constituent as trigger and another constituent as target of morpho-syntactic marking. Kibort's terms TRIGGER and TARGET are used in the case of agreement marking, whereas GOVERNOR and GOVERNEE are the respective labels in the cases of government. Conse-

[1] Typical values of SPECIES are, for instance, DEFINITE, INDEFINITE or SPECIFIC. The use of the term SPECIES (from Latin 'appearance, form') is borrowed from Swedish and Finnish grammatical terminology, (cf., e.g., Holm & Nylund 1970; Itkonen 1980). It will be used throughout this investigation instead of the commonly known "definiteness" because it seems terminologically odd to have a feature DEFINITENESS exhibiting a value with the similar label DEFINITE.

quently, Kibort's GOVERNMENT covers only morpho-syntactic marking assigned by triggers (governors) which are constituents – like a head noun marked for certain gender and number values triggering gender and number AGREEMENT on the modifier.

Instances of morphological marking triggered not by constituents but by the syntactic structure as such seem to fall outside the range of Kibort's typology of morpho-syntactic features. A prototypical example of morpho-syntactic marking without a trigger inside the noun phrase is attributive state marking in Persian.

(4) Persian (Mahootian 1997)

a. "Construct state" (i.e., attributive state)
xâne-ye *bozorg*
house-CONSTRUCT big
'large house'

b. "Absolute state" (i.e., predicative state)
in *xâne* *bozorg* *ast*
DEM house(ABSOLUTE) big is
'the house is large'

In Persian, a nominal head is obligatorily inflected in the construct state if an adjective is present in the noun phrase. The trigger of the head-marking attributive suffix *-ye* in Persian is the syntactic structure alone. Since no other value than [+construct] is assigned, semantics cannot be involved. It could be argued that semantics is relevant to the choice of whether to use the adjective as attribute or as predicate and that the attributive inflection on the head noun is inherent (i.e., morpho-semantically assigned). Semantics (or pragmatics) is of course relevant to the speaker's decision to utter a noun phrase instead of a predication. Semantics is, however, irrelevant to the argumentation about the syntactic structure requiring certain morphological marking: once the speaker has made her or his decision, it is the syntactic structure alone which is involved in the assignment of the relevant morphological marking. Consequently, attributive construct state in Persian is an example of true morpho-syntactic marking.

Morpho-syntactic attributive construct state marking similar to the Persian construct state marking occurs in many other languages. In Bulgarian, for instance, some nouns require a special inflection after numerals.

(5) Bulgarian (personal knowledge)
dva stol-a
two chair(M)-CONSTRUCT
'two chairs'

Unlike attributive construct state marking in Persian, which occurs obligatorily in noun phrases with different types of modifiers (adjectives, nouns, and some others), attributive construct state marking in Bulgarian is restricted with regard to both dependent and head. Thus, it occurs only in noun phrases in which the modifier is a numeral higher than 'one' and in which the head noun belongs to the class of non-human masculines. In the Bulgarian grammatical tradition this inflectional marking is called the "counting form".[2] The marker originates historically from the genitive singular inflection of masculines. The diachrony, however, does not affect the analysis of this marker as belonging to the morpho-syntactic feature STATE from a synchronic-typological point of view. Even though attributive construct state marking in Bulgarian is much more restricted than in Persian, it clearly belongs to the same type of syntactically assigned inflection on the head noun.

The term STATE here is adapted from Mel'čuk (2006: 114–116) who defines it as an inflectional category of nouns heading a noun phrase. According to Mel'čuk, the function of morphological state marking is licensing the syntactic relationship between the phrase constituents. In the case of head-marking state, as in Persian and Bulgarian (4, 5), the head noun is inflected and shows the morphological value [+construct] if it is the governing member in the present syntactic relation (i.e., the noun phrase).

Even though STATE in Mel'čuk's (and others') terms is usually associated with head-marking constructions of the Persian type (cf. example 4), a similar morpho-syntactic mechanism applies to dependent marking construct states in other languages. Consider, for example, Kildin Saami, in which the dependent noun phrase of a postposition is obligatorily inflected in the genitive case.

(6) Kildin Saami (Uralic; personal knowledge)
tuel' *al'n*
chair\GEN on
'on the chair'

It could be argued that the genitive inflection of 'chair' in example (6) is a morphological value of the feature CASE assigned to the dependent noun phrase by

[2] Bulgarian *brojna forma*

the mechanism of GOVERNMENT. But since genitive is the obligatory and only possible marker of the dependent noun in postposition phrases in Kildin Saami, there is no motivation for assuming that any case value is marked here. There is no semantic connection to a genitive case which marks a possessor noun in Kildin Saami either.[3] Since this modification marker is assigned by the syntax of the specific construction alone, and since the only function of this marker is licensing the given syntactic relation (i.e., an adposition phrase), a more appropriate gloss in this construction could in principle be CONSTRUCT. However, since there is no formal difference between the possessive genitive from the genitive assigned by postpositions there are no good arguments to dissociate them into two different morpho-syntactic categories.

Several languages also exhibit dependent marking construct state in noun phrases. The matching value is usually glossed as ATTRIBUTIVE. In Kildin Saami, for example, members of one (lexically defined) subclass of adjectives are obligatorily inflected for attributive state if they are used as modifiers in a noun phrase.

(7) Kildin Saami (Uralic; personal knowledge)

a. Attributive adjective (cf. "attributive state")
vīl'k-es' *puaz*
white-ATTR reindeer
'white reindeer'

b. Predicative adjective (cf. "predicative state")
puaz *lī* *vīll'k-e*
reindeer is white-PRED
'the reindeer is white'

The assignment of attributive inflection on (adjectival) modifiers of nouns as well as the assignment of genitive inflection on (nominal) modifiers of adpositions thus follow a similar syntactic mechanism in Kildin Saami: a certain syntactic relationship (i.e., dependency inside an adposition phrase or a noun phrase, respectively) is licensed by marking the dependent phrase constituent with the feature STATE.

Finally, the feature STATE may not only be dependent marked, as in Kildin Saami, but can even interfere with other features. Whereas attributive state marking is invariable in Kildin Saami, in other languages it shows interference with

[3] This is true from a synchronic point of view. Historically, the origin of the genitive marking in adposition phrases is easily accounted for and goes back to possessor marking in noun phrases with relational head nouns. But again, the diachrony of a certain marker is not relevant to its synchronic-typological categorization.

semantic values assigned through the mechanism of agreement. The agreement inflection of attributive adjectives in Russian, for instance, marks the syntactically governed feature STATE simultaneously with the morpho-syntactically governed features NUMBER/GENDER/CASE.

(8) Russian (Indo-European; personal knowledge)

a. Attributive adjective inflection (cf. "attributive state")
belyj *olen'*
white:ATTR:M.SG deer
'the white (rein)deer'

b. Predicative adjective inflection (cf. "predicative state")[4]
olen' bel
deer white:PRED:M.SG
'the (rein)deer is white'

3.3 An ontology of morpho-syntactic features

Besides introducing a few very basic notions connected to noun phrase structure and adjectival modification, the syntax-morphology interface has been discussed in the theoretical sections above. In particular, Kibort's (2010) inventory of grammatical features relevant to morphology and its interfaces with semantics and syntax have been critically evaluated. True morpho-syntactic features (i.e., features not interfacing with semantics) are not yet included in her inventory of grammatical features. The argumentation in the present chapter aims at establishing a new feature STATE, which according to Kibort's own definitions must be regarded as a true morpho-syntactic feature and which should definitely be added to Kibort's list.

Figure 3.1 shows the morpho-syntactic features relevant to the present inventory of noun phrase types. Note that only the rightmost feature (6) in that figure can be characterized as being of true MORPHO-SYNTACTIC nature. The group of features under (5) must be characterized as MORPHO-SEMANTICO-SYNTACTIC because the syntactic assignment of these features on the agreement target requires their

[4] Note that in Russian the use of the so-called "short adjective" (*bel*) in predicative constructions is highly marked stilistically because it implies a temporary property, which is rather unexpected for the color of a reindeer. Using the "long adjective" even in predicative constructions (*olen' belyj*) is the default. However, the example, which is not ungrammatical, is used here for better comparison to Kildin Saami. On attributive and predicative adjectives in Russian, see in more detail §4.5.2.2 and §??.

semantically based assignment on the agreement trigger as well. The group of features under (2–4) are MORPHO-SEMANTIC features. The group (1) is purely MORPHOLOGICAL. Note also that the feature CASE shows up in several leaves because it can be assigned both in morpho-syntax (through agreement on adjectives) or in morphology (through the assignment of either grammatical or semantic cases on head nouns).

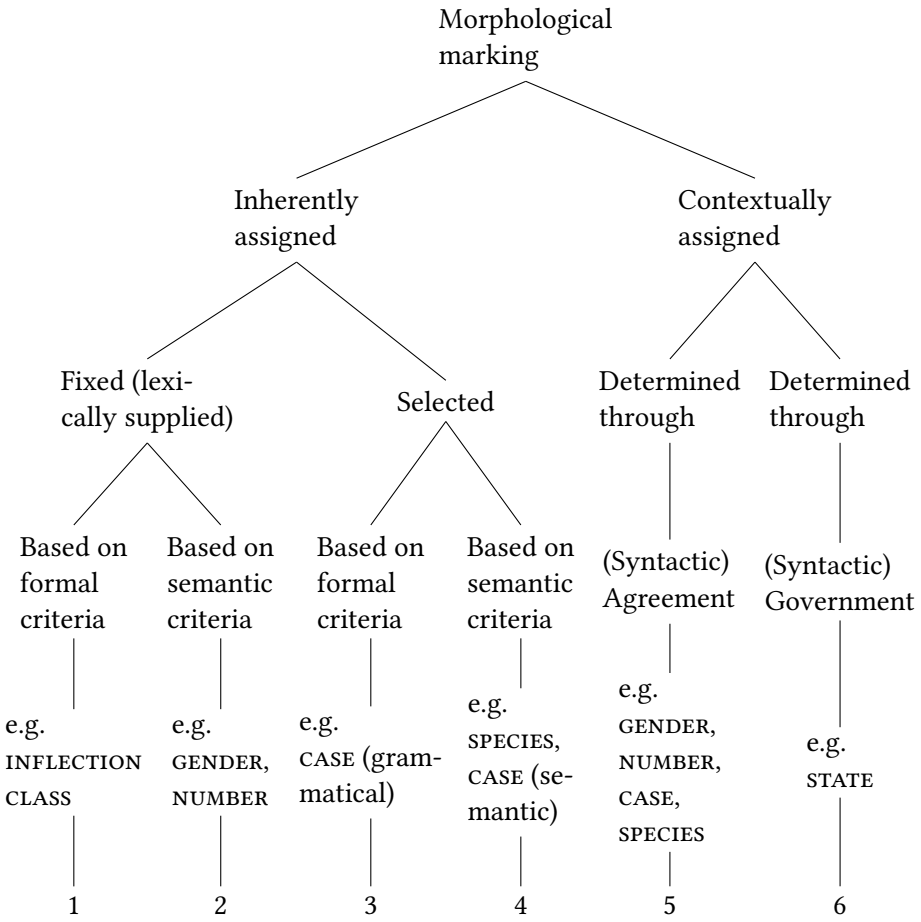


Figure 3.1: An ontology of morpho-syntactic features relevant to the present inventory of noun phrase types (adapted from Kibort 2010: 74,77–78,81–82; Kibort 2008+ and extended with the feature STATE)

In the following Part II (Typology) of this book, dependent marking STATE will

be dealt with in more detail since this type occurs in several languages of the geographical area under investigation.

Part II

Typology

4 A typology of adjective attribution marking devices

In the present chapter, different types of adjective attribution marking devices attested in natural languages will be described and systematized with a special focus on their typologization according to the morphology of attributive adjectives.

4.1 Typologizing noun phrase structure

The goal of the following sections is to typologize noun phrases and to present a comprehensive ontology of different syntactic, morpho-syntactic, and morpho-semantico-syntactic attribution marking devices attested in the languages spoken in northern Eurasia and beyond.

In order to illustrate the different noun phrase types to which these devices belong, data from several languages both within and outside the geographic area of investigation are taken into consideration. The focus, however, will be on constructions and features especially relevant to adjective attribution in the northern Eurasian area.

The term ADJECTIVE ATTRIBUTION MARKING will be used to refer to a grammatical operation relating an adjectival modifier to its noun head. ATTRIBUTION MARKING DEVICE will be used to subsume both overt and covert grammatical operations which license the syntactic relation of attribution.

The term NOUN PHRASE TYPE used here denotes the specific syntactic or morpho-syntactic structure type of a noun phrase. This term is thus superordinate and belongs to noun phrase structure in general. Since the present study is restricted to a rather small subset of noun phrases, namely noun phrases with adjectival modifiers, the subordinate term ADJECTIVE ATTRIBUTION MARKING DEVICE (instead of ADJECTIVE ATTRIBUTION MARKING TYPE) will be used to cover all grammatical operations which license the syntactic relation of adjective attribution.

Attribution marking Minimally, an attribution marking device will simply license the syntactic structure without licensing any of the constituents as head or dependent, i.e., without ranking single constituents. This is the case for the pure syntactic devices JUXTAPOSITION and INCORPORATION.

The syntactic relation of attribution can also be licensed by a device linking the modifying and the modified constituents morphologically to each other, namely in the case of agreement marking. The morphological device of AGREEMENT MARKING is characterized by the assignment of an inherent (i.e., true morphological) feature from one constituent to another through morpho-syntactic government.

A different instance of "indirect" licensing of attribution is the marking of a semantic relation between the modifier and the modified, as with possessor case (genitive) marking.

It is not at all unusual that the syntactic, morphological, and/or semantic relations between noun phrase constituents are marked simultaneously. If, for instance, an attribution marker is attached to a modifier which additionally inflects for agreement features, both the syntactic and the morphological relation between the noun phrase constituents are marked. Another example for simultaneously marked syntactic and semantic relations is a noun phrase with a case marked possessor noun (e.g., in genitive case) and a head noun which is additionally marked for dependent-driven agreement (e.g., with a cross-referencing possessive affix).

Typological parameters Noun phrase types with formally distinct characteristics can be defined according to several parameters. Such parameters are, for example, the order of constituents inside the noun phrase (e.g., attribute-head order, head-attribute order, free order), the attribution marker's locus (e.g., on-head, on-dependent), the marker's syntactic behavior relative to the whole phrase (e.g., clitic), its phonological fusion (e.g., free, bound, non-linear), or its position relative to the word host (e.g., pre, post, circum).[1]

Examples for a variety of phonologically, morphologically, syntactically, and semantically distinct types of attribution marking devices will be given in the current chapter. The focus of the ontology presented here is on morphological and morpho-syntactic parameters, especially with regard to the absence or presence of additional attribution marking morphemes, as well as to their kind and

[1] These parameters, adapted from Croft's typological classification of genitive constructions (Croft 1995: 93–94), are applied to a general typology of noun phrase structure in the noun phrase structure module of AUTOTYP (cf. Bickel, Nichols & Rießler 2001-2010).

syntactic behavior. An overall picture of the ontology of attribution devices relevant to this study is given in Figure 4.2 at the end of §4.6.

Noun phrase types can also be defined on a polyfunctionality scale with regard to the class of modifying elements: attributive adjectives and other, non-adjectival adnominal modifiers (demonstratives, bare nouns or noun phrases, adposition phrases, clauses, etc.) may or may not occur in similar noun phrase types. The polyfunctionality parameter even takes the content of certain devices beyond attribution marking into consideration. Since the present study investigates adjective attribution marking, the polyfunctionality of attribution marking devices will be dealt with in less detail (see §??).

How many noun phrase types does a language exhibit? Most languages exhibit more than one distinct noun phrase type because different attribute classes may occur as modifiers in noun phrase structures which behave differently in their syntax or morpho-syntax. In English, for instance, adjectives and clauses behave syntactically differently as modifiers in noun phrases: whereas attributive clauses are marked by relative pronouns (or particles) (*the dog* ***which is nice***), adjectives are juxtaposed (*the* ***nice*** *dog*). However, since the present book is devoted to the morpho-syntax of one single class of adnominal modifiers, namely adjectives, variation in attribution marking devices across different classes of attributed elements is of minor importance.

Nonetheless, attributed elements belonging to one and the same class may also occur in noun phrases which are marked differently: possessive pronouns in English, for example, can be attributed either by means of juxtaposition (***her*** *dog*) or by using them in a prepositional construction (*the dog* ***of hers***). Even attributive adjectives may occur in two formally distinct noun phrase types. In Turkish, for instance, attributive adjectives are unmarked (***kara*** *kalem* 'black pencil'); in headless noun phrases marked as direct objects, however, adjectives must be nominalized by means of the 3rd person singular possessive suffix (***kara-sını*** [POSS:3SG.ACC] 'the black one (viz. pencil)'; see also §?? below).

Prototypically, the use of different devices for licensing one and the same class of attributed elements is not arbitrary but governed by constraints. Nominalization of adjectives in Turkish, for instance, is due to a syntactic subset constraint affecting phrases in direct object position and without a lexical head noun. In other languages, the occurrence of a given noun phrase type may also be constrained lexically and/or semantically by subsets of either attributes or heads. A well-known example beyond adjective attribution comes from languages in which the choice of possession marking devices is determined semantically by

the alienable or inalienable subset of the head noun (i.e., the possessed). Even other subsets of head nouns are known to constrain the choice of possession marking in some languages, such as kinship terms, (non-) referential nouns, etc.

Similarly, languages may exhibit subset constraints on the semantic class of heads modified by adjectives. The epithet construction marked with an attributive article in English (or other Germanic languages, cf. *Frederick* ***the Great****, Friedrich* ***der Große***; see also §4.5.2.3 below) may serve as an example. In English, this special noun phrase type only occurs if the head noun belongs to the semantic subclass of proper nouns.

Examples of a semantic subset of attributes governing a special attribution marking device are commonly found in languages with contrastive focus marking of adjectives. In Rumanian, for instance, adjective attribution marking is usually characterized by a noun phrase type with head-initial constituent order. A different noun phrase type, formally distinguished by the reversed order of constituents, occurs if the adjective bears contrastive focus (see the Rumanian example 2c on page 16 above).

Finally, many languages exhibit lexically defined subclasses of adjectives (or other adnominal modifiers) which are sensitive with regard to the required attributive marking. In Albanian, for instance, the members of one adjective class are regularly marked by head-driven agreement whereas the members of another adjective class require an additional agreement marker (see the Albanian example **??** on page **??**).

In many languages these lexical subclasses seem marginal and are thus often mentioned merely *en passant* (if at all) in grammatical descriptions. The adjective *pikku* 'little' in Finnish is an example for such a marginal subclass: *pikku* is juxtaposed to the modified noun while other adjectives in Finnish show number and case agreement as a rule (Karlsson 1999: 75). Similarly in German a few adjectives like the colors *lila* 'purple' and *rosa* 'pink' behave morpho-syntactically differently and do not agree with the modified noun (cf. also Schäfer 2015: 243).

Another example of a marginal subclass of adjectives comes from Itelmen, where attributive adjectives are regularly marked with a special attributive suffix (see the Itelmen example **??** on page **??**). Only a few loan adjectives from Russian occur in juxtaposition (Volodin 1997: 60–71).

These marginal adjective classes are often hard to come across in a rather broad typological survey. It seems to be one limitation of the typological method (i.e., sampling and coding a huge amount of different languages on the basis of qualitatively highly diverse grammatical descriptions) that interesting cases are often missed due to limited knowledge or understanding of the structure of all partic-

ular languages. From a diachronic perspective, however, "irregular" linguistic structures are very important because they often reflect innovative tendencies or archaic features, i.e., features which are due to language change. Marginal noun phrase types should thus be included in typological surveys if they are discovered.

4.2 Syntactic attribution marking: juxtaposition

Juxtaposition can be defined as an unmarked sequence of phrase constituents in which one constituent is syntactically subordinated to the other. It has to be distinguished from APPOSITION. The latter term is usually used to denote an appositional construction of two noun phrases, as in *Alma, meine Tochter* 'Alma, my daughter' or *Iva, die jüngere Tochter* 'Iva, the younger daughter' where neither constituent is syntactically subordinated. See also the short discussion in §2.3.3. Juxtaposition is thus characterized by adjacency of noun phrase constituents alone. There is no construction marker present. Consider the following Komi-Zyrian examples where neither agreement markers nor any other additional morphemes are present. The attributive adjective in (1) is represented by its pure stem form. It does not inflect for any of the categories marked on the head noun.[2]

(1) Komi-Zyrian (Uralic; Lytkin 1966b)

a. *bur mort*
good person
'good person'

b. *bur mort-jas*
good person-PL
'good people'

Juxtaposition constitutes a very widespread attribution marking device cross-linguistically. Among the northern Eurasian languages, juxtaposition occurs as the default attribution marking device in several families, among others in Mongolic, Turkic and Uralic. Whereas juxtaposition constitutes the default type even in the proto-stages in these language groups, the occurrence of juxtaposition in several other languages results from a relatively recent linguistic change in which the original agreement marking on adjectives was lost.

[2] Beside NUMBER, these categories include CASE and POSSESSION in Komi-Zyrian.

Defining juxtaposition as a "device" for marking attribution might, however, be questionable. Given the definition that attribution is licensed by the sequence of constituents alone, i.e., that an adnominal modifier and a head noun occur next to each other in the syntactic structure, juxtaposition resembles a "non-marking" rather than a marking device. In English, for instance, one could also argue that the non-occurrence of the copula *is/are* is relevant to the marking of attribution. When an adjective is used as the predicate in English (*the man **is** good, the men **are** good*), the copula is obligatory. However, constituent order may be relevant, too. In English, again, juxtaposed attributive adjectives precede the noun as a rule, whereas predicative adjectives follow it.

Constituent order can in fact be crucial in languages were both adjective attribution and predication are marked simply through adjacency of noun and adjective but with reversed constituent order, as for example, in Ainu or Kalmyk.

(2) Ainu (Shizunai) (isolate; Refsing 1986)

a. Attribution: adjective-noun order
pirka cep
be_good fish
'a fine fish'

b. Predication: noun-adjective order
cep pirka
fish be_good
'the fish is fine'

(3) Kalmyk (Mongolic; Jachontova 1997)

a. Attribution: adjective-noun order
čyγan časun
white snow
'white snow'

b. Predication: noun-adjective order
časun čyγan
snow white
'the snow is white'

The only difference between attribution and predication of adjectives in Ainu[3] and Kalmyk is in constituent order.

[3] Note that there are no true adjectives in Ainu. Property words are stative verbs in this language, see also §??.

4.3 Covert morpho-syntactic construct marking: adjective incorporation

Similarly to juxtaposition, ADJECTIVE INCORPORATION is characterized by adjacency of phrase constituents. There is no additional morpheme present in this type of noun phrase either. The syntactic relation of attribution is, however, marked by a syntactic composition of modifier and head noun. This type can thus be characterized as a covertly marked operation.

(4) Västerbotten Swedish (Indo-European Larsson 1929)

a. *stor-båt-en*
big-boat-DEF:M.SG
'the big boat'

b. *stor-hus-et*
big-house-DEF:N.SG
'the big house'

Since adjective incorporation in northern Swedish (and Norwegian) dialects is syntactically and semantically distinguishable from prototypical compounding it is often referred to as ADJECTIVE-NOUN-INCORPORATION (for instance by Sandström & Holmberg 2003; Dahl 2015: 127–129 or Julien 2005: 61).

Phonological versus syntactic compounds In Västerbotten Swedish (as well as in other North Germanic varieties where adjective-noun compounds occur), accent patterns clearly indicate that adjectives are morpho-phonologically compounded (cf. Dahl 2003). Non-compounded monosyllabic roots, such as *tré*, 'tree', *bå̋t* 'boat', *bå̋t-er* 'boats', *bå̋t-er-na* 'the boats', have an acute accent (marked with ˝ in the examples) as a rule and whether or not they are equipped with inflectional affixes. Bisyllabic roots or stems, including compounds, by contrast have pitch accent (marked with an additional ` on the second root). Compare *tré-bå̀t-en* 'the wooden boat' or *stór-bå̀t-en* with the noun phrase *bå̋t-en mín* 'my boat', where both the noun and the (non-compounded) possessive pronoun have acute accent.

Phonological composition, however, cannot be sufficient evidence for syntactic compounding (i.e., incorporation). Phrase internal phonological or prosodic processes at the juncture of adjectives and nouns (as, for instance, the accent pattern described above) seem to be very common in languages. Such processes can perhaps prove morpho-phonological composition. For the present typology, however, adjective incorporation is defined purely syntactically as a noun phrase

where the attributive adjective occurs obligatorily as a (syntactically) bound morpheme. To prove syntactic boundness one has to show that the adjective cannot occur unbound. In Västerbotten Swedish (and other northern Swedish dialects), for instance, the adjective stem cannot occur unbound unless alternative morpho-syntactic marking is applied. Using the adjective 'big' in Västerbotten Swedish in a headless noun phrase results in a construction in which the adjective is marked for agreement and is obligatorily followed by an article serving as a dummy head.[4]

(5) Västerbotten Swedish (Indo-European Larsson 1929)

a. *en* *stor* *en*
INDEF:M big(M) ART:INDEF:M.SG

b. *ett* *stor-t ett*
INDEF:N big:N ART:INDEF:N.SG
'a big one'

If evidence for syntactic incorporation cannot be found, compounded adjectives can only by described as a special case of juxtaposition. But interestingly, if the described test of syntactic boundness is applied, then English falls in the category of incorporating languages as a result. In English too, attributive adjectives can only occur bound to a head. This head is either lexical or, similar to Västerbotten Swedish indefinite noun phrases, an obligatory article as dummy head.[5]

Whether or not English is coded as an incorporating language, adjective incorporation seems to constitute a minor type of attribution marking. Among languages of the northern Eurasian area, however, this type is attested in geographically quite distinct languages: besides the peripheral North Germanic dialects, it is also found in Adyghe and in Chukchi, Itelmen and in Eskimo-Aleut languages (see the respective sections of Part III (Synchrony); on the typology of adjective incorporation see also Dahl (2004: 225–236) and Dahl (2015: 28–29)).

[4] This is true, however, only with the indefinite adjective. The definite adjective, by contrast, does not need a dummy head but is unbound (and equipped with the definite marker): *stor-en* [big-DEF:M.SG] 'the big one (masculine)', *stor-et* [big-DEF:N.SG] 'the big one (neuter)'.

[5] Applying the same test, it turns out that English incorporates even other modifiers of nouns, such as possessive pronouns: *give me her book – give me her-s*.

4.4 Morpho-semantico-syntactic attribution marking: agreement

AGREEMENT (aka CONCORD) is a common type of overt attribution marking device. Agreement is commonly understood as a systematic covariance between a semantic or formal property of one element and a formal property of another (Steele 1978: 610). In other words, agreement can be defined as the spread of semantic or morphological properties across constituents of a syntactic phrase. The agreement properties (or AGREEMENT FEATURES) spread from TRIGGER constituents[6] and are formally, i.e., morphologically, expressed on TARGET constituents.

The primary syntactic function of agreement is to relate phrase constituents to each other. Agreement thus serves the formal licensing of dependency in the given phrase. As compared to construct marking, however, the licensing of dependency by means of agreement is more the indirect result of morphological copying of agreement features across phrase constituents.

In principle, agreement features can be triggered by both syntactic heads and syntactic dependents, as will be shown in the following sections. Based on where the agreement features originate, the terms HEAD-DRIVEN and DEPENDENT-DRIVEN AGREEMENT, first proposed by Balthasar Bickel and Johanna Nichols in 2001 (published as Bickel & Nichols 2007), will be used in the following.

4.4.1 Head-driven agreement

Typical morpho-syntactic agreement features triggered by syntactic heads are GENDER, NUMBER and CASE, as in Lower Sorbian.

(6) Lower Sorbian (Indo-European; Janaš 1976)

a. *dobr-y* *człowjek*
good-SG:M person(M)
'a good person'

b. *dobr-e* *człowjek-y*
good-PL person-PL
'good people'

c. *k* *dobr-emu* *człowjek-oju*
to good-SG:M:DAT person-SG:M:DAT
'to a good person'

[6] In other terms, the trigger of agreement can be called CONTROLLER, cf. Corbett 2006.

Note, however, that Kibort (2010), following Corbett (2006: 133–135), does not list CASE as a prototypical agreement feature. In Kibort's and Corbett's view, the matching of a case value on the noun phrase head and its adjectival (or other) modifier(s) does not count as "canonical agreement" but is simultaneously imposed on the noun phrase constituents as the result of government by a syntactic element outside the noun phrase. Consider the Lower Sorbian example (6c) in which both the adjective 'good' and the noun 'person' are marked with the dative case suffix.

The question is whether the case value in such examples is imposed on both noun phrase constituents through government (in example 6c by the preposition *k* 'to') as argued by Corbett and Kibort, or if the dative case on the modifying adjective is imposed by its head by means of agreement, similar to gender and number agreement which are also imposed by the head noun. Adopting Mel'čuk's (1993: 329, 337) dependency view of syntax instead of Corbett's (2006: 133) "constituency", the dependent constituent in the adposition phrase is a noun phrase. The dependent constituent in the noun phrase, again, is an adjective phrase (i.e., the attributive adjective) which depends on the noun head of the phrase and inherits its case marking. In this view, the morpho-syntactic mechanisms of assigning a head's morphological features to dependent constituents are similar for case and other agreement categories (like gender and number). Consider (6c) 'to a good person' in Lower Sorbian.

(7) Lower Sorbian (Indo-European; Janaš 1976)
[$_{\text{AdP}}$ *k* [$_{\text{NP}}$ *dobremu*$_{\text{agr}}$ *człowjekoju*$_{\text{gender:number:case}}$]]

Another possible agreement feature beside GENDER, NUMBER and CASE is the feature SPECIES, typical values of which are DEFINITE and INDEFINITE. Consider, for instance, the agreement paradigm of adjectives in Icelandic (Table 4.1) in which indefinite and definite forms are distinguished.

Cross-linguistically, head-driven agreement seems to be a wide-spread attribution marking device across the world's language families. The actual morphological appearance of agreement marking, however, is highly diverse across languages and depends on several parameters.

One such parameter concerns the form of the agreement marking morphemes in comparison to the morphemes marking the corresponding values on the head noun. In fact, adjective agreement paradigms in many languages are different from the corresponding inflectional paradigms of nouns. This is true, for instance, for Slavic and Germanic languages, as mentioned, but also for other Indo-European languages. In other languages, however, inflectional suffixes might simply reoccur on the modifier, as in Finnish.

Table 4.1: Adjective declension paradigm for Icelandic (Indo-European; Kress 1982)

		M.SG	F.SG	N.SG	M.PL	F.PL	N.PL
INDEF	NOM	-ur	-Ø	-t	-ir	-ar	-Ø
	ACC	-an	-a	-t	-a	-ar	-Ø
	DAT	-um	-ri	-u	-um	-um	-um
	GEN	-s	-rar	-s	-ra	-ra	-ra
DEF	NOM	-i	-a	-a		-u	
	ACC	-a	-u	-a		-u	
	DAT	-a	-u	-a		-u	
	GEN	-a	-u	-a		-u	

(8) Finnish (Uralic; personal knowledge)

a. *iso-t* *talo-t*
large-PL house-PL
'large houses'

b. *iso-i-ssa* *talo-i-ssa*
large-PL-INESS house-PL-INESS
'in large houses'

Adjectives and nouns in Finnish (and in most other Uralic languages) differ in syntactic function rather than in morphological properties. Consequently, adjectives and nouns in Finnish exhibit similar inflectional paradigms. Probably, such a weak distinction between adjectival and nominal inflections was also true for Proto-Indo-European (cf. Comrie 1998: 80). But the declensions of both adjectives and nouns in Indo-European languages have undergone radical changes and have become clearly distinct from each other. This is evident, for instance, in the Lower Sorbian example (6) on page 35 where the adjective suffix *-emu* and the noun suffix *-oju* both mark the dative masculine singular.

Head-driven agreement marking also surfaces in different ways across languages with respect to the inventory of morphological categories involved. Many languages exhibit head-driven agreement paradigms which exclude certain inherent or assigned morphological categories of the head noun, as in Finnish, where nouns inflect for NUMBER, CASE and POSSESSION. The latter feature, however, never spreads through the noun phrase.

(9) Finnish (Uralic; personal knowledge)

a. *iso talo-ni*
large house-POSS:1SG
'my large house'

b. * *iso-ni talo-ni*
large-POSS:1SG house-POSS:1SG

Finally, agreement paradigms can be "defective" in the sense that certain agreement categories do not show up on all members of the paradigm. In Danish, for example, gender as an agreement feature is marked on the attributive adjective only in indefinite noun phrases. In noun phrases marked for definite species, the attributive adjective is marked with an invariable definite agreement suffix. Consider (10) and Table **??** with the corresponding paradigm in §**??**.

(10) Danish (Indo-European; personal knowledge)

a. *en* ***stor*** *mand*
INDEF.COM big.UTR man(UTR)
'a tall man'

b. *ett* ***stor-t*** *hus*
INDEF.N big-N house(N)
'a large house'

c. *den* ***stor-e*** *mand*
DEF.COM big-DEF man(UTR)
'the tall man'

d. *det* ***stor-e*** *hus*
DEF.N big-DEF house(N)
'the large house'

An extreme case of a defective agreement paradigm is found in Chechen where adjectives only partially agree with the head noun and show only one single case distinction between nominative versus all other cases, as in the paradigm (11).[7]

(11) Chechen (Nakh-Daghestanian; Nichols 1994a: 29)[8]

a. *dika*^{n} *stag*^{3} 'good person' [NOM:SG]

[7] A similar defective agreement paradigm with only one case distinction is found in the closely related language Ingush, see §**??**. Another, non-related language exhibiting defective agreement is Burgenland Romani, see §**??**.

[8] The paradigm includes only selected forms.

b. *dikaču stega*^{n} [GEN:SG]
c. *dikaču stagana* [DAT:SG]
d. *dikaču staga* [ERG:SG]
e. *dikaču stagie* [ALL:SG]
f. *dika*^{n} *na:x* [NOM:PL]
g. *dikaču ne:xa*^{n} [GEN:PL]

4.4.2 Dependent-driven agreement

In many languages spoken inside and outside the northern Eurasian area, head-driven agreement is attested as a device for licensing attributive modification. The reverse agreement type, DEPENDENT-DRIVEN AGREEMENT, is also wide-spread among the world's languages. Among the languages of my sample, however, dependent-driven agreement marking is attested only as a device for the licensing of (possessor) noun attributes. An example of a language with dependent-driven agreement marking in possessive noun phrases is Oroch.

(12) Oroch (Tungusic; Malchukov 2000: 3)
nia d'uu-ni
man house-POSS:3SG
'a man's house'

The possessed noun 'house' in example (12) obligatorily agrees with the 3SG possessor 'man'. This type of dependent-driven agreement is usually called POSSESSOR AGREEMENT.[9]

4.4.2.1 Modifier-headed possessor agreement

The term MODIFIER-HEADED POSSESSOR AGREEMENT is derived from MODIFIER-HEADED AGREEMENT introduced in Bickel, Nichols & Rießler (2001-2010). It is a subtype of dependent-driven agreement characterized by reverse semantic and syntactic dependency relations between attribute and head.

Oroch also exhibits dependent-driven agreement marking by means of possessive affixes on attributive adjectives, which is structurally similar to example (12).

[9] Another commonly used term is CROSS-REFERENCE MARKING.

(13) Oroch (Tungusic; Malchukov 2000: 3)

a. *nia aja-ni*
man good-POSS:3SG
'a GOOD man'

b. *nia-sa aja-ti*
man-PL good-POSS:3PL
'GOOD men'

In the Oroch example, the semantic head of the noun phrase 'man' is syntactically "degraded" to the (dependent) possessor function, and the semantic dependent is "upgraded" to the function of the syntactic head of the phrase, i.e., the possessed. According to Malchukov (2000: 3), the expression still has an attributive reading: 'a man, a property of whom is "to be good"', rather than a possessive one: *"a man's goodness". Thus, the semantic attribute is rendered as the head (i.e., the possessed) and the semantic head of the possessive noun phrase takes the slot of the dependent (i.e., the possessor).

Whereas modifier-headed possessive agreement constitutes a marked structure in Oroch, it can be the universal type of attributive marking on adjectives in other languages. This kind of adjective attribution marking device is not very common in the northern Eurasian area under investigation, but it is pervasive, for instance, in Oceanic languages (cf. Ross 1998). In Saliba, for example, attributive adjectives as a rule are marked by means of 3rd person possessive suffixes.

(14) Saliba (Austronesian; Mosel 1994)

a. *sine natu-na*
woman child-POSS:3SG
'a woman's child / the child of the woman'

b. *sine-o natu-di*
woman-PL child-POSS:3PL
'women's children / the children of the women'

In Saliba, possessor nouns are licensed as modifiers in a noun phrase by means of (dependent-driven) possessor agreement on the head noun. Similar to the marked noun phrase in Oroch (13), attributive adjectives are marked by means of modifier-headed possessor agreement.

(15) Saliba (Austronesian; Mosel 1994)

a. *mwaedo gagili-na*
eel small-POSS:3SG
'a small eel'

b. *mwaedo gagili-di*
eel small-POSS:3PL
'small eels'

The adjectival attribute 'small' in example (15) occurs in a possessive-like construction (similar to 14) where the adjective takes the slot of the possessed and is subsequently marked with a possessive agreement suffix.[10] I propose that attributive adjectives in Saliba occur in "headstand" noun phrases and are marked by means of modifier-headed possessor agreement. Unlike in Oroch, however, modifier-headed possessor agreement is the default type of attributive connection of adjectives in Saliba.

4.5 Overt morpho-syntactic construct marking: attributive state marking

Due to a lack of better terminology the feature STATE was earlier defined as assigned through SYNTACTIC GOVERNMENT (in §3.2). Unlike the common notion of GOVERNMENT, which requires a trigger inside the phrase, true syntactic government considered in this study has no other trigger than the syntactic construction as such.

In order to avoid the misleading term GOVERNMENT, all overtly marked attribution devices with the exclusive function of licensing the syntactic relation between constituents of a noun phrase are defined here as ATTRIBUTIVE STATE MARKING. "Overtly marked" means that (at least one) additional attribution marking morpheme is present in the noun phrase.

The term ATTRIBUTIVE STATE is adopted from "construct state" or "status constructus" which are commonly used in syntactic descriptions of languages exhibiting head-marking STATE (e.g., Persian). Since construct state marking morphemes may occur on different loci inside the noun phrase, ATTRIBUTIVE STATE

[10] An alternative account of noun phrase structure in Saliba could claim that a verbal adjective used as an attribute is marked by head-driven agreement, analyzing the suffixes *-na* and *-di* as singular and plural markers, respectively. This analysis is obviously underlying the descriptions of Saliba (e.g., Mosel 1994, Margetts 1999), which leave the homophony of *-na* POSS:3SG and *-di* POSS:3PL with *-na* SG and *-di* PL undiscussed.

will be used as superordinate term, subsuming the subtypes with the following loci of their respective attributive markers:[11]

- on-head (construct)
- on-dependent (anti-construct)
- neither on-head nor on-dependent (floating construct)
- simultaneously on-head and on-dependent (double construct)

Among the northern Eurasian languages considered in the present study, only the first two types of attributive state marking, i.e., head-marking state and dependent marking state, are attested as devices for licensing attributive adjectives. These two types are dealt with in more detail below in §4.5.1 and §4.5.2.

4.5.1 Head-marking attributive state

The attributive construction in Persian, commonly known as EZAFE (or IZAFE), illustrates a typical case of head-marked attributive state.

(16) Persian (Indo-European; Mahootian 1997)
xane-ye *bozorg*
house-ATTR big
'a large house'

The only function of the attributive suffix *-(y)e*[12] on the noun 'house' is to show that "I am the head of a noun phrase and I have a dependent."[13] The traditional term for the morphological value given by the head-marking attribution device in Persian is CONSTRUCT STATE (or STATUS CONSTRUCTUS). What is meant hereby is that the noun displays different "states" depending on the presence of a modifier in the noun phrase.

Obligatory attribution marking by means of an Ezafe-construction is also characteristic for other Iranian languages. In the Northern variety of Kurdish spoken in the northern Eurasian area, the Ezafe-formative is not an invariable suffix –

[11] Other logically possible loci of attributive state markers would result from simultaneous marking on head- and/or on dependent+floating. I am, however, not aware of any language exhibiting such noun phrase types.

[12] The allomorph *-e* appears after consonants.

[13] The attributive construct state marking in Persian is polyfunctional in the sense that its function is not restricted to the licensing of adjectives as modifier in a noun phrase, but also of noun attributes, adposition phrases and verb infinitives.

unlike the cognate suffix *-(y)e* in Persian – but also indicates morphological values of NUMBER (SG/PL), GENDER (M/F) and SPECIES (DEF/INDEF). Consider example (17) and the paradigm in Table 4.2.

(17) Northern Kurdish (Indo-European; Ortmann 2002)

a. *kur-ê* *mezin*
boy-ATTR:DEF.M.SG big
'the tall boy'

b. *keç-a* *baç*
girl-ATTR:DEF.F.SG nice
'the nice girl'

c. *kur-ên* / *keç-ên* *baç*
boy-ATTR:DEF.PL girl-ATTR:DEF.PL nice
'the nice boys / girls'

Table 4.2: Paradigm of the Ezafe in NORTHERN KURDISH (Schroeder 2002)

	M.SG	F.SG	PL
DEF	-(y)ê	-(y)a	-(y)ên
INDEF	-î	-e	

Note that the values of true morphological features (NUMBER, GENDER, SPECIES) of the noun are combined with the morpho-syntactic feature ATTRIBUTIVE in the differentiated forms of the Ezafe in Northern Kurdish. But agreement is not involved here because gender, number and species marking is not triggered within the noun phrase but is inherited to the head noun morpho-semantically.

4.5.2 Dependent marking attributive state

4.5.2.1 Anti-construct state

In some languages there is an attributive construction corresponding to the Iranian Ezafe, which however does not mark the head but the adjectival dependent for "state" (i.e., indicating the availability of a head in the present noun phrase). This type of marking occurs, for instance in Saamic languages.

(18) Kildin Saami (Uralic; personal knowledge)

a. Predicative state

i. *Tedt pērrht lī ēll.*
DEM house COP high
'This house is high.'

b. Attributive state

i. *Tedt lī ēl'l'-**es'** pērrht.*
DEM COP high-ATTR house
'This is a high house.'

ii. *Tegk liev ēl'l'-**es'** pērht.*
DEM COP high-ATTR house\PL
'These are high houses.'

Whereas the predicatively used adjective 'high' is represented by its pure stem form (18a), it is marked with the attributive suffix *-es'* if used as modifier (18b-i, 18b-ii). Attributive marking on adjectives in Kildin and other Saamic languages is highly irregular due to the strong tendency to merge predicative and attributive adjective forms. Other adjective marking devices also occur. The default type in most Saamic languages, however, is that attributive adjectives exhibit an attributive inflection (Rießler 2006b; see also below §??).

The attribution marker in Saamic is invariable, i.e., the adjective does not show agreement with its head noun. The host of the Saamic attributive suffix is the adjective. Its only function is to specify the syntactic relation between head noun and adjectival modifier ("my host is dependent in the present syntactic structure"). Since the construction in Saamic constitutes dependent marking in contrast to the Persian construct state, it can be labeled ANTI-CONSTRUCT.[14]

Anti-construct state marking seems not uncommon cross-linguistically, even if Saamic and the Iranian language Northern Talysh (see §??) provide the only examples of European languages with anti-construct state marking on adjectives. Note that typological descriptions and grammars use quite different terms for anti-construct state markers, such as "attributive affix", "attributive particle", "relator", "associative marker", "linker", etc. If anti-construct marks the attribution

[14] The term was introduced during Bickel's and Nichols' earlier work on the AUTOTYP Noun Phrase Structure Database, cf. Bickel & Nichols (2003: 2, passim), Bickel, Nichols & Rießler (2001-2010).

of possessor nouns (besides adjectives) it is also often called "attributive case" or "genitive".

Possessive case marking From a purely syntactic point of view, possessive case marking is similar to anti-construct state marking. Both are syntactically governed dependent marking devices. In fact, anti-construct state marking of adjectives is sometimes described as "genitive" if the device is polyfunctional and marks possessor nouns as well.[15] Rather than extending the terminological domain of possessive case marking to adnominal modifiers beyond noun possessors, the term POSSESSIVE CASE (or POSSESSOR CASE) will be used here only for describing a special subtype of anti-construct state. Whereas the latter is a purely morpho-syntactic device, possessive case additionally specifies a semantic relation (i.e., possession).

4.5.2.2 Anti-construct state agreement marking

Construct state markers such as the linker in Tagalog, the head-marking construct state marker *-(y)e* in Persian, or the dependent marking anti-construct state marker *-es'* in Kildin Saami are proper construct state markers in the sense that they are exclusively used as a licenser of an attributive syntactic relation between modifying and modified constituents in the noun phrase. The respective formatives thus have morphologically unalterable shapes.

In other languages, however, certain adnominal modifiers marked for anti-construct state may additionally be the target of either head- or dependent-driven agreement. Such combined agreement and construct marking devices should consequently be characterized as simultaneously marking the syntactic and the morphological relation between the noun modifier and the modified noun.

This subtype of anti-construct state marking, characterized by (adjectival or other) adnominal modifiers being marked simultaneously for anti-construct state and for head-driven agreement, will be labeled ANTI-CONSTRUCT STATE AGREEMENT MARKING in the following.[16]

A typical example of a language with anti-construct state agreement marking is Russian.

[15] Even other construct marking devices, such as the linker in Tagalog (34) or the construct state marker in Persian (16), are often described as "genitives" because they mark possession. Unlike prototypical genitives, however, the construct markers in Tagalog and Persian do not constitute dependent marking devices.

[16] The extended label **HEAD-DRIVEN** ANTI-CONSTRUCT STATE AGREEMENT MARKING seems obsolete because the agreement is self-evidently triggered by the head noun in this type.

(19) Russian (Indo-European; personal knowledge)

a. Attribution

i. ***krasiv-yj*** *mal'čik*
beautiful-ATTR:M.NOM boy(M)
'a handsome boy'

ii. ***krasiv-aja*** *devuška*
beautiful-ATTR:F.NOM girl(F)
'a pretty girl'

b. Predication ("short")

i. *Etot* *mal'čik* ***krasiv***
DEM:M boy(M) beautiful:M
'this boy is handsome'

ii. *Eta* *devuška* ***krasiv-a***
DEM:F tower(F) high-F
'this girl is pretty'

c. Predication ("long")

i. *Etot* *mal'čik* ***krasiv-yj***
DEM:M boy(M) beautiful:ATTR?:M
'this boy is handsome' (a handsome one)

ii. *Eta* *devuška* ***krasiv-aja***
DEM:F tower(F) high-ATTR?:F
'this girl is pretty' (a pretty one)

In Russian, attributive as well as predicative adjectives show agreement in GENDER and NUMBER. Attributive adjectives agree additionally in CASE. The agreement suffixes of the attributive and predicative paradigms, however, have different shapes; consider Table **??**.

Traditionally, the two inflection paradigms of the adjective in Russian have been contrasted to each other as "short" and "long" forms. These terms, however, describe the form rather than the function of the different agreement inflections and are thus less useful for the classification of the Russian noun phrase type from a morpho-syntactic typological perspective. The "long" adjectives of Russian do not simply belong to a different declension paradigm as compared to their "short" counterparts. The formal distinction between the two adjective declensions is connected to attribution marking. Whereas the predicative ("short")

forms show "pure" agreement, the agreement suffixes on attributive adjectives mark agreement and the attributive state of the adjective simultaneously.

Historically, the attributive adjective inflection consists of two morphemes: a pronominal stem plus the original "short" agreement suffix.[17] Synchronically, the attributive adjective suffixes in Russian are thus best analyzed as portmanteau suffixes marking anti-construct and head-driven agreement simultaneously.

One could argue against the analysis of the "long" adjective declension in Russian as attributive state marking saying that "long form adjectives" also occur in predicative position. The semantic difference between the use of "short" versus "long" forms in adjective predication in Russian can be described as an opposition between temporal and permanent properties denoted by the adjective. In fact, the use of the "short" adjective in predicative position – implying a temporary property – is stylistically marked in contrast to the "long" form, which has become the default in contemporary Russian.

Nonetheless, the marking of the predicative adjective is rather irrelevant here. What is crucial, however, is the use of the "long" forms, which occur in attributive position as a rule. The "short" (i.e., predicative) form cannot occur in attributive position. Furthermore, it could even be argued that "long" form adjectives in predicative position are instances of adjective attribution marking rather than of adjective predication. This is the case if one analyses the "long form adjectives" as headless noun phrases in an appositional construction, as the "long" predicative form in (20b) denoting a permanent property is in contrast to the "short" predicative form in (20a) denoting a temporal property.[18]

(20) Russian (Indo-European; personal knowledge)

a. "short" predicative adjective
on bolen
3SG ill:PRED:M
'he is sick'

[17] In the forms for nominative (cf. Table ??) the two morphemes for ATTR and GENDER/NUMBER/CASE are still separable. In the remaining cases, however, they are merged into one portmanteau suffix.

[18] Russian examples of morphologically differentiated predicative adjectives also often reflect an opposition in the subject's denotative status. The "short" form is used for denoting reference to a class of objects: *krasavicy* ***kaprizn-y*** [capricious-PRED:AGR] 'beautiful women are capricious'), the "long" form is used for denoting reference to an individual: *oni* ***kaprizn-ye*** [capricious-ATTR:AGR] 'they are capricious' (or 'they are (the) capricious ones', e.g., two sisters known from the discourse) (cf. Mendoza 2004: 210 Footnote 76).

b. "long" predicative adjective
on bol'nyj
3SG ill:ATTR?:M
'he is (mentally) sick' (viz. he, a sick one)

The origin of anti-construct state agreement marking in Russian is dealt with in §**??**. It is worth mentioning that remnants of an Old Slavic anti-construct adjective inflection are found in other modern Slavic languages as well, especially in the South Slavic languages Slovenian and Serbian where the "long" adjective forms occur in definite noun phrases (see §**??**).

Similar to South Slavic but much more regular is the occurrence of a cognate anti-construct adjective inflection in the Baltic languages Latvian and Lithuanian.

(21) Latvian (Indo-European; example from Dahl 2015: 122)

a. *liel-a māja*
big-F.NOM.SG house(F)
'a large house'

b. *liel-ā māja*
big-ATTR:F.NOM.SG house(F)
'the large house'

Unlike in Russian where attributive adjectives are marked with the anti-construct state agreement suffixes as a rule, the use of the cognate attributive forms in the Baltic languages is usually described as depending on the referential status of the head noun. Whereas the "short form" agreement suffix is used with adjectives modifying indefinite nouns (21a), the attributive adjective in definite noun phrases is obligatorily marked with the "long form" agreement suffix (21b).

The anti-construct state agreement marking suffixes in the Baltic languages are often described as a definiteness markers. Note, however, that the definite noun never exhibits definite marking itself. If no attributive adjective is present the definite noun remains unmarked. The analysis of the "long form" agreement suffix in Baltic as definite marker would thus presuppose the assumption that the definite marker is selective and shows up only on attributive adjectives.

Markers which are selective according to their host's parts-of-speech membership are indeed attested.[19] The Latvian and Lithuanian examples, however, could be compared to selective marking in other languages only if one assumes

[19] Consider, for instance, the two allomorphs of the definite marker in Danish *hus-**et*** [house-DEF.N] 'the house', ***det** store hus* [DEF.N big.DEF.N house] 'the large house'. The suffix *-et* DEF.N.

a zero-allomorph of the definiteness marker attaching to non-modified definite nouns.

(22) Latvian (Indo-European; example from Dahl 2015: 122)

a. *māja*
house
'a house'

b. *māja-?Ø*
house-DEF
'the house'

c. *liel-ā* *māja*
big-DEF:F.NOM.SG house(F)
'the large house'

Mel'čuk (1998: 31) introduced the term DISPLACED CATEGORY (Russian *smeščennaja kategorija*) for the type of marking found in Baltic. It has also been argued by Dahl (2003: 149–152; see also Dahl 2015: 122–123) that definite noun phrases often show special behavior in languages depending on whether or not they exhibit attributive adjectives (or other modifiers).[20]

An alternative analysis is preferred here: since the "long form" agreement suffix only attaches to attributive adjectives, the formative could well be analyzed as an anti-construct state agreement marker (similar to Russian) which is, however, restricted to occurring in semantically definite noun phrases.

Several examples of languages are attested where the occurrence of different noun phrase types is restricted to certain subsets of noun phrase constituents. In the case of the Latvian example given above (and similar to Lithuanian) attributive adjectives are marked differently depending on the referential status of the whole phrase. The choice between the head-driven agreement versus the anti-construct state agreement type would thus be constrained by the semantically defined subsets of the noun head (i.e., indefinite versus definite).

As a consequence of the suggested analysis of the "long form" agreement suffixes in Baltic as anti-construct state agreement markers, Latvian and Lithuanian could be described as lacking definiteness as morphological category. In

attaches to bare nouns, whereas the free form *det* DEF.N attaches to noun phrases with adjective modifiers, cf. also Table ??.

[20] Dahl (2003: 150) compares the "long form" adjectives in the Baltic languages with attributive articles in Romance languages (such as in Latin *Babylon illa magna*) and Yiddish, among others. A structural and even historical connection is indeed plausible, as will be shown in Part IV (Diachrony) of this study, especially in §??.

fact, several authors have questioned the existence of morphologized definite marking at least in Lithuanian, where the occurrence of the anti-construct state agreement suffix is clearly not restricted to definite noun phrases (cf. Wissemann 1958 cit. Krámský 1972: 181–182). Trost (1966: 37) argues that permanent versus non-permanent properties are marked rather than definite versus indefinite, for example (Lithuanian) *aukštoji mokykla* 'college (lit. 'high school')'.[21]

In §**??**, diachronic arguments will be presented in favor of the assumption that a morphological feature SPECIES (with the values DEFINITE / INDEFINITE) was not present in Baltic languages, at least until the most recent stages in their language history. The anti-construct state agreement inflection is clearly older than the morphologization of definiteness in Baltic (and similarly in certain Slavic languages). In older stages of Baltic (and Slavic) the "long" adjective inflection was connected to attributive rather than to definiteness marking (see §**??**). To a certain extent, this holds true for the modern Baltic languages Latvian and Lithuanian.

Thus, in the ontology presented here anti-construct state agreement marking in Baltic belongs to the same noun phrase type as the one described for Russian (cf. example 19 on page 46). This analysis seems justified regardless of the question as to whether the device constitutes the default type of adjective attribution marking (as in Russian) or is restricted to a given semantically restricted subset of the head noun (as in Latvian and Lithuanian).

Also in German (similar to the other West Germanic languages, except English), attributive and predicative adjectives are morpho-syntactically differentiated. Whereas attributive adjectives show head-driven agreement, predicative adjectives are used in an invariable form. Given the definition of dependent marking attributive state which was applied here (see also §3), German thus exhibits a similar type of obligatory anti-construct state agreement marking as Russian. Note, however, that the inherited adjective inflection suffixes are merged to a relatively high degree in Modern German: only the five single forms *-e, -en, -em, -er, -es* are formally distinguished.

What is even more interesting in German is the fact that the agreement feature SPECIES exhibits a third value for which a grammatical label is hard to find. Whereas indefinite agreement shows up on adjectives in semantically indefinite noun phrases (formally marked by the indefinite marker *ein* in Table 4.3) and definite agreement on adjectives occurs in semantically definite noun phrases (formally marked by the definite marker *der* in Table 4.3), the "third species"

[21] For Latvian, however, Trost (1966: 38) accepts the analyses of the "long" suffix as definite marker, because it occurs regularly after possessive pronouns.

agreement forms show up in semantically indefinite or definite noun phrases marked, for instance, by possessive pronouns and the indefinite pronoun *kein* 'no(t any)'. Whereas the "third species" agreement forms – traditionally labeled "mixed adjective inflection" (cf. Schäfer 2015: 244–245) – are similar to the indefinite forms in singular, they are similar to the definite forms in plural. Accordingly, three species values thus have to be distinguished in the morphological paradigm.

It is worth mentioning that adjectives which are simultaneously marked for attributive state (i.e., anti-construct) and head-driven agreement are also attested in languages outside the northern Eurasian area. Similar to Russian, adjectives in Endo, a Nilotic language of Kenya, require different agreement suffixes depending on their use as modifiers of a noun or as predicates.

(23) Endo (Nilotic; Zwarts 2003: 65)

a. *karaam inyeentee*
good(SG) 3SG
'S/he is good.'

b. *laakwa nyaa karaam*
child ATTR:SG good(SG)
'a good child'

c. *karaam-a akwaaneek*
good-PRED:PL 3PL
'They are good.'

d. *piich chaa karaam-een*
people ATTR:PL good-ATTR:PL
'good people'

The example illustrates that adjectives in Endo show agreement in number. The singular is unmarked and the plural is marked by the suffix *-a* for predicative adjectives and by *-een* for attributive adjectives.[22]

4.5.2.3 Attributive nominalization

Nominalization is often understood very broadly as a word-class changing morphological operation deriving nouns from other syntactic classes. This definition

[22] Unlike in Russian, however, there is a second attributive marker present in Endo, an attributive article *nyaa* ATTR:SG, *chaa* ATTR:PL. The noun phrase type would thus better be characterized as a combination of attributive article+anti-construct state agreement, hence "double agreement".

Table 4.3: Agreement paradigm for the GERMAN adjective ‘good’ (‘good man’ M, ‘good woman’ F, ‘good child’ N, ‘good people’ PL)

		M.SG	F.SG	N.SG	PL
INDEF	NOM	(ein) gut-**er** (Mann)	(ein-e) gut-**e** (Frau)	(ein) gut-**es** (Kind)	gut-**e** (Leute)
	GEN	(ein-es) gut-**en** (Mannes)	(ein-er) gut-**en** (Frau)	(ein-es) gut-**en** (Kind-es)	gut-**er** (Leute)
	DAT	(ein-em) gut-**en** (Mann)	(ein-er) gut-**en** (Frau)	(ein-em) gut-**en** (Kind)	gut-**en** (Leuten)
	ACC	(ein-en) gut-**en** (Mann)	(ein-e) gut-**e** (Frau)	(ein) gut-**es** (Kind)	gut-**e** (Leute)
DEF	NOM	(der) gut-**e** (Mann)	(die) gut-**e** (Frau)	(das) gut-**e** (Kind)	(die) gut-**en** (Leute)
	GEN	(des) gut-**en** (Mannes)	(der) gut-**en** (Frau)	(des) gut-**en** (Kind-es)	(der) gut-**en** (Leute)
	DAT	(dem) gut-**en** (Mann)	(der) gut-**en** (Frau)	(dem) gut-**en** (Kind)	(den) gut-**en** (Leuten)
	ACC	(den) gut-**en** (Mann)	(die) gut-**e** (Frau)	(das) gut-**e** (Kind)	(die) gut-**en** (Leute)
IN/DEF	NOM	(mein) gut-**er** (Mann)	(meine) gut-**e** (Frau)	(mein) gut-**es** (Kind)	(meine) gut-**en** (Leute)
	GEN	(meines) gut-**en** (Mannes)	(meiner) gut-**en** (Frau)	(meines) gut-**en** (Kind-es)	(meiner) gut-**en** (Leute)
	DAT	(meinem) gut-**en** (Mann)	(meiner) gut-**en** (Frau)	(meinem) gut-**en** (Kind)	(meinen) gut-**en** (Leuten)
	ACC	(meinen) gut-**en** (Mann)	(meine) gut-**e** (Frau)	(mein) gut-**es** (Kind)	(meine) gut-**en** (Leute)

stresses the lexical-semantic side of nominalization. But the term is sometimes also used for a syntactic operation in which a verbal (single or complex) constituent, like a verb, a verb phrase, a sentence, or a portion of a sentence (including a verb) is converted into a nominal (single or complex) constituent (Li & Thompson 1981: 575). The present study uses the term nominalization in the latter sense, i.e., a licenser of constituency.

Mandarin Chinese illustrates a language in which syntactic nominalization is a highly polyfunctional device for the licensing of different modifying phrase constituents (cf. Li & Thompson 1981: 575–593; see also example **??** in §**??**). Adjectives in Mandarin are used in attributive position (24a), in predicative position (24b) and as adverbial modifiers (24c).

(24) Mandarin Chinese (Sino-Tibetan; Li & Thompson 1981)

a. Adjectival attribute
   [$_{NP}$ *xīn* ***de***] *shū*
   new NMLZ book
   'new book'

b. Adjectival predicate
   wǒ-de *shū* *shì* [$_{NP}$ *xīn* ***de***]
   1SG-NMLZ book COP new NMLZ
   'My book is new (i.e., a new one).'

c. Adjectival adverb
   wǒ [$_{NP}$ *yánli-**de***] *zébèi* *tā* *le*
   1SG stern-NMLZ reproach 3SG CRS
   'I sternly (i.e., as a stern one) reproached him/her.'

Interestingly, nominal constituents can also be nominalized, i.e., they can be syntactically licensed as constituents in larger syntactic units. In some languages, such syntactic licensing is obligatory for certain types of nominals. The corresponding markers (i.e., nominalizers of nominals) are labeled with quite different terms, such as, for instance, "articles", "noun phrase articles" or "noun (phrase) markers" (cf., e.g., Dryer 2007: 152, Rijkhoff 2002: 95, passim). Prototypical examples of such markers come from Oceanic languages where noun phrases contain an obligatory nominalizer deriving from a demonstrative.

Due to the lack of a conventionalized terminological distinction, "nominalization" is here used for denoting the purely syntactic operation by which a noun or noun phrase is marked as a syntactic constituent by making it syntactically more complex, i.e., by projecting a full noun phrase. This use of the term NOMINALIZATION is also consistent with the fact that "nominal" is most often used

as a homonym for "noun phrase" rather than for "noun". "Substantivation", on the other hand, will be used for the purely morpho-semantic process yielding a lexical noun ("substantive") as the result of a word class changing operation, i.e., derivation. Whereas "substantivation" belongs to the spheres of morpho-semantics and lexicon, nominalization belongs to syntax: nominalizers function exclusively for the licensing of noun phrases as constituents in larger syntactic units.

Attributive nominalization has already been discussed as "appositional modification" in §2.3.3. Attributive nominalization is a special subtype of dependent marking construct state. Similar to the latter, attributive nominalization represents a covert dependent marking morpho-syntactic device and is triggered either by purely syntactic government (as, for instance, anti-construct state marking in Kildin Saami, see §4.5.2) or by syntactic government in combination with head-driven agreement (as, for instance, anti-construct state agreement marking in Russian, see §4.5.2.2). The special distinguishing characteristic of attributive nominalization lies in the syntactic structure: whereas true anti-construct state markers attach directly to the dependent constituent (as, for instance, the respective inflectional suffixes in Kildin Saami or Russian), attributive nominalizers attach to an intermediate dependent phrasal constituent between the head noun and the modifier.

Epithet constructions with attributive articles in Germanic languages illustrate a prototypical case of attributive nominalization by means of an article.[23]

(25) German (Indo-European; personal knowledge)
Friedrich der Große 'Frederick the Great'

Following Himmelmann (1997: 180), the syntactic structure of this example can be described as follows:

(26) [$_{\text{NP}}$ Friedrich [$_{\text{NP'}}$ $_{\text{ART}}$der $_{\text{A}}$Große]]

The intermediate phrasal constituent between the noun phrase (NP) and the adjective is labeled NP', leaving open the question about what constitutes the syntactic head of this phrasal projection.[24]

Note that the attributive marker *der* in (25) is homophonous with the definite marker *der* but clearly has a different function in this construction. For instance,

[23] The examples are from Himmelmann (1997: 179–180). Note that attributive nominalization in German is restricted to noun phrases with proper names as heads. This restriction is, however, irrelevant to the following argumentation.

[24] "Article phrase" (similar to "Determiner phrase" in X-bar syntax) would imply the nominalizer (in this case the article *der*) is the head.

the attributive marker *der* cannot be replaced by a possessive or a demonstrative pronoun and is thus not a marker of definiteness. The (proper) noun phrase *Friedrich der Große*, on the other hand, can be further modified by means of a demonstrative (***jener*** *Friedrich der Große* 'that Frederick the Great') or a possessive pronoun (***unser*** *Friedrich der Große* 'our Frederick the Great'). In fact, species marking of the whole noun phrase (i.e., in/definiteness) does not affect the attributive nominalizer; consider the following example:

(27) German (Indo-European; personal knowledge)
   a. *Irgendein* [*Friedrich der Große*]$_{INDEF.NOM}$ *soll das gesagt haben.*
   b. *Dieser* [*Friedrich der Große*]$_{DEF.NOM}$ *soll das gesagt haben.*
   c. *Ich sehe mir irgendeinen* [*Friedrich den Großen*]$_{INDEF.ACC}$ *an.*
   d. *Ich sehe mir diesen* [*Friedrich den Großen*]$_{DEF.ACC}$ *an.*

The attributive adjective forms a complex constituent together with the article. This complex constituent is subordinated to the noun phrase head (i.e., the proper name *Friedrich*) whom it modifies. The agreement pattern in the German epithet construction also show that the nominalizer *der* must not only be be distinguished from the homophonous definite marker, but also from the relativizer *der*. Consider the following examples (cf. also Himmelmann 1997: 181).

(28) German (Indo-European; personal knowledge)
   a. * *ein Jagdhund Friedrichs der Große*
   b. *ein Jagdhund Friedrichs des Großen*
   c. *die Jagdhunde Friedrichs, der seine Sommerresidenz in Potsdam hatte*
   d. *die Jagdhunde Friedrichs, den man auch den Alten Fritz nannte*

According to Lehmann (1984: 230–231; cf. also Himmelmann 1997: 181) true relative pronouns represent the syntactic head in relation to the predicate of the embedded clause. The syntactic function of the relative pronoun is determined by the predicate, but it is independent from the syntactic function of the head noun. Consequently, the relativizer *der* (similar to the adjective *groß*) in example (28) agrees only in gender and number with the head noun *Friedrich*. Case is allotted according to the function of *der* as argument in the embedded clause. This is different from the syntactic function of the attributive nominalizer *der*. The nominalizer does agree in case with the head noun. The article's syntactic function is thus dependent of the head noun's function in the superordinate construction.

4.5.2.4 Attributive articles

Attributive nominalizers similar to *der* in German epithet constructions will be labeled ATTRIBUTIVE ARTICLES in the following. Attributive articles are similar to anti-construct state agreement markers in that they mark the syntactic relation of attribution and agreement simultaneously. Prototypically, attributive articles are grammatical words and hence syntactic constituents on their own. In the case of the German attributive article *der*, the constituency of the marker becomes evident in the fact that both the adjective and the article are the target of head-driven agreement.

Even though "article" is often used for many different types of grammatical markers, this term (< Latin *artus/articulus* 'joint, small connecting part') originally referred to the metaphor of a joint between the constituents in a noun phrase, hence a true attribution marker. Interestingly, Dryer (1989: 83) and Rijkhoff (2002) distinguish two types of "articles": (1) words indicating species (i.e., in/definiteness or some related discourse notion) and (2) words serving as a noun phrase marker "in the sense that noun phrases in that language […] typically occur with one of the words in question" (Rijkhoff 2002: 285). Attributive articles could nicely be subsumed under type (2) "noun phrase marker" if the definition were extended: "a marker which occurs with noun phrases **and/or phrasal dependent constituents of noun phrases**".

The term ATTRIBUTIVE ARTICLE used here matches Himmelmann's (1997) GELENKARTIKEL 'linking article', which in turn is borrowed from Gamillscheg's (1937) description of the "linking function" (GELENKSFUNKTION) of articles in different Indo-European languages.[25]

Even though the use of the term ARTICLE by Indo-Europeanists is often applied in grammatical descriptions of different languages and even in theoretical linguistic studies, the present study prefers to use ARTICLE only for an attributive marker. On the basis of examples from Greek (with the so-called repeated article) and from Latin (with the so-called linking demonstrative), Gamillscheg (1937: 48) characterizes the attributive article as exhibiting "a separating and linking function simultaneously"[26] by marking the adjective as "physically independent."[27] The articles *ille* in Latin and *tó* in Greek thus have different functions than the ho-

[25] In Himmelmann's 1997 terminology, however, the attributive or linking article is a subtype of a class of grammatical words (which he calls "operators"), which are labeled ARTICLES. Other subtypes of this class are definite, indefinite and other types of (non-attributive) grammatical markers.

[26] "[…] zugleich trennende und verbindende Funktion […]"

[27] "[…] physisch selbständig […]"

mophonous demonstratives/definite markers in that the article nominalizes an adnominal constituent in order to function as attribute of a certain kind. The homophonous demonstrative/definite marker, on the other hand, marks the whole noun phrase for certain values of the feature SPECIES.

While the use of attributive articles in German, English and several other Indo-European languages is restricted to epithet constructions, a similar construction with an attributive article occurs much less restrictedly in Yiddish.

(29) Yiddish (Indo-European; Jacobs, Prince & van der Auwera 1994)

a. *di grin-e oyg-n*
DEF.PL green-DEF.PL eye-PL
'the green eyes'

b. *di oyg-n di grin-e*
DEF.PL eye-PL ATTR.DEF.PL green-DEF.PL
'the GREEN eyes'

c. *'n grin-et oyge*
INDEF.N green-INDEF.N eye(N)
'a green eye'

d. *'n oyge 'n grin-et*
INDEF.N eye(N) ATTR.INDEF.N green-INDEF.N
'a GREEN eye'

In the default attributive construction in Yiddish, the adjective precedes the noun which also triggers agreement on the adjective (29a, 29c). In an emphatic construction and postponed to the head noun, however, the attributive adjective is marked with an article (29b, 29d) (Plank 2003: 342–347).

Yiddish thus shows that attributive articles can have a much broader use than for example in German. But even in Yiddish the use of the attributive article is subject to restrictions. In this case, the restriction is of a semantic nature and is due to the referential status of the adjective. In order to occur in an attributive nominalization construction the adjective must be in contrastive focus.

A similar rule applies to Modern Greek, where the so-called repeated article also occurs in contrastive focus constructions.

(30) Greek (Indo-European; Ruge 1986)

a. *i kondés fústes*
DEF short skirts
'the short skirts'

b. *i* *fústes i* *kondés*
DEF skirts ATTR short
'the SHORT skirts'

Note that the the two phrases in the attributive apposition constructions (i.e., attributive nominalization) of German (§4.5.2.3), Yiddish (29) and Greek (30) cannot be re-arranged unless the whole construction yields a different reading. In the case of the epithet construction in German, re-arrangement of adjective and noun would result in a simple noun phrase with an attributive adjective which is, however, no longer an epithet. Re-arrangement of the constructions in Yiddish and Greek would result in true noun phrase appositions.

Attributive articles as subtype of attributive nominalizers Attributive articles have been characterized as grammatical words and agreement targets. In accordance with the common practice of labelling an unchangeable, non-bound grammatical marker "particle", the attributive nominalizer *the* in English (epithet constructions) would fall into this category because it is not an agreement target.[28]

In the present survey, however, there are only a few examples of languages with attributive, non-article nominalizers attested, among them Ket (see §**??**) and Dungan (see §**??**) where the respective markers seem to constitute affixes rather than particles.

In the present ontology, attributive articles are defined as a subclass of attributive nominalizers. Whereas attributive nominalizers are construct markers (belonging to pure morpho-syntax), articles have an additional semantic component because they undergo agreement.

D-Elements which are not nominalizers In the previous section, attributive articles and other attributive nominalizers have been described and attributive nominalizers have been characterized as a special subtype of anti-construct state markers which attaches to an intermediate dependent phrasal constituent between the head noun and the modifier.

Somewhat similarly, Himmelmann (1997) describes attributive articles and other attributive nominalizers as D(eterminer) elements between head and attribute[29]. Illustrating attributive nominalization with examples from several languages, he

[28] Consider also Himmelmann's (1997) "Gelenkartikel" versus "Gelenkpartikel".
[29] "D(eterminer)-Element zwischen Kopf und Attribut"

shows that these markers prototypically originate from adnominally grammaticalized local deictic pronouns used as functional heads of nominalizer phrases. Himmelmann does not, however, clearly distinguish between synchronic and diachronic evidence and considers attributive nominalizers (such as the "repeated article" in Greek), agreement markers (such as the so-called "adjective article" in Albanian) and even linkers (as in Tagalog) as D-elements.

The linker in Tagalog is not an article (not even an attributive nominalizer) according to the present ontology of attribution marking devices because the marker is floating, with a locus neither on-dependent or on-head, and it does not project a noun phrase (see §4.5.4 in Part II Typology). Examples of agreement marking "D-Elements" come from Swedish and Albanian.

(31) a. Swedish (Indo-European; personal knowledge)
den *goda* *vännen*
ATTR:DEF.SG.UTR good:DEF.SG.COM friend:DEF.SG.COM

b. Albanian (Indo-European; examples from Himmelmann 1997: 166–167)
shoku ***i*** *mirë*
friend:DEF:NOM.SG.M **NMLZ:NOM.SG.M** good:NOM.SG.M
'the good friend'

Whereas the agreement marking "D-Element" in Albanian is a nominalizer, the functionally related markers in Swedish (and other languages) are construct-state agreement markers from a purely synchronic point of view because they do not occur in attributive apposition constructions, i.e., they do not project noun phrases (see §?? for Albanian and §?? for Swedish). From a diachronic point of view, however, these markers clearly originate from very similar attributive nominalizers. Consequently, the grammaticalization path suggested by Himmelmann (1997) can even be extended with an additional stage: from "D-elements" to attributive articles (or other attributive nominalizers) to construct-state markers, as will be shown in the diachronic Part IV (Diachrony).

From a purely synchronic point of view, however, the different types of ANTI-CONSTRUCT STATE AGREEMENT and ATTRIBUTIVE ARTICLE might not always be easily distinguishable from each other or from HEAD-DRIVEN AGREEMENT. The first two often include some "article notion" (sometimes connected to definiteness or other referential values), and all three types include agreement marking. "Pure" agreement marking, however, cannot include the feature STATE (construct marking). A simple test is whether or not attributive adjectives show different agreement marking than predicative adjectives. If they do, as, for instance, in Russian, construct marking is involved. If construct marking undergoes agree-

ment and additionally projects a full noun phrase, as, for instance, the article in Germanic epithet constructions, then the type of marking is best characterized as attributive article.

4.5.3 Head+dependent marking attributive state

This combined type refers to state marking which has two loci: on-head and on-dependent simultaneously. A language spoken outside the northern Eurasian area which gives an example of this noun phrase type is the Toreva dialect of Hopi.

(32) Hopi (Toreva) (Uto-Aztecan; Whorf 1946)

a. *ca·va*
is_short

b. *pǫ̀yo*
knife

c. *ca·v* *vǫ̀yo*
is_short\ATTR knife\ATTR
'a short knife'

According to Whorf (1946: 178) both the adjective modifier (which is a stative verb in Hopi) and the noun head alter their phonological shapes depending on whether they are used in predication or as constituents in a noun phrase. Consider the noun phrase in example (32c) where the modifier *ca·va* 'is short' occurs with a shortened stem form (compared to 32a) and the noun is marked by means of lenition of the word-initial consonant (*pǫ̀yo* 'knife' versus *vǫ̀yo* [knife\ATTR]).

The noun phrase type in Hopi is thus best analyzed as attributive state marking in which both the noun head and the adjective dependent are construct marked. Note, however, that in contrast to the above-mentioned examples of different types of state markers, the corresponding formatives in the noun phrase of Hopi are non-concatenative morphemes represented by stem alternations.

Double (head+dependent) construct state marking is also attested as adjective attribution marking device in one language of northern Eurasia. In Northern Saami, two adjectives meaning 'little' govern diminutive marking on the head noun. Noun phrases with these two adjectives are ungrammatical if diminutive marking on the noun is missing.

(33) Northern Saami (Uralic; personal knowledge)

a. Diminutive derivation
guolli / guolá-š / guolá-ža-t
fish fish-DIM fish-DIM-PL
'fish' / 'little fish' / 'little fishes'

b. Anti-construct state marking ('big')[30]
stuorra *guolli / guoli-t / guolá-š / guolá-ža-t*
big:ATTR fish fish-PL fish-DIM fish-DIM-PL
'big fish' / 'big fishes' / 'big little-fish' / 'big little-fishes'

c. Double-construct state marking ('little')[31]
unna *guolá-**š** / guolá-**ža**-t*
small:ATTR fish-DIM fish-DIM-PL
'small fish' / 'small fishes'

d. * ***unna*** *guolli / guoli-t*
small:ATTR fish fish-PL

Diminutive is a derivational category in Northern Saami. Normally it is assigned semantically to the noun and thus belongs to the morphological features, as in (33a, 33b). However, diminutive can in fact also be a morpho-syntactic feature in Northern Saami, namely when it is obligatorily governed by one of the two attributive adjectives *unna* or *uhca* 'little, small (attr.)', as in (33c). However marginal these examples seem to be, diminutive is assigned syntactically on the head by the dependent and thus also belongs to the morpho-syntactic features in Northern Saami.

4.5.4 Neutral attributive state (Linker)

The term NEUTRAL MARKING was introduced by Nichols (1986) in her typology of head marking versus dependent marking grammar. NEUTRAL MARKING refers to a marker's locus neither on-head nor on-dependent. This means that the marker

[30] State marking of 'big' is non-concatenative and affects the quantity of the stem consonants and the quality and quantity of the stem-final vowel, cf. the same adjective inflected for predicative state (agreement): *guolli/guoláš lea **stuoris*** [PRED:SG] 'the fish/little fish is big'; *guolit/guolážat leat **stuorrát*** [PRED:PL] 'the fishes/little fishes are big'.

[31] State marking of 'little' is non-concatenative and affects the quantity of the stem consonants and the quality and quantity of the stem-final vowel, cf. the same adjective inflected for predicative state (agreement): *guolli/guolá-š lea **unnni*** [PRED:SG] 'the fish/little fish is little'; *guolit/guolážat leat **unni*** [PRED:PL] 'the fishes/little fishes are small'.

floats in the noun phrase depending on the actual order of constituents. A floating state marker occurs, for instance, in Tagalog.

(34) Tagalog (Austronesian; Rubin 1994)

a. Predication
Maganda ang bahay.
beautiful TOP house
'The house is beautiful.'

b. Attribution (adjective-noun)
*maganda-**ng** bahay*
beautiful-ATTR house
'beautiful house'

c. Attribution (noun-adjective)
*bahay **na** maganda*
house ATTR beautiful
'beautiful house'

In the Tagalog noun phrase, the combination of noun and modifier is licensed by the attributive state marker *na/-ng*.[32] The marker occurs with attributive adjectives (34b and 34c) but not with predicative ones (34a).[33]

The two types of adjective attribution in Tagalog (34b and 34c) are distinguished from each other only by constituent order of the head noun and the modifying adjective. The attribution marker follows the first constituent, regardless of whether this is the modifier or the noun. The attribution marker in Tagalog behaves thus like a second-position clitic (Nichols 1986: 65; see also Himmelmann 1997: 160, 162).

In the typology presented here only a floating state marker, i.e., an overt state marker which behaves neutrally with regard to its locus and is neither head- nor dependent marking, is considered to be a true LINKER. Such an attribution marking device is not attested among the northern Eurasian languages investigated for the present study. However, since LINKERS and ARTICLES (but even other attribution marking devices) are sometimes not clearly distinguished in terminology (see below §4.5.2.4), it seems rather relevant to characterize this noun phrase type here.

[32] After consonants the allomorph *na* is used.

[33] The state marker in Tagalog is polyfunctional in the sense that it also marks attribution of demonstratives, numerals and other modifiers (Himmelmann 1997: 160–161). See also §??.

4.6 An ontology of adjective attribution marking devices

§§4.2–4.5.4 of this chapter were aimed at typologizing adjective attribution marking devices. The attested devices described so far belong to the following noun phrase types:

- Juxtaposition
- Incorporation
- Construct state
- Linker
- Anti-construct state
- Attributive nominalization
- Attributive article
- Anti-construct state agreement
- Head-driven agreement
- Apposed head-driven agreement
- Modifier-headed possessor agreement

Table 4.5 on page 66 summarizes the typology presented in §§4.2–4.5.4 and presents short definitions (including bracketed syntactic templates) and an example for each type.[34] Note that a lexical head is required only in certain noun phrase types. Note also that the constituent order (e.g., [$_{NP}$ A N] or [$_{NP}$ N A]) and the morpho-phonological fusion of formatives (e.g., (free) [$_{NP}$ A NMLZ], (cumulative) [$_{AP}$ A:ATTR:AGR] or (affixal) [$_{AP}$ A-ATTR]) is not relevant for the presented ontology.[35]

Table 4.1 on page 69 presents an ontological cross-classification of all devices defined earlier. This ontology has three main dimensions:

[34] This overview is derived from the definition file of general noun phrase patterns included in Bickel, Nichols & Rießler (2001-2010).

[35] The presented ontology is defined by (mostly) morpho-syntactic parameters. But grammatical word-hood could be relevant for definitions of subtypes in the leaves of Figure 4.2. For instance *head-driven agreement* could perhaps be sub-divided into types exhibiting agreement affixes versus grammatical agreement words.

- *Syntactic source*, i.e., the central syntactic operation which constitutes attribution and belongs either to *agreement marking* or *government*. But note that syntactic government can include secondary, i.e., non-constitutional agreement.
- *Syntactic pattern*, i.e., devices projecting adjective phrases versus devices projecting full noun phrases (by means of attributive apposition or, in the case of modifier-headed possessor agreement, by converting the attribute to the "possessed" noun phrase).
- *Syntactic locus* of the respective formatives.

Figure 4.2 on page 70 presents a similar ontology in a tree diagram. The order of types (from left to right) is similar to Table 4.5 (from top to bottom). The left branch of the tree consists of a purely syntactic device (*juxtaposition*) with the subtype (*incorporation*); the middle branch consists of three overt morpho-syntactic types differentiated by the locus of the respective formatives: on-head (*construct state*), floating (*linker*) and on-dependent. "Dependent marking" again can be divided further into the three subtypes: *attributive nominalization*, *anti-construct state agreement* and *attributive article* (a subtype of *attributive nominalization*). The right branch of the tree, finally, comprises morpho-semantico-syntactic devices, i.e., devices primarily connected to head- (*head-driven agreement*) or dependent-driven agreement (*modifier-headed possessor agreement*). A dashed line combines the types of *head-driven agreement*, *anti-construct state agreement* and *attributive article* because (morpho-semantico-syntactic) agreement marking is involved in all of them. Whereas construct- and agreement marking in the types of *anti-construct state agreement* and *attributive article* are combined in portmanteau morphemes (e.g., in the anti-construct state agreement marking suffixes in Russian), other devices can (or must) co-occur without being combined into one formative. Attested and non-attested combinations of adjective attribution marking devices are illustrated in Table 4.4. The attested co-occurring adjective attribution marking devices are:

- Anti-construct state agreement + Head-driven agreement

  ("Double agreement")
- Anti-construct state + construct state

  ("Double construct")

Table 4.4: Attested combined adjective attribution marking devices

Device 1	Device 2	Note
Juxt	–	No logical combination possible
Inc	?	No attestation of any combination
Constr	AConstr	Northern Saami (“Double construct”)
Nmlz (Art)	AConstr	Endo (“Double construct”)
ACAgr	HDAgr	Swedish (“Double agreement”)
Nmlz (Art)	HDAgr	Albanian (“Double agreement”)
Link	?	No attestation of any combination
MHPAgr	?	No attestation of any combination

- Anti-construct state + attributive article

  (“Double construct”)

- Attributive article + head-driven agreement

  (“Double agreement”)

Tables 4.5–4.7 on the following pages present definitions and diagrams for the ontology of adjective attribution marking devices used in the present study.

The following type abbreviations are used in these tables:

ACAgr	Anti-construct state agreement,
AConstr	Anti-construct state,
AHDAgr	Appositional head-driven agreement,
Art	Attributive article,
Constr	Construct state,
HDAgr	Head-driven agreement,
Inc	Incorporation,
Juxt	Juxtaposition,
Link	Linker,
MHPAgr	Modifier-headed possessor agreement,
Nmlz	Attributive nominalization

Table 4.5: Attested adjective attribution marking devices with definitions. I.

Type	Definition	Syntactic dependency	Commonly used label	Example language
Juxt	Unmarked sequence of constituents; Test: no additional morphemes available in NP	[$_{\text{NP}}$[$_{\text{AP}}$ A] (N)]	Juxtaposition	Komi-Zyrian
Inc	No additional morphemes available in NP, but dep is syntactic compound; Test: dep cannot occur unbound (headless)	[$_{\text{NP}}$ A-N]	Incorporation	Chukchi
Constr	Head-marking formative that only registers presence of dep; Test: formative does not undergo agreement and is not present without head (in predication) or without dep	[$_{\text{NP}}$[$_{\text{AP}}$ A (N:ATTR)]]	Ezafe	Kurdish
Link	Floating formative (neither ad-head nor ad-dep, but truly ad-phrase) that only registers presence of head-dep relation; Test: formative not present without head (in predication) or without dep	[$_{\text{NP}}$[$_{\text{AP}}$ A] [ATTR] N]	Linker	Tagalog

Table 4.6: Attested adjective attribution marking devices with definitions. II.

Type	Definition	Syntactic dependency	Commonly used label	Example language
AConstr	Dep-marking formative that only registers presence of head; Test: formative does not undergo agreement and is not present without head (in predication)	[$_{NP}$ [$_{AP}$ A:ATTR] (N)]	Attributive suffix	Skolt Saami
Nmlz	Dep-marking formative that only registers presence of head by projecting full NP; Test: formative does not undergo agreement and is used in focus construction where inflection of the head is duplicated	[$_{NP}$[$_{NP}$[$_{AP}$ A:NMLZ]] (N)]	Nominalizer	Udmurt
Art	Subtype of nominalizer that undergoes agreement	[$_{NP}$[$_{NP}$[$_{AP}$ A NMLZ:AGR]] (N)]	Double article	Yiddish

Table 4.7: Attested adjective attribution marking devices with definitions. III.

Type	Definition	Syntactic dependency	Commonly used label	Example language
ACAgr	Dep-marking formative that registers presence of head and undergoes agreement triggered by the head; Test: not present without head (in predication)	[$_{\text{NP}}$[$_{\text{AP}}$ A:ATTR:AGR] (N)]	Long-form adjective	Russian
HDAgr	Dep-marking formative that duplicates morpho-semantic features of the head	[$_{\text{NP}}$[$_{\text{AP}}$ A:AGR] (N)]	Agreement suffix	Finnish
AHDAgr	AP marked with HDAgr but projecting a full NP in apposition; Test: AP is used in focus construction where inflection of the head is duplicated, often with reversed constituent order	[$_{\text{NP}}$[$_{\text{NP'}}$ A:AGR] (N)]	Appositional agreement	Georgian
MHPAgr	Head-marking formative that duplicates morpho-semantic features of (adjectival) dep by means of possessor agreement in a modifier-headed NP	[$_{\text{NP}}$[$_{\text{PSD}}$ A:POSS:AGR]($_{\text{PSR}}$N)]	Possessive-like attribute	Saliba

<table>
<tr><th></th><th colspan="3">Government [+GOV] [±(secondary)AGR]</th><th colspan="3">Agreement [−GOV] [(primary)AGR]</th></tr>
<tr><th></th><th>[±AGR]</th><th>Embedded</th><th>Non-embedded</th><th>Incorporated</th><th>Embedded</th><th>Non-embedded</th></tr>
<tr><td>No marking</td><td></td><td></td><td>Juxtaposition
[NP A (N)]</td><td>Incorporation
[NP A *(N)]</td><td></td><td></td></tr>
<tr><td>floating</td><td>[−AGR]
[+AGR]</td><td></td><td>Linker
[NP A [ATTR] *(N)]</td><td></td><td></td><td></td></tr>
<tr><td>Dependent marking</td><td>[−AGR]
[+AGR]</td><td>Nominalization
[NP[NP' A:NMLZ] (N)]
Article
[NP[NP' A:NMLZ:AGR] (N)]</td><td>Anti-Construct State
[NP A:ATTR (N)]
Anti-Construct Agreement
[NP A:ATTR:AGR (N)]</td><td></td><td>Appositional Head-Driven Agreement
[NP [NP' A:AGR] (N)]</td><td>Head-Driven Agreement
[NP A:AGR (N)]</td></tr>
<tr><td>Head marking</td><td>[−AGR]
[+AGR]</td><td></td><td>Construct State
[NP A *(N:ATTR)]</td><td></td><td>Modifier-headed Possessor Agreement
[NP[PSD A:POSS:AGR] (PSR N)]</td><td></td></tr>
</table>

Figure 4.1: Multidimensional ontology of noun phrase structures according to the parameters *syntactic source* (true agreement marking or governed [± additional agreement]) and *syntactic pattern* of the device (projects noun phrase, projects adjective phrase) as well as *syntactic locus* of the respective markers (on-head, on-dependent, floating). Note that cells filled in gray color are marked for logically impossible types; other cells were left open because the corresponding types were not detected in noun phrases with attributive adjectives; glosses and tags are: A=adjective, AGR=agreement, AGR=agreement marker, AP=adjective phrase, ATTR=Attribution marker, GOV=government, N=Noun, NMLZ=(attributive) nominalizer, NP=Noun phrase, POSS=possessive marker, PSD=possessed noun phrase, PSR=possessor noun phrase

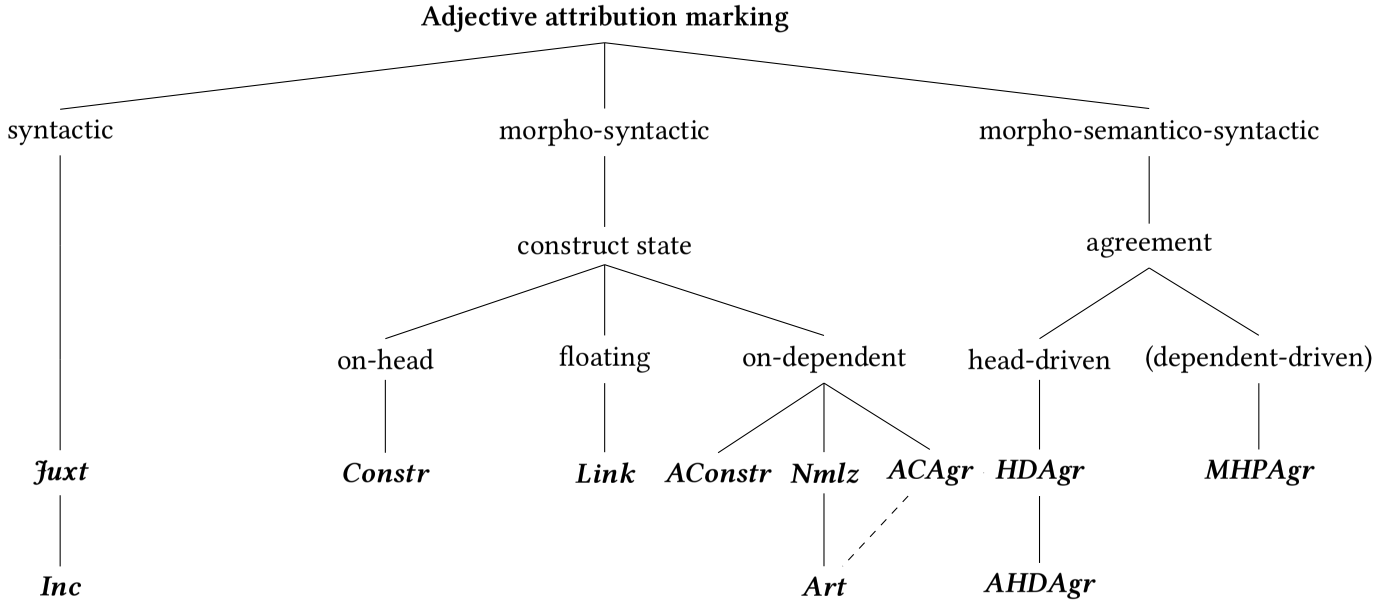


Figure 4.2: Ontological tree of attested adjective attribution marking devices; type abbreviations are: ACAgr=Anti-construct state agreement, AConstr=Anti-construct state, AHDAgr=Appositional head-driven agreement, Art=Attributive article, Constr=Construct state, HDAgr=Head-driven agreement, Inc=Incorporation, Juxt=Juxtaposition, Link=Linker, MHPAgr=Modifier-headed possessor agreement, Nmlz=Attributive nominalization

Language sample and maps

Genus abbreviations (families)

AB-AD=Abkhaz-Adyghe, AUA=Austroasiatic, AUN=Austronesian, C-SUD=Central Sudanic, CHAD=Chadic, CHAP=Chapacura-Wanham, CHU=Chukotkan, CUSH=Cushitic, DRAV=Dravidian, ESK-A=Eskimo-Aleut, GUNW=Gunwingguan, HM-MI=Hmong-Mien, IE=Indo-European, IROQ=Iroquoian, KAMCH=Kamchatkan, KARTV=Kartvelian, KOIS=Koisan, KOM=Kombio, K-KRO=Kadugli-Krongo, MONG=Mongolic, MUSK=Muskogean, NA-DA=Nakh-Daghestanian, NA-DE=Na-Dene, NIG-C=Niger-Congo, NIL=Nilotic, S-BOU=South Bougainville, SE-RA=Lower Sepic-Ramu, SEM=Semitic, SIN-T=Sino-Tibetan, SONG=Songhai, TAI-K=Thai-Kadai, TANG=Tangkic, TNG=Trans New Guinea, TUNG=Tungusic, TURK=Turkic, U-AZT=Uto-Aztecan, URAL=Uralic, YEN=Yeniseian, YUK=Yukaghir

Genus abbreviations (branches and subbranches)

5N=Five Nations, AAT=Avar-Andi-Tsezic, ABKH=Abkhaz, ADYG=Adyghe, ALBA=Albanian, ALT=Altay, ARAM=Aramaic, ARAP=Arapesh, ARME=Armenian, ATHA=Athabaskan, ATLA=Atlantic, BALT=Baltic, BANT=Bantoid, BE-CO=Benue-Congo, BRIT=Brittonic, BULG=Bulgar, BURM=Burmic, CELT=Celtic, CH-IN=Chechen-Ingush, CHIN=Chinese, CHUK=Chukchi, COM=Common, DARG=Dargwa, ENE=Enets, ENIN=Enindhilyagwa, ESKI=Eskimo, DAGH=Daghestanian, DAG=Dagur, FINN=Finnic, FOR=Formosan, GAE=Gaelic, GEOR=Georgian, GER=Germanic, GREE=Greek, HAUS=Hausa, HELL=Hellenic, HMON=Hmongic, HUNG=Hungarian, I-ARY=Indo-Aryan, I-IRA=Indo-Iranian, IRAN=Iranian, IT-W=Italo-Western, KARL=Karluk, KHAN=Khanty, KHOE=Khoekhoe, KIPCH=Kipchak, KIRA=Kiranti, KORAL=Koryak-Alutor, KRON=Krongo, L-BUR=Lolo-Burmese, L-SEP-Lower Sepik, LEZG=Lezgic, LEND=Lendu, M-KH=Mon-Khmer, MADA=Madang, MAL-P=Malayo-Polynesian, MANCH=Manchu, MAND=Mande, MANS=Mansi, MOGH=Moghol,

MONGO=Mongolian, MONGU=Monguor, MORD=Mordvin, NASI=Nasioi, NOU=Nanay-Orok-Ulcha, NENE=Nenets, NGAN=Nganasan, OCE=Oceanic, OR-UD=Oroch-Udege, OROM=Oromo, PERM=Permic, REMB=Rembargic, ROM=Romance, S-WEL=South Wellesley, SAAM=Saamic, SAMO=Samoyedic, SAY=Sayan, SELK=Selkup, SIN=Sinitic, SLAV=Slavic, SUND=Sundic, TSO=Tsouic, VIET=Vietic, W-MP=Western Malayo-Polynesian, YEN=Yenisey, YI-KA=Yimas-Karawari, YOR=Yoruboid, YUP=Yupik

Geographic (sample) abbreviations

EU=Europe, NA=North Asia, NE=North Eurasia, W=World

Type abbreviations

ACAgr=Anti-construct state agreement, AConstr=Anti-construct state, AHDAgr=Appositional head-driven agreement, Constr=Construct state, DConstr=Double-construct state, HDAgr=Head-driven agreement, Inc=Adjective incorporation, Juxt=Juxtaposition, Link=Linker, MHPAgr=Modifier-headed possessor agreement, Nmlz=Attributive nominalization

Genealogical affiliation				Geographic sampling				Noun phrase type(s)	
Family	(Sub-)Branch		Language	EU	NA	NE	W	#1/#2(#3)[#4]	Reference
(Pidgin and creoles)			Berbice Dutch Creole	–	–	–	X	Juxt	Kouwenberg 1994
AB-AD	ABKH		Abaza	X	–	–	–	HDAgr	Lomtatidze & Klychev 1994
AB-AD	ABKH		Abkhaz	X	–	X	X	HDAgr	Chirikba 2003
AB-AD	ADYG		Adyghe (Abzakh)	X	–	–	–	Inc	Paris 1994
AB-AD	ADYG		Karbardian	X	–	X	–	Inc	Colarusso 2006
AINU (isolate)			Ainu	–	X	X	X	Juxt	Refsing 1986
AUA	M-KH	VIET	Vietnamese	–	–	–	X	Juxt	Đình Hoà Nguyễn 1987
AUN	FOR	TSO	Tsou	–	–	–	X	AConstr	Szakos 1994
AUN	MAL-P	OCE	Saliba	–	–	–	X	MHPAgr	Mosel 1994
AUN	MAL-P	OCE	Takia	–	–	–	X	AConstr	Ross 1998
AUN	WEMP	M-PH	Tagalog	–	–	–	X	Linker	Schachter 1987
AUN	WEMP	SUND	Minangkabau	–	–	–	–	Juxt	Gil 2005
BASQUE (isolate)			Basque	X	–	X	X	Juxt	Hualde & Ortiz de Urbina 2003
C-SUD	E	LEND	Ngiti	–	–	–	X	HDAgr/Juxt	Kutsch Lojenga 1994
CARIBAN			Hixkaryana	–	–	–	X	n.a.	Derbyshire 1979
CHAD	W	HAUS	Hausa	–	–	–	X	ACAgr/HDAgr	Wolff 1993
CHAP			Wari'	–	–	–	X	MHPAgr	Everett & Kern 1997
CHU	CHUK		Chukchi	–	X	X	X	Inc/HDAgr	Skorik 1960
CHU	KORAL		Alutor	–	X	–	–	Inc/HDAgr	Nagayama 2003
CHU	KORAL		Koryak	–	X	X	–	Inc	Žukova 1997
CUSH	E	OROM	Oromo (Boraana)	–	–	–	X	HDAgr	Stroomer 1995
DRAV	S		Tamil	–	–	–	X	Juxt	Asher 1982
ESK-A	ESKI	YUP	Yupik (Siberian)	–	X	X	–	Inc	de Reuse 1994
ESK-A	ESKI		Western Greenlandic	–	–	–	X	HDAgr	Fortescue 1984
GUNW	REMB		Ngalakan	–	–	–	X	HDAgr/Juxt	Merlan 1983
HM-MI	HMON		Hmong Njua	–	–	–	X	Juxt	Harriehausen 1990
IE	ALBA		Albanian	X	–	X	X	HDAgr/Nmlz+HDAgr	Demiraj 1998
IE	ALBA		Arvanitika	X	–	–	–	HDAgr/Nmlz+HDAgr	Sasse 1991
IE	ARME		Armenian (Eastern)	X	–	X	–	HDAgr/Juxt	Ajello 1998
IE	BALT	E	Latvian	X	–	X	–	ACAgr/HDAgr	Nau 1996

Genealogical affiliation				Geographic sampling				Noun phrase type(s)	
Family	(Sub-)Branch		Language	EU	NA	NE	W	#1/#2(#3)[#4]	Reference
IE	BALT	E	Lithuanian	X	–	–	–	ACAgr/HDAgr	Press 2005
IE	CELT	BRIT	Breton	X	–	–	–	HDAgr	Ternes 1992
IE	CELT	BRIT	Cornish	X	–	–	–	HDAgr	Thomas 1992a
IE	CELT	BRIT	Welsh	X	–	X	–	HDAgr	Thomas 1992b
IE	CELT	GAE	Gaelic (Scots)	X	–	X	–	HDAgr	MacAulay 1992
IE	CELT	GAE	Irish	X	–	–	–	HDAgr	Dochartaigh 1992
IE	CELT	GAE	Manx	X	–	X	–	HDAgr/Juxt	Phillips 2004
IE	GER	N	Danish	X	–	–	–	HDAgr[Nmlz]	own knowledge
IE	GER	N	Danish (W-Jutlandic)	–	–	–	–	HDAgr	Lund 1932
IE	GER	N	Faroese	X	–	–	–	ACAgr+HDAgr/HDAgr[Nmlz]	Lockwood 1955
IE	GER	N	Icelandic	X	–	X	–	HDAgr[Nmlz]	Kress 1982
IE	GER	N	Norwegian	X	–	–	–	ACAgr+HDAgr/HDAgr[Nmlz]	own knowledge
IE	GER	N	Swedish	X	–	X	–	ACAgr+HDAgr/HDAgr[Nmlz]	own knowledge
IE	GER	N	Swedish (Västerbotten)	X	–	X	–	Inc/HDAgr	Åström 1893
IE	GER	W	Dutch	X	–	–	–	ACAgr[Nmlz]	Donaldson 1997
IE	GER	W	English	X	–	X	X	Inc[Nmlz]	own knowledge
IE	GER	W	Frisian (West)	X	–	–	–	ACAgr	Tiersma 1985
IE	GER	W	German	X	–	X	–	ACAgr[Nmlz]	own knowledge
IE	GER	W	German (Alemannic)	X	–	–	–	ACAgr	Reese 2006
IE	GER	W	German (Low)	X	–	–	–	ACAgr	Matras & Reershemius 2003
IE	GER	W	Luxembourgeois	X	–	–	–	ACAgr	Schanen & Zimmer 2005-2006
IE	GER	W	Yiddish (East)	X	–	–	–	ACAgr(Nmlz+HDAgr)	Katz 1987
IE	HELL	GREE	Greek	X	–	X	X	HDAgr(Nmlz+HDAgr)	Ruge 1986
IE	I-IRA	I-ARY	Palula	–	X	X	–	HDAgr[Juxt]	Liljegren 2016
IE	I-IRA	I-ARY	Parya	–	X	X	–	ACAgr/Juxt	Oranskaja 2001
IE	I-IRA	I-ARY	Romani (Burgenland)	X	–	X	–	HDAgr(Nmlz+HDAgr)	Halwachs & Wogg 2002
IE	I-IRA	I-ARY	Romani (Doplenjska)	X	–	–	–	HDAgr	Cech 2006
IE	I-IRA	I-ARY	Romani (Lithuanian)	X	–	–	–	HDAgr	Tenser 2005
IE	I-IRA	I-ARY	Romani (Sepecides)	X	–	–	–	HDAgr	Cech & Heinschink 2003
IE	I-IRA	I-ARY	Romani (Sinte)	X	–	–	–	HDAgr	Holzinger 1995

Genealogical affiliation				Geographic sampling				Noun phrase type(s)	
Family	(Sub-)Branch		Language	EU	NA	NE	W	#1/#2(#3)[#4]	Reference
IE	I-IRA	IRAN	Kurdish (Northern)	X	–	–	–	Constr	Aygen 2007
IE	I-IRA	IRAN	Ossetic	X	–	X	–	Juxt(Constr)	Abaev 1964
IE	I-IRA	IRAN	Persian	–	–	–	X	Constr	Mahootian 1997
IE	I-IRA	IRAN	Rushani	–	X	–	–	AConstr(Constr)	Payne 1989
IE	I-IRA	IRAN	Shughni	–	X	–	–	HDAgr	Payne 1989
IE	I-IRA	IRAN	Tajik	–	X	X	–	Constr	Ido 2005
IE	I-IRA	IRAN	Talysh (Northern)	X	–	X	–	AConstr	Schulze 2000
IE	I-IRA	IRAN	Tati	X	–	–	–	Constr	Džidalaev 2000
IE	I-IRA	IRAN	Yazghulami	–	X	X	–	HDAgr	Payne 1989
IE	ROM	E	Rumanian	X	–	X	–	HDAgr(Nmlz+HDAgr)	Beyer, Bochmann & Bronsert 1987
IE	ROM	IT-W	French	X	–	–	–	HDAgr	Harris 1997
IE	ROM	IT-W	Galician	X	–	–	–	HDAgr	Pérez Bouza 1996
IE	ROM	IT-W	Italian	X	–	X	X	HDAgr	Maiden & Robustelli 2000
IE	ROM	IT-W	Portuguese	X	–	–	–	HDAgr	Gärtner 1998
IE	ROM	IT-W	Romansch	X	–	–	–	HDAgr	Haiman 1997
IE	ROM	IT-W	Spanish (Castilian)	X	–	–	–	HDAgr	Torrego 1998
IE	ROM	IT-W	Spanish (Catalan)	X	–	–	–	HDAgr	Hualde 1992
IE	ROM	S	Corsican	X	–	–	–	HDAgr	Giacomo-Marcellesi 1997
IE	ROM	S	Sardinian	X	–	X	–	HDAgr	Jones 1997
IE	SLAV	E	Belorussian	X	–	–	–	HDAgr	Mayo 1993
IE	SLAV	E	Russian	X	–	X	X	ACAgr	own knowledge
IE	SLAV	E	Ukrainian	X	–	X	–	HDAgr	Shevelov 1993
IE	SLAV	S	Bulgarian	X	–	X	–	HDAgr	own knowledge
IE	SLAV	S	Macedonian	X	–	–	–	HDAgr	Friedman 2002
IE	SLAV	S	Serbo-Croatian	X	–	–	–	HDAgr(ACAgr)	Kordic 1997
IE	SLAV	S	Slovenian	X	–	–	–	HDAgr(ACAgr)[Nmlz+HDAgr]	Priestly 1993
IE	SLAV	W	Czech	X	–	–	–	HDAgr	Janda & Townsend 2000
IE	SLAV	W	Kashubian	X	–	–	–	HDAgr	Stone 1993a
IE	SLAV	W	Polish	X	–	–	–	HDAgr	Feldstein & Franks 2002
IE	SLAV	W	Slovak	X	–	–	–	HDAgr	Short 1993

Genealogical affiliation				Geographic sampling				Noun phrase type(s)	
Family	(Sub-)Branch		Language	EU	NA	NE	W	#1/#2(#3)[#4]	Reference
IE	SLAV	W	Sorbian (Lower)	X	–	X	–	HDAgr	Stone 1993b
IE	SLAV	W	Sorbian (Upper)	X	–	–	–	HDAgr	Schaarschmidt 2004
IROQ	N	5N	Cayuga	–	–	–	X	Inc	Mithun & Henry 1982
JAPANESE (isolate)			Japanese	–	X	X	X	AConstr/Juxt	Backhouse 1984
K-KRO	KRON		Krongo	–	–	–	X	ACAgr	Reh 1985
KAMCH	W		Itelmen	–	X	X	X	ACAgr	Georg & Volodin 1999
KARTV	GEOR		Georgian	X	–	X	X	HDAgr/Juxt(AHDAgr)	Cherchi 1999
KARTV	SVAN		Svan	X	–	X	–	HDAgr[Juxt]	Harris 1991c
KARTV	ZAN		Laz	X	–	X	–	Juxt(HDAgr)	Holisky 1991
KARTV	ZAN		Mingrelian	X	–	–	–	Juxt(HDAgr)	Harris 1991a
KOIS	C	KHOE	Nama	–	–	–	X	Juxt	Hagman 1977
KOM	ARAP		Arapesh (Bukiyip)	–	–	–	X	Juxt	Conrad 1991
KOREAN (isolate)			Korean	–	X	X	X	AConstr	Martin & Lee 1969
MAPUDUNGUN (isolate)			Mapudungun	–	–	–	X	ACAgr/Juxt	Zúñiga 2000
MONG	DAG		Dagur	–	X	X	–	Juxt	Tsumagari 2003
MONG	MOGH		Moghol	–	X	–	X	Juxt	Weiers 2003
MONG	MONGO		Buryat	–	X	–	–	Juxt	Skribnik 2003
MONG	MONGO		Kalmyk	–	X	–	–	Juxt	Bläsing 2003
MONG	MONGO		Khalkha	–	X	X	X	Juxt	Svantesson 2003
MONG	MONGO		Mongol (Khamnigan)	–	X	–	–	Juxt	Janhunen 2005
MONG	MONGO		Oyrat	–	–	–	–	Juxt	Birtalan 2003
MONG	MONGU		Mangghuer	–	–	–	–	Juxt	Slater 2003
MUSK	E		Koasati	–	–	–	X	Nmlz	Kimball 1991
NA-DA	DAGH	AAT	Akhvakh	X	–	–	–	HDAgr	Magomedbekova 2000
NA-DA	DAGH	AAT	Andi	X	–	–	–	HDAgr	Saidova 2000
NA-DA	DAGH	AAT	Avar	X	–	–	X	HDAgr(Juxt)	Alekseev & Ataev 1998
NA-DA	DAGH	AAT	Bagvalal	X	–	–	–	HDAgr	Magomedova 2000a
NA-DA	DAGH	AAT	Bezhta	X	–	–	–	HDAgr	Kibrik & Testelets 2004
NA-DA	DAGH	AAT	Botlikh	–	–	–	–	HDAgr	Azaev 2000
NA-DA	DAGH	AAT	Chamalal	X	–	–	–	HDAgr	Magomedova 2004
NA-DA	DAGH	AAT	Godoberi	X	–	X	–	HDAgr	Saidova 2004

Genealogical affiliation				Geographic sampling				Noun phrase type(s)	
Family	(Sub-)Branch		Language	EU	NA	NE	W	#1/#2(#3)[#4]	Reference
NA-DA	DAGH	AAT	Hinukh	X	–	–	–	HDAgr	Isakov & Xalilov 2004
NA-DA	DAGH	AAT	Hunzib	X	–	–	–	HDAgr	van den Berg 1995
NA-DA	DAGH	AAT	Karata	X	–	–	–	HDAgr	Magomedbekova 1971
NA-DA	DAGH	AAT	Tindi	X	–	–	–	HDAgr	Magomedova 2000b
NA-DA	DAGH	AAT	Tsez	X	–	X	–	ACAgr/Juxt(Nmlz)	Alekseev & Radžabov 2004
NA-DA	DAGH	DARG	Dargwa	X	–	X	–	ACAgr(Juxt)	Isaev 2004
NA-DA	DAGH	LAK	Lak	X	–	X	X	HDAgr(ACAgr)	Abdullaev 2000
NA-DA	DAGH	LEZG	Agul	X	–	–	–	Juxt	Šaumjan 1941
NA-DA	DAGH	LEZG	Archi	X	–	X	–	HDAgr	Kibrik 1994a
NA-DA	DAGH	LEZG	Budukh	X	–	–	–	Juxt	Alekseev 1994a
NA-DA	DAGH	LEZG	Khinalug	X	–	–	–	Juxt	Deseriev 1959
NA-DA	DAGH	LEZG	Kryz	X	–	–	–	Juxt	Saadiev 1994
NA-DA	DAGH	LEZG	Lezgian	X	–	X	X	Juxt	Haspelmath 1993
NA-DA	DAGH	LEZG	Rutul	X	–	X	–	AConstr	Alekseev 1994b
NA-DA	DAGH	LEZG	Tabasaran	X	–	X	–	HDAgr/Juxt	Kurbanov 1986
NA-DA	DAGH	LEZG	Tsakhur	X	–	X	–	ACAgr/Juxt	Schulze 1997
NA-DA	DAGH	LEZG	Udi	X	–	–	–	Juxt	Schulze-Fürhoff 1994
NA-DA	NAGH	BATS	Bats	X	–	X	–	HDAgr	Holisky & Gagua 1994
NA-DA	NAGH	CH-IN	Chechen	X	–	X	X	HDAgr	Nichols 1994a
NA-DA	NAGH	CH-IN	Ingush	X	–	–	–	HDAgr	Nichols 1994b
NA-DE	ATHA		Sarcee	–	–	–	X	Inc	Cook 1984
NIG-C	ATLA	N	Fula (Gombe)	–	–	–	X	HDAgr	Arnott 1970
NIG-C	ATLA	S	Kisi	–	–	–	–	HDAgr	Tucker 1995
NIG-C	BE-CO	BANT	Babungo	–	–	–	–	HDAgr	Schaub 1985
NIG-C	BE-CO	BANT	Sesotho	–	–	–	–	HDAgr	Guma 1971
NIG-C	BE-CO	BANT	Swahili	–	–	–	X	HDAgr	Gromova & Ochotina 1995
NIG-C	BE-CO	YOR	Yoruba	–	–	–	X	Juxt	Bamgbose 1966
NIG-C	MAND	W	Bambara	–	–	–	X	Juxt	Brauner 1974
NIL	S		Endo	–	–	–	X	ACAgr+Nmlz	Zwarts 2003
NIL	W	LWO	Lango	–	–	–	X	Nmlz	Noonan 1992

Genealogical affiliation				Geographic sampling				Noun phrase type(s)	
Family	(Sub-)Branch		Language	EU	NA	NE	W	#1/#2(#3)[#4]	Reference
NIVKH (isolate)			Nivkh	–	X	X	X	HDAgr	Gruzdeva 2003
S-BOU	NASI		Nasioi	–	–	–	X	ACAgr/Juxt	Rausch 1912
SE-RA	L-SEP	YI-KA	Yimas	–	–	–	X	HDAgr	Foley 1991
SEM	C	ARAM	Neo-Aramaic	X	–	X	–	HDAgr	Krotkoff 1982
SEM	W	C	Arabic (Cypriot)	X	–	–	–	HDAgr	Borg 1985
SEM	W	C	Arabic (Egyptian)	–	–	–	X	HDAgr	Gary & Gamal-Eldin 1982
SEM	W	C	Maltese	X	–	X	–	HDAgr	Borg & Azzopardi-Alexander 1996
SEM	W	S	Amharic	–	–	–	X	Juxt(ACAgr)	Leslau 1995
SIN-T	KIRA	E	Yakkha	–	–	–	–	Nmlz[Juxt]	Schackow 2015
SIN-T	L-BUR	BURM	Burmese	–	–	–	X	Juxt/Nmlz	Wheatley 1987
SIN-T	L-BUR	LOLO	Lahu	–	–	–	–	Nmlz	Matisoff 1973
SIN-T	SIN	CHIN	Dungan	–	X	X	–	Juxt[Nmlz]	Kalimov 1968
SIN-T	SIN	CHIN	Mandarin	–	–	–	X	Nmlz(Juxt)	Li & Thompson 1981
SONG	S		Koyra Chiini	–	–	–	X	AConstr	Heath 1998
TAI-K	TAI		Nung	–	–	–	–	Juxt(Nmlz)	Saul & Freiberger Wilson 1980
TAI-K	TAI		Thai	–	–	–	X	Juxt	Hudak 1987
TANG	S	S-WEL	Kayardild	–	–	–	X	HDAgr	Evans 1995
TIWI (isolate)			Tiwi	–	–	–	X	HDAgr	Osborne 1974
TNG	MADA	–	Mauwake	–	–	–	X	Juxt	Berghäll 2016
TUNG	AMUR	NOU	Nanay	–	X	–	–	Juxt	Avrorin 1968
TUNG	AMUR	NOU	Orok	–	X	X	–	HDAgr	Petrova 1967
TUNG	AMUR	NOU	Ulcha	–	–	X	–	Juxt[Nmlz]	Sunik 1985
TUNG	AMUR	OR-UD	Oroch	–	X	X	–	Juxt(MHPAgr)	Avrorin & Lebedeva 1968
TUNG	AMUR	OR-UD	Udege	–	X	X	X	HDAgr/MHPAgr	Nikolaeva & Tolskaya 2001
TUNG	MANCH		Manchu	–	X	X	–	Juxt	Avrorin 2000
TUNG	N		Even	–	X	X	X	HDAgr(MHPAgr)	Malchukov 1995
TUNG	N		Evenki	–	X	X	–	HDAgr/Juxt/Nmlz(MHPAgr)	Nedjalkov 1997
TUNG	N		Negidal	–	X	X	–	Juxt	Nedjalkov 2001
TUNG	N		Solon	–	X	–	–	Juxt	Cincius 1997
TURK	BULG		Chuvash	X	–	X	X	Juxt(Nmlz)	Clark 1998a
TURK	COM	ALT	Altay (Southern)	–	X	X	–	Juxt	Baškakov 1997

Genealogical affiliation				Geographic sampling				Noun phrase type(s)	
Family	(Sub-)Branch		Language	EU	NA	NE	W	#1/#2(#3)[#4]	Reference
TURK	COM	ALT	Kirghiz	–	X	–	–	Juxt	Kara 2003
TURK	COM	KARL	Uygur	–	X	–	–	Juxt[Nmlz]	Nadžip 1991
TURK	COM	KARL	Uzbek	–	X	X	–	Juxt[Nmlz]	Boeschoten 1998
TURK	COM	KIPCH	Bashkir	–	X	–	–	Juxt	Poppe 1964
TURK	COM	KIPCH	Karachay-Balkar	X	–	–	–	Juxt	Seegmiller 1996
TURK	COM	KIPCH	Karaim	X	–	–	–	Juxt	Kacaoğlu 2002
TURK	COM	KIPCH	Karakalpak	–	X	–	–	Juxt	Baškakov 2001
TURK	COM	KIPCH	Kazakh	–	X	X	–	Juxt	Kara 2002
TURK	COM	KIPCH	Kumyk	X	–	–	–	Juxt	Kadyradžiev 2000
TURK	COM	KIPCH	Nogay	X	–	–	–	Juxt	Baškakov 1940
TURK	COM	KIPCH	Tatar	X	–	–	–	Juxt	Poppe 1963
TURK	COM	LENA	Dolgan	–	X	–	–	Juxt	Ubrjatova 1985
TURK	COM	LENA	Sakha	–	X	X	–	Juxt	Krueger 1964
TURK	COM	OGUZ	Azerbaijani	–	X	–	–	Juxt	Budagova 1982
TURK	COM	OGUZ	Gagauz	X	–	–	–	Juxt	Pokrovskaja 1997
TURK	COM	OGUZ	Turkish	X	–	X	X	Juxt[Nmlz]	Kornfilt 1997
TURK	COM	OGUZ	Turkmen	–	X	–	–	Juxt	Clark 1998b
TURK	COM	SAY	Tuvan	–	X	X	–	Juxt	Anderson & Harrison 1999
TURK	COM	YEN	Khakaz	–	X	X	–	Juxt	Anderson 2002
TURK	COM	YEN	Shor	–	X	–	–	Juxt	Donidze 1997
U-AZT	N		Hopi (Toreva)	–	–	–	X	DConstr	Whorf 1946
U-AZT	S		Pipil	–	–	–	X	HDAgr	Campbell 1985
URAL	FINN		Estonian	X	–	–	–	HDAgr	Viitso 1998
URAL	FINN		Finnish	X	–	X	X	HDAgr	Buchholz 2004
URAL	FINN		Ingrian	X	–	–	–	HDAgr	Laanest 1997
URAL	FINN		Karelian	X	–	–	–	HDAgr	Zajkov 1999
URAL	FINN		Livonian	X	–	–	–	HDAgr	Moseley 2002
URAL	FINN		Vepsian	X	–	–	–	HDAgr	Zajceva 1981
URAL	FINN		Votian	X	–	–	–	HDAgr	Nikolaeva 1997
URAL	HUNG		Hungarian	X	–	X	X	Juxt	Kenesei, Vago & Fenyvesi 1998

Genealogical affiliation			Geographic sampling				Noun phrase type(s)	
Family	(Sub-)Branch	Language	EU	NA	NE	W	#1/#2(#3)[#4]	Reference
URAL	KHANT	Khanty (Eastern)	–	X	X	–	Juxt	Nikolaeva 1999
URAL	KHANT	Khanty (Northern)	–	X	X	–	Juxt	Nikolaeva 1999
URAL	MANS	Mansi (Eastern)	–	X	X	–	Juxt	Riese 2003
URAL	MANS	Mansi (Northern)	–	X	X	–	Juxt	Riese 2003
URAL	MARI	Mari (Eastern)	X	–	X	–	Juxt[Nmlz+AHDAgr]	Alhoniemi 1993
URAL	MARI	Mari (Western)	X	–	–	–	Juxt[Nmlz+AHDAgr]	Alhoniemi 1993
URAL	MORD	Mordvin (Erzya)	X	–	X	–	Juxt	Zavodova & Koljadenkov 1964
URAL	MORD	Mordvin (Moksha)	X	–	–	–	Juxt	Zavodova & Koljadenkov 1964
URAL	PERM	Komi-Permyak	X	–	–	–	Juxt(Nmlz+AHDAgr)	Lytkin 1966a
URAL	PERM	Komi-Zyrian	X	–	–	–	Juxt(Nmlz+AHDAgr)	Kokkonen 1984
URAL	PERM	Udmurt	X	–	X	–	Juxt(Nmlz+AHDAgr)[AHDAgr]	Winkler 2001
URAL	SAAM	E Saami (Inari)	–	–	–	–	AConstr/Juxt	Olthuis 2000
URAL	SAAM	E Saami (Kildin)	X	–	–	–	AConstr/Juxt[HDrAgr]	own knowledge
URAL	SAAM	E Saami (Skolt)	–	–	–	–	AConstr/Juxt	Feist 2015
URAL	SAAM	E Saami (Ter)	–	–	–	–	AConstr/Juxt	own knowledge
URAL	SAAM	W Saami (Lule)	–	–	–	–	AConstr/Juxt	Spiik 1989
URAL	SAAM	W Saami (Northern)	X	–	X	X	AConstr/DConstr/HDAgr/Juxt	own knowledge
URAL	SAAM	W Saami (Pite)	–	–	–	–	AConstr/Juxt	Wilbur 2014
URAL	SAAM	W Saami (Southern)	X	–	–	–	AConstr/Juxt	Bergsland 1994
URAL	SAAM	W Saami (Ume)	–	–	–	–	AConstr/Juxt	own knowledge
URAL	SAMO	ENE Enets (Forest)	–	X	X	–	Juxt	Siegl 2013
URAL	SAMO	ENE Enets (Tundra)	–	–	–	–	Juxt	Sorokina 2010
URAL	SAMO	NENE Nenets (Tundra)	–	X	X	X	Juxt	Salminen 1998
URAL	SAMO	NGAN Nganasan	–	X	X	–	Juxt	Wagner-Nagy 2002
URAL	SAMO	SELK Selkup (Central)	–	X	X	–	Juxt	Helimski 1998
URAL	SAMO	SELK Selkup (Northern)	–	X	X	–	Juxt	Helimski 1998
URAL	SAMO	SELK Selkup (Southern)	–	X	X	–	Juxt	Helimski 1998
YEN	N	Ket	–	X	X	X	Juxt(HDAgr)[Nmlz]	Vajda 2004
YUK		Yukaghir (Kolyma)	–	X	–	–	AConstr/Inc	Maslova 2003a
YUK		Yukaghir (Tundra)	–	X	X	X	AConstr/Inc	Maslova 2003b

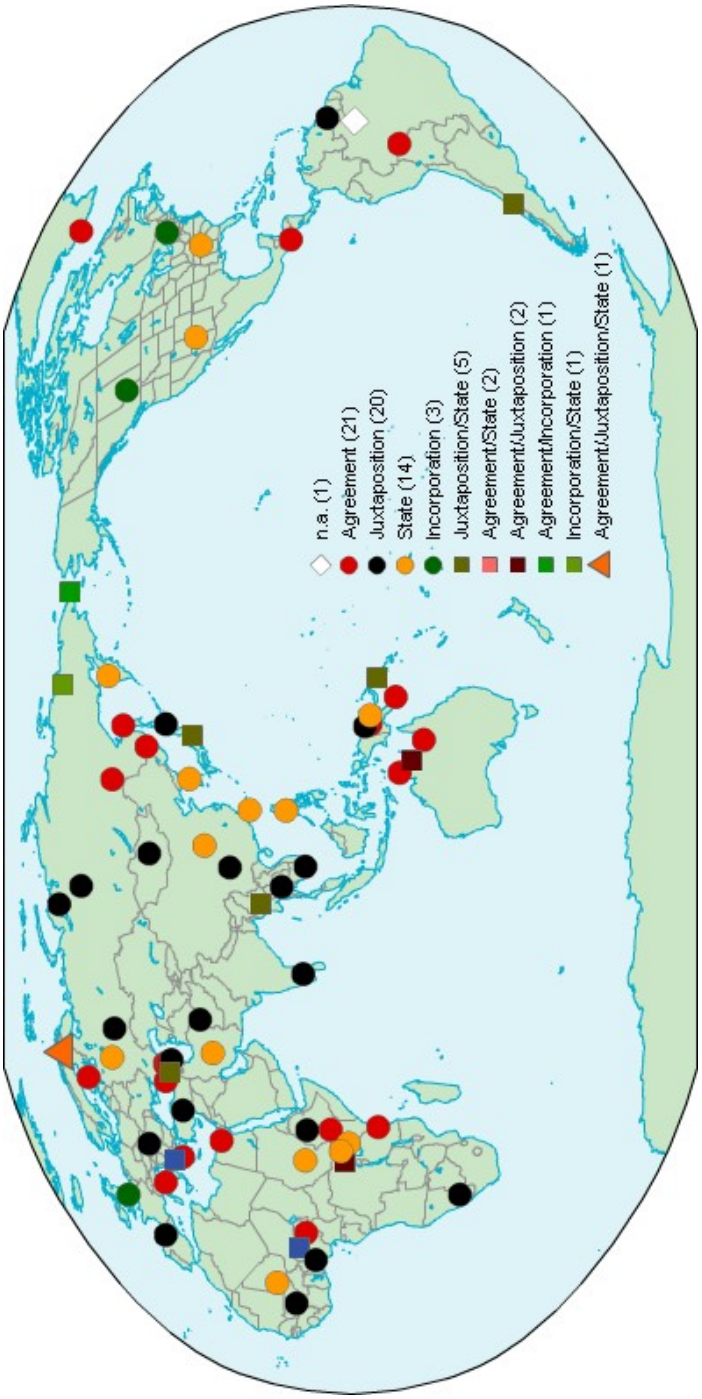


Figure 1: Adjective attribution marking in the world's languages; (unbalanced) sample of 71 languages

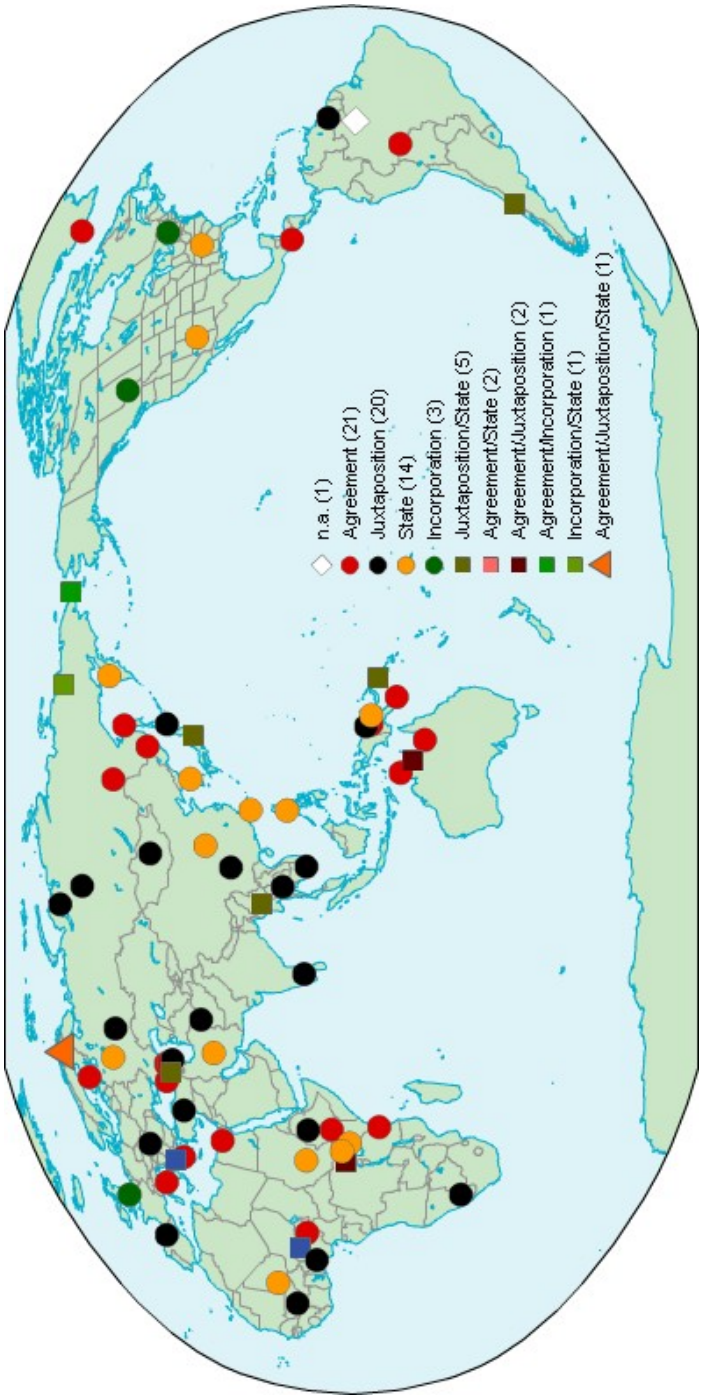


Figure 2: Adjective attribution marking in the world's languages; (unbalanced) sample of 71 languages coded for main morpho-syntactic types

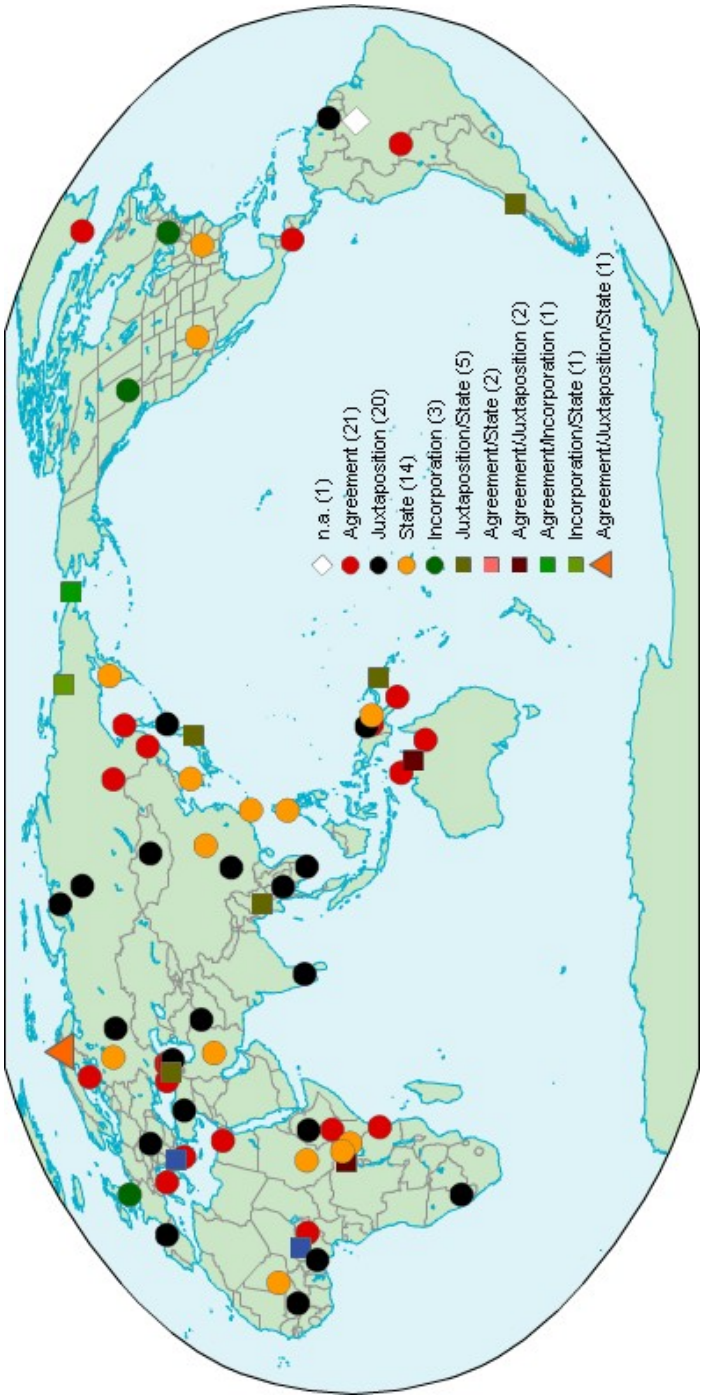


Figure 3: Adjective attribution marking in the languages of North Eurasia; 85 languages representing all genera of the area

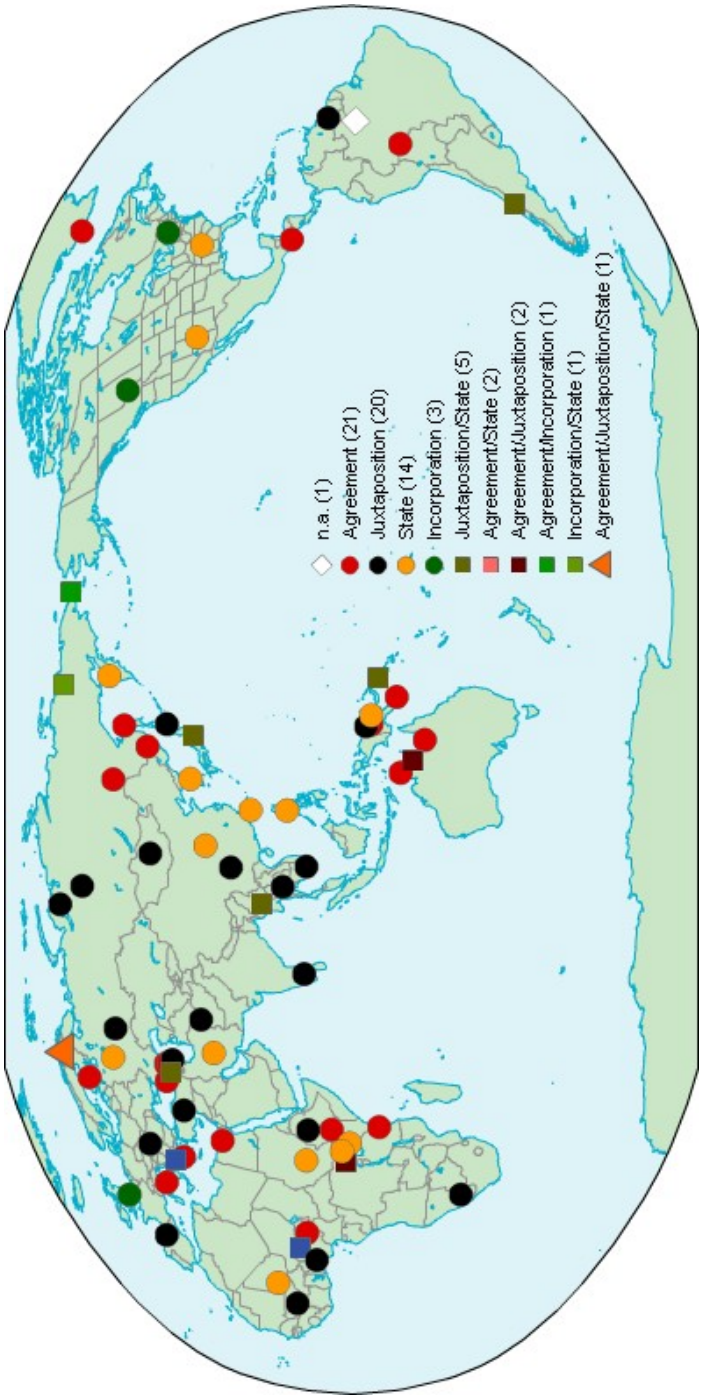


Figure 4: Adjective attribution marking in the languages of North Eurasia; 85 languages representing all genera of the area coded for main morpho-syntactic types

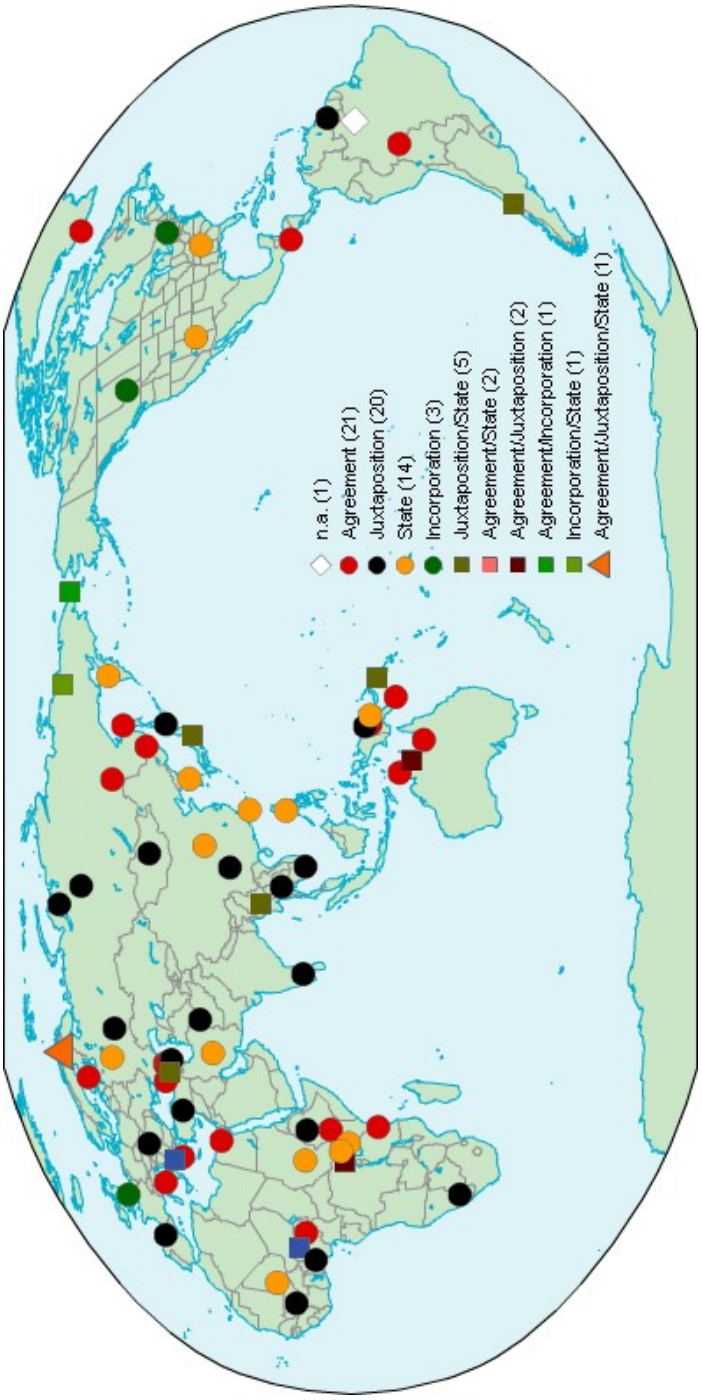


Figure 5: Adjective attribution marking in the languages of North Asia; 53 languages

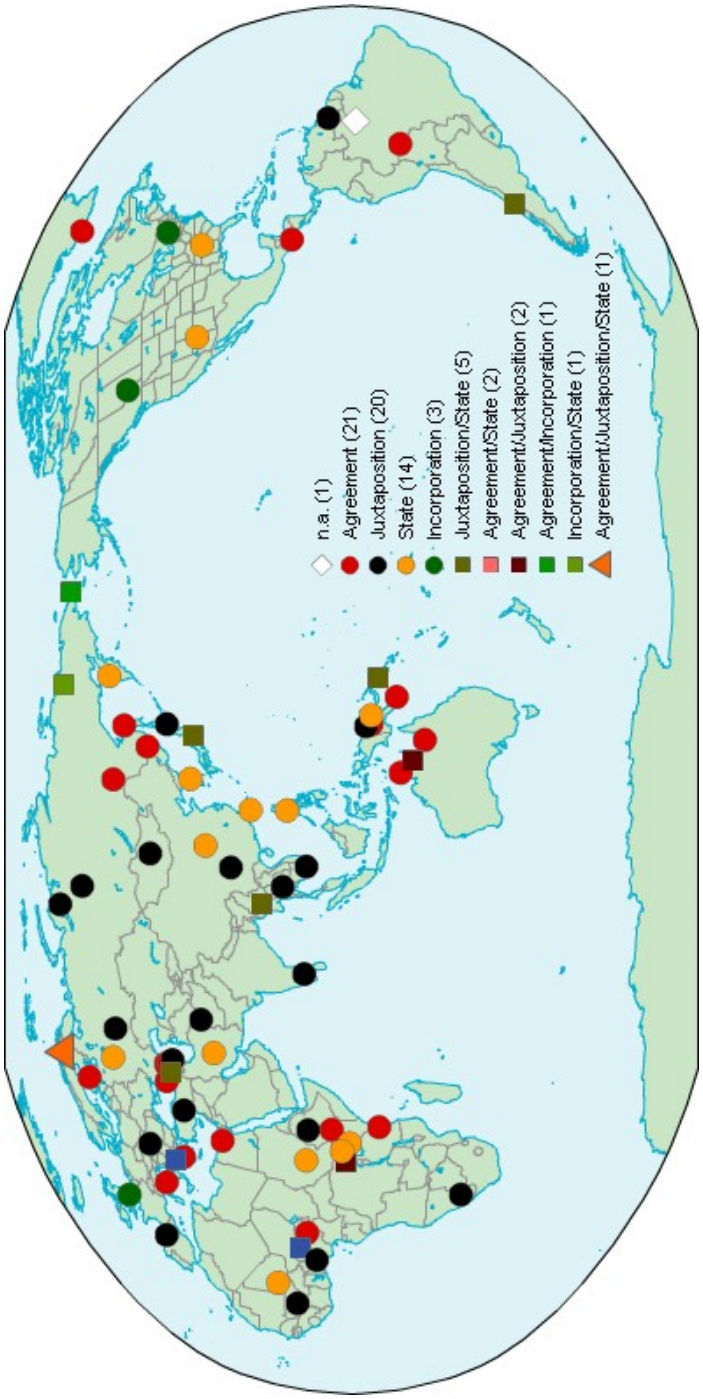


Figure 6: Adjective attribution marking in the languages of North Asia; 53 languages coded for main morpho-syntactic types

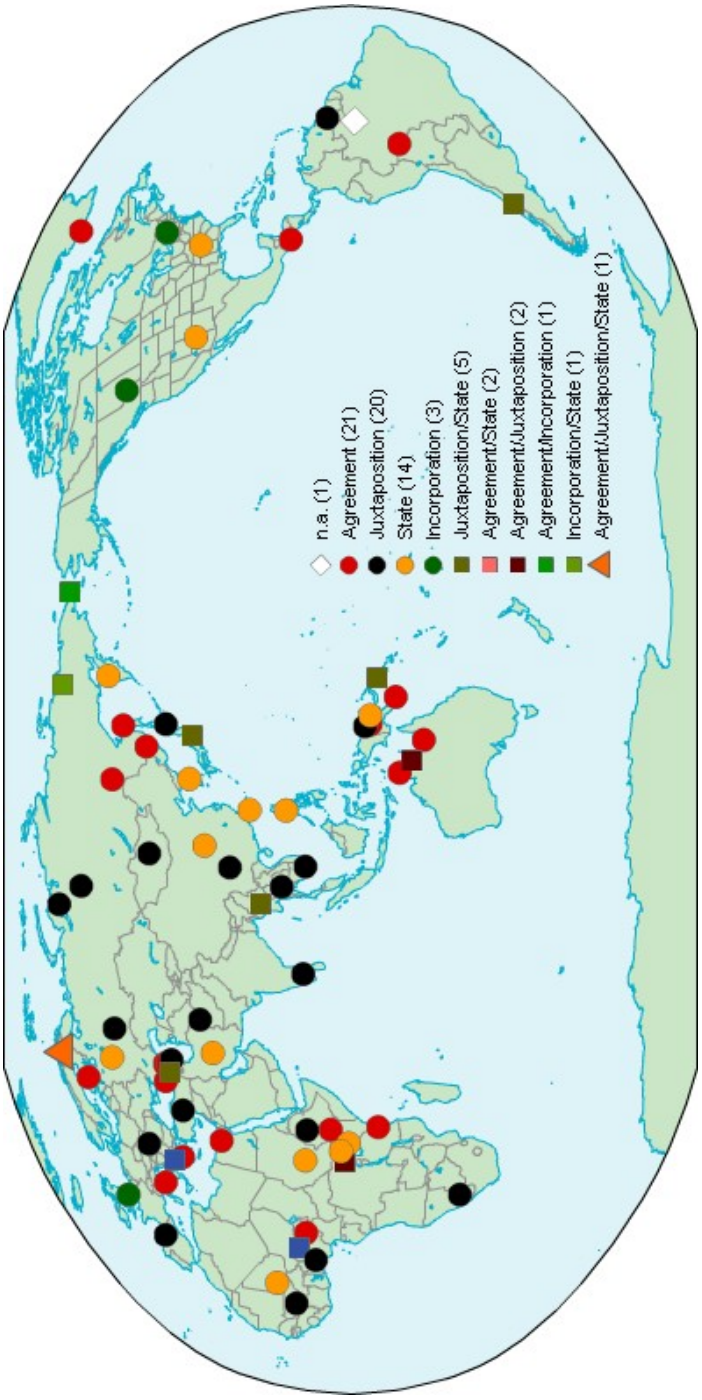


Figure 7: Adjective attribution marking in the languages of Europe; 123 languages

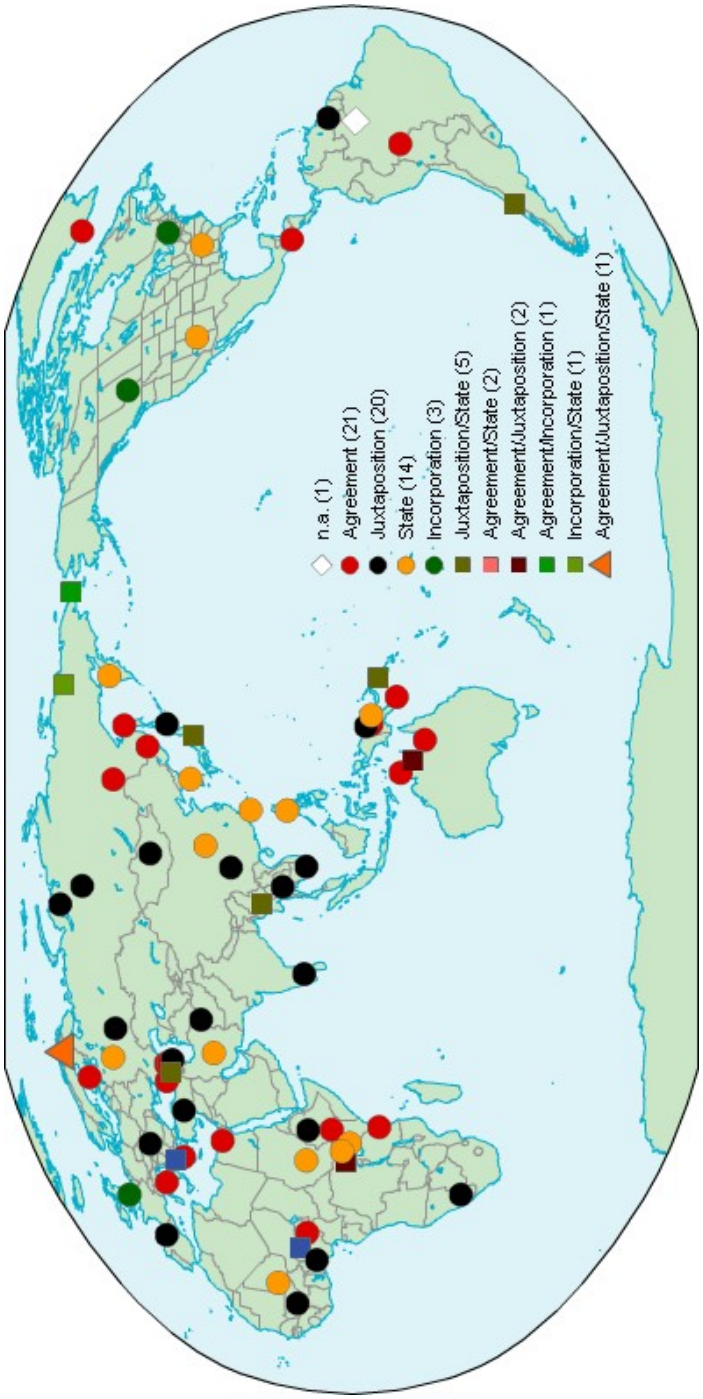


Figure 8: Adjective attribution marking in the languages of Europe; 123 languages coded for main morpho-syntactic types

References

Abaev, Vasilij I. 1964. *A grammatical sketch of Ossetic*. Bloomington: Indiana University Press.

Abdullaev, Isa Ch. 2000. Lakskij jazyk. In Gadži G. Gamzatov (ed.) (Jazyki narodov Rossii 1), 134–151. Machačkala: IJALII.

Ajello, Roberto. 1998. Armenian. In Anna Giacalone Ramat & Paolo Ramat (eds.) (Routledge language family descriptions), 197–227. London: Routledge.

Alatyrev, Vasilij I. 1970. *Vydelitel'no-ukazatel'naja kategorija v udmurtskom jazyke: Rasširennyj doklad na iii meždunarodnom kongresse finno-ugrovedov v. g. talline*. Iževsk: Udmurtskij Naučno-Issledovatel'skij Institut Istorii, Ėkonomiki, Literatury i Jazyka.

Alekseev, Michail E. 1994a. Budukh. In Rieks Smeets (ed.), *The North East Caucasian languages 2*, vol. 4 (The indigenous languages of the Caucasus), 259–296. Delmar: Caravan Books.

Alekseev, Michail E. 1994b. Rutul. In Rieks Smeets (ed.), *The North East Caucasian languages 2*, vol. 4 (The indigenous languages of the Caucasus), 213–258. Delmar: Caravan Books.

Alekseev, Michail E. & Boris M. Ataev. 1998. *Avarskij jazyk*. Moskva: Academia.

Alekseev, Michail E. & Ramazan N. Radžabov. 2004. Tsez. In Michael Job (ed.), *The North East Caucasian languages 2*, vol. 3 (The indigenous languages of the Caucasus), 115–163. Ann Arbour: Caravan Books.

Alhoniemi, Alho. 1993. *Grammatik des Tscheremissischen (Mari)*. Hamburg: Buske.

Anderson, Gregory David. 2002. *Xakas* (Languages of the World/Materials 251). München: LINCOM Europa.

Anderson, Gregory David & K. David Harrison. 1999. *Tyvan* (Languages of the World/Materials 257). München: LINCOM Europa.

Aquilina, Joseph. 1959. *The structure of Maltese: A study in mixed grammar and vocabulary*. Malta: The Royal University.

Arnott, David W. 1970. *The nominal and verbal systems of Fula*. Oxford: Oxford University Press.

Aronoff, Mark. 1994. *Morphology by itself: Stems and inflectional classes*. Cambridge: MIT Press.

Aronson, Howard I. 1991. Modern Georgian. In Alice C. Harris (ed.), *The Kartvelian languages*, vol. 1 (The indigenous languages of the Caucasus), 219–312. Delmar: Caravan Books.

Asher, Ron E. 1982. *Tamil* (Lingua Descriptive Studies 7). Amsterdam: North-Holland.

Atányi, István. 1942. *A lapp melléknevek attributív-predikatív alakpárjainak kérdéséhez* (Finnugor értekezések 6). Budapest: Hornyánszky.

Atányi, István. 1943. A lapp melléknevek attributív-predikatív alakpárjainak kérdéséhez. *Nyelvtudományi közlemények* 51(2). 307–355.

Avrorin, Valentin A. 1968. Nanajskij jazyk. In Viktor V. Vinogradov & Petr Ja. Skorik (eds.) (Jazyki narodov SSSR 5), 129–148. Moskva: Nauka.

Avrorin, Valentin A. 2000. *Grammatika man'čžurskogo pis'mennogo jazyka.* SankthypPeterburg: Nauka.

Avrorin, Valentin A. & Elena P. Lebedeva. 1968. Oročskij jazyk. In Viktor V. Vinogradov & Petr Ja. Skorik (eds.) (Jazyki narodov SSSR 5), 191–210. Moskva: Nauka.

Aygen, Gülşat. 2007. *Kurmanjî Kurdish* (Languages of the World/Materials 468). München: LINCOM Europa.

Azaev, Ch. G. 2000. Botlichskij jazyk. In Gadži G. Gamzatov (ed.) (Jazyki narodov Rossii 1), 346–359. Machačkala: IJALII.

Backhouse, A. E. 1984. Have all the adjectives gone? *Lingua* 62. 169–186.

Bamgbose, Ayo. 1966. *A grammar of Yoruba.* Cambridge: Cambridge University Press.

Bartens, Hans-Hermann. 1989. *Lehrbuch der saamischen (lappischen) Sprache.* Hamburg: Buske.

Baškakov, Nikolaj A. 1940. *Nogajskij jazyk i ego dialekty: Grammatika, teksty i slovar'*. Moskva: Nauka.

Baškakov, Nikolaj A. 1997. Altajskij jazyk. In Ėdgem R. Tenišev (ed.) (Jazyki mira), 197–187. Moskva: Indrik.

Baškakov, Nikolaj A. 2001. Karakalpakskij jazyk: Ėnciklopedija v trech tomach. In Viktor A. Vinogradov & Viktorija N. Jarceva (eds.), vol. 2, 49–56. Moskva: Nauka.

Bechert, Johannes. 1993. *Definiteness and article systems* (Eurotyp Working Papers I/4). [Strasbourg]: ESF.

Benzing, Johannes. 1963. Das Tschuwaschische. In Bertold Spuler (ed.), *Altaistik: erster Abschnitt Turkologie* (Handbuch der Orientalistik 1:5), 61–71. Leiden: Brill.

Benzing, Johannes. 1993. Das possessivsuffix der dritten person. In Claus Schönig (ed.), *Bolgarisch-tschuwaschische studien* (Turcologica 12), 1–17. Wiesbaden: Harrassowitz.

van den Berg, Helma. 1995. *A grammar of Hunzib (with texts and lexicon)* (LINCOM Studies in Caucasian Linguistics 1). München: LINCOM Europa.

Berghäll, Liisa. 2016. *A grammar of Mauwake* (Studies in Diversity Linguistics 4). Berlin: Language Science Press. DOI:10.17169/langsci.b67.96

Bergsland, Knut. 1948. *Røros-lappisk grammatikk: Et forsøk på strukturell språkbeskrivelse* (Instituttet for sammenlignende kulturforskning, Serie B, Skrifter 43). Oslo: Aschehoug.

Bergsland, Knut. 1976. *Lappische Grammatik mit Lesestücken* (Veröffentlichungen der Societas Uralo-Altaica 11). Wiesbaden: Harrassowitz.

Bergsland, Knut. 1994. *Sydsamisk grammatikk*. Kárášjohka: Davvi Girji.

Beyer, Arthur, Klaus Bochmann & Siegfried Bronsert. 1987. *Grammatik der rumänischen Sprache der Gegenwart*. Leipzig: Enzyklopädie.

Bibiko, Hans-Jörg. 2005. *The interactive reference tool for the World Atlas of Language Structures*. http://www.eva.mpg.de/lingua/research/tool.php. http://www.eva.mpg.de/lingua/research/tool.php.

Bickel, Balthasar. 1999. Nominalization and focus constructions in some Kiranti languages. In Yogendra P. Yadava & Warren G. Glover (eds.), *Topics in Nepalese linguistics*, 271–296. Kathmandu: Royal Nepal Academy.

Bickel, Balthasar. 2007. Typology in the 21st century: Major current developments. *Linguistic Typology* 11. 239–251.

Bickel, Balthasar & Johanna Nichols. 2001-2010. *Autotyp*. http://www.uni-leipzig.de/~autotyp/. http://www.uni-leipzig.de/~autotyp/.

Bickel, Balthasar & Johanna Nichols. 2003. Autotypologizing databases and their use in fieldwork. In Peter Austin, Helen Dry & Peter Witternburg (eds.), *Proceedings of the International LREC Workshop on Resources and Tools in Field Linguistics, Las Palmas, 26–27 May 2002*. Nijmegen: ISLE & DOBES. DOI:10.5167/uzh-76860

Bickel, Balthasar & Johanna Nichols. 2007. Inflectional morphology. In Timothy Shopen (ed.), *Language typology and syntactic description*. Vol. 3: *Grammatical categories and the lexicon*, 2nd edn., 169–240. Cambridge: Cambridge University Press.

Bickel, Balthasar, Johanna Nichols & Michael Rießler. 2001-2010. NP structures. In Balthasar Bickel & Johanna Nickols (eds.), *Autotyp*. Universität Leipzig. http://www.uni-leipzig.de/~autotyp/projects/nps/nps.html.

Birtalan, Ágnes. 2003. Oirat. In Juha Janhunen (ed.) (Routledge Language Family Series 5), 210–228. London: Routledge.

Bläsing, Uwe. 2003. Kalmuck. In Juha Janhunen (ed.) (Routledge Language Family Series 5), 229–247. London: Routledge.

Boeschoten, Hendrik. 1998. Uzbek. In Éva Ágnes Csató & Lars Johanson (eds.), *The Turkic languages*, 357–378. London: Routledge.

Bogoras, Waldemar. 1922. Chukchee. In Franz Boas (ed.), *Handbook of the American Indian languages. 2* (Bulletin of the Smithonian Institute 40), 631–903. Washington, D. C.: Bureau of American Ethnology.

Borg, Albert & Marie Azzopardi-Alexander. 1996. *Maltese* (Routledge Descriptive Grammars). London: Routledge.

Borg, Alexander. 1985. *Cypriot Arabic: A historical and comparative investigation into the phonology and morphology of the Arabic vernacular spoken by the Maronites of Kormakiti village in the Kyrenia district of North-Western Cyprus* (Abhandlungen für die Kunde des Morgenlandes 47:4). Stuttgart: Steiner-Wiesbaden.

Brauner, Siegmund. 1974. *Lehrbuch des Bambara.* Leipzig: Enzyklopädie.

Browne, Wayles. 1993. Serbo-Croat. In Bernard Comrie & Greville G. Corbett (eds.), *The Slavonic languages* (Routledge Language Family Descriptions), 306–387. London: Routledge.

Brugmann, Karl & Berthold Delbrück. 1897–1916. *Grundriss der vergleichenden Grammatik der indogermanischen Sprachen: Kurzgefasste Darstellung der Geschichte des Altindischen, Altiranischen (Avestischen und Altpersischen), Altarmenischen, Altgriechischen, Lateinischen, Umbrisch-Samnitischen, Altirischen, Gotischen, Althochdeutschen, Litauischen und Altkirchenslavischen.* Straßburg: Trübner.

Buchholz, Eva. 2004. *Grammatik der finnischen Sprache.* Hamburg: Hempen.

Buchholz, Oda & Wilfried Fiedler. 1987. *Albanische Grammatik.* Leipzig: Enzyklopädie.

Budagova, Zarifa. 1982. *Azerbajdžanskij jazyk (kratkij očerk).* Baku: Ėlm.

Budenz, Jozséf. 1869-1870. *Ugrische Sprachstudien.* Vol. 1-2. Pest: L. Aigner.

Bulatova, Nadezhda & Lenore Grenoble. 1999. *Evenki* (Languages of the World/Materials 141). München: LINCOM Europa.

Börjars, Kersti. 1994. Swedish double determination in a European typological perspective. *Nordic Journal of Linguistics* 17. 219–252.

Campbell, Lyle. 1985. *The Pipil language of El Salvador* (Mouton Grammar Library 1). Berlin: Mouton de Gruyter.

Carstairs-McCarthy, Andrew. 1999. Category and feature: An international handbook on inflection and word-formation. In Geert Booij, Christian Lehmann,

Joachim Mugdan & Stavros Skopeteas (eds.) (Handbücher zur Sprach- und Kommunikationswissenschaft 17), 264–272. Berlin: Mouton de Gruyter.
Cech, Petra. 2006. *Dolenjska Romani: The dialect of the Dolenjski Roma in Novo Mesto and Bela Krajina, Slovenia* (Languages of the World/Materials 457). München: LINCOM Europa.
Cech, Petra & Mozes F. Heinschink. 2003. *Sepecides-romani* (Languages of the World/Materials 109). ??: LINCOM Europa.
Chang, Suk-Jin. 1996. *Korean* (London Oriental and African Language Library 4). Amsterdam: John Benjamins.
Cherchi, Marcello. 1999. *Georgian* (Languages of the World/Materials 147). München: LINCOM Europa.
Chirikba, Viacheslav A. 2003. *Abkhaz* (Languages of the World/Materials 119). München: LINCOM Europa.
Cincius, Vera I. 1997. Solonskij jazyk. In Vladimir M. Alpatov, Igor' V. Kormušin, Grigorij C. Pjurbeev & Ol'ga I. Romanova (eds.) (Jazyki mira), 226–236. Moskva: Indrik.
Clark, Larry. 1998a. Chuvash. In Lars Johanson & Éva Ágnes Csató (eds.), *The Turkic languages*, 434–452. London: Routledge.
Clark, Larry. 1998b. *Turkmen reference grammar* (Turcologica 34). Wiesbaden: Harrassowitz.
Colarusso, John. 1994. East Circassian (Kabardian dialect). In George B. Hewitt (ed.), *The North West Caucasian languages*, vol. 2 (The indigenous languages of the Caucasus), 261–355. Delmar: Caravan Books.
Colarusso, John. 2006. *Kabardian (East Circassian)* (Languages of the World/Materials 200). München: LINCOM Europa.
Comrie, Bernard. 1981. *The languages of the Soviet Union* (Cambridge Language Surveys). Cambridge: Cambridge University Press.
Comrie, Bernard. 1998. The Indo-European linguistic family: Genetic and typological perspectives. In Anna Giacalone Ramat & Paolo Ramat (eds.) (Routledge language family descriptions), 74–97. London: Routledge.
Conrad, Robert J. 1991. *An outline of Bukiyip grammar* (Pacific Linguistics C:113). Canberra: Australian National University.
Cook, Eung-Do. 1984. *A Sarcee grammar*. Vancouver: University of British Columbia.
Corbett, Greville G. 1987. The morphology-syntax interface. *Language* 63. 299–345.
Corbett, Greville G. 2006. *Agreement* (Cambridge Textbooks in Linguistics). Cambridge: Cambridge University Press.

Corbett, Greville G. & Matthew Baerman. 2006. Prolegomena to a typology of morphological features. *Morphology* 16(2). 231–246.

Croft, William. 1995. Modern syntactic typology. In Masayoshi Shibatani & Theodora Bynon (eds.), *Approaches to language typology*, 85–145. Oxford: Clarendon Press.

Csúcs, Sándor. 1990. *Chrestomathia Votiacica*. Budapest: Tankönyvkiadó.

Dahl, Östen. 2003. Definite articles in Scandinavian: Competing grammaticalization processes in standard and non-standard varieties. In Bernd Kortmann (ed.), *Dialectology meets typology: Dialect grammar from a cross-linguistic perspective* (Trends in Linguistics. Studies and Monographs 153), 147–180. Berlin: Mouton de Gruyter.

Dahl, Östen. 2004. *The growth and maintenance of linguistic complexity* (Studies in language companion series 71). Amsterdam: John Benjamins.

Dahl, Östen. 2015. *Grammaticalization in the North: Noun phrase morphosyntax in Scandinavian vernaculars* (Studies in Diversity Linguistics 6). Berlin: Language Science Press. DOI:10.17169/langsci.b73.17

Delbrück, Berthold. 1893. *Vergleichende Syntax der indogermanischen Sprachen*. Vol. 1 (Grundriss der vergleichenden Grammatik der indogermanischen Sprachen). Strassburg: Trübner.

Delsing, Lars-Olof. 1993. *The internal structure of noun phrases in the Scandinavian languages: A comparative study*. Lund: Lunds universitet.

Delsing, Lars-Olof. 1996. Nominalfrassyntax i skandinaviska dialekter. In Øystein A. Vangsnes (ed.), *Syntaktisk variasjon i nordiske målføre* (Nordica Bergensia 9), 24–74. Universitetet i Bergen.

Demiraj, Shaban. 1998. Albanian. In Anna Giacalone Ramat & Paolo Ramat (eds.) (Routledge language family descriptions), 480–501. London: Routledge.

Derbyshire, Desmond C. 1979. *Hixkaryana syntax*. London: University of London PhD thesis.

Deseriev, Junus D. 1959. *Grammatika chinalugskogo jazyka*. Moskva: Nauka.

Dochartaigh, Cathair Ó. 1992. The Irish language. In Donald MacAulay (ed.) (Cambridge Language Surveys), 11–99. Cambridge: Cambridge University Press.

Donaldson, Bruce. 1997. *Dutch: A comprehensive grammar* (Routledge grammars). London: Routledge.

Donidze, Gajoz I. 1997. Šorskij jazyk. In Ėdgem R. Tenišev (ed.) (Jazyki mira), 497–506. Moskva: Indrik.

Dryer, Matthew S. 1989. Article-noun order. *Chicago Linguistic Society* 25. 83–97.

Dryer, Matthew S. 2007. Noun phrase structure. In Timothy Shopen (ed.), *Complex constructions, language typology and syntactic description*, 2nd edn., vol. 2

(Language typology and syntactic description), 151–205. Cambridge: Cambridge University Press.
Dryer, Matthew S. & Martin Haspelmath (eds.). 2013. *The world atlas of language structures online*. Leipzig: Max Planck Institute for Evolutionary Anthropology. http://wals.info/, accessed 2016-01-28.
Dunn, Michael. 1999. *A grammar of Chukchi*. Australian National University Ph.D. dissertation.
Décsy, Gyula. 1990. *The Uralic protolanguage: A comprehensive reconstruction* (Bibliotheca nostratica 9). Bloomington: Eurolingua.
Décsy, Gyula. 1998a. *The Indo-European protolanguage: A computational reconstruction* (Bibliotheca nostratica 10). Bloomington: Eurolingua.
Décsy, Gyula. 1998b. *The Turkic protolanguage: A computational reconstruction* (Bibliotheca nostratica 11). Bloomington: Eurolingua.
Džidalaev, Nurislam S. 2000. Tatskij jazyk. In Gadži G. Gamzatov (ed.) (Jazyki narodov Rossii 1), 218–236. Machačkala: IJALII.
Evans, Nicholas D. 1995. *A grammar of Kayardild: With historical-comparative notes on Tangkic* (Mouton Grammar Library 15). Berlin: Mouton de Gruyter.
Everett, Daniel L. & Barbara Kern. 1997. *Wari': The Pacaas Novos language of Western Brazil* (Routledge Descriptive Series). London: Routledge.
Feist, Timothy. 2015. *A grammar of Skolt Saami* (Suomalais-Ugrilaisen Seuran Toimituksia 273). Helsinki: Suomalais-Ugrilainen Seura.
Feldstein, Ronald & Steven Franks. 2002. *Polish* (Languages of the World/Materials 393). München: LINCOM Europa.
Foley, William A. 1980. Towards a universal typology of the noun phrase. *Studies in Language* 4(2). 171–199.
Foley, William A. 1991. *The Yimas language of New Guinea*. Stanford: Stanford University Press.
Fortescue, Michael. 1984. *West Greenlandic*. London: Croom Helm.
Friedman, Victor A. 2002. *Macedonian* (Languages of the World/Materials 117). München: LINCOM Europa.
Gamillscheg, Ernst. 1937. *Zum romanischen Artikel und Possessivpronomen* (Sitzungsberichte der Preußischen Akademie der Wissenschaften. Philosophisch-historische Klasse 1936:27). Berlin: Akademie der Wissenschaften.
Gary, Judith Olmsted & Saad Gamal-Eldin. 1982. *Cairene Egyptian Colloqial Arabic* (Lingua Descriptive Studies 6). Amsterdam: North-Holland.
Georg, Ralf-Stefan & Alexander P. Volodin. 1999. *Die itelmenische sprache: Grammatik und texte* (Tunguso Sibirica 5). Wiesbaden: Harrassowitz.

Giacomo-Marcellesi, Mathée. 1997. *Corse* (Languages of the World/Materials 65). München: LINCOM Europa.

Gil, David. 2005. Genitives, adjectives and relative clauses. In Martin Haspelmath, Matthew S. Dryer, David Gil & Bernard Comrie (eds.), *The world atlas of language structures online*. München: Max Planck Digital Library. http://wals.info/feature/description/60/.

Gromova, Nelli V. & N. V. Ochotina. 1995. *Teoretičeskaja grammatika jazyka suachili*. Moskva: Nasledie.

Gruzdeva, Ekaterina. 2003. *Nivkh* (Languages of the World/Materials 111). München: LINCOM Europa.

Guma, Samson Mbizo. 1971. *An outline structure of Southern Sotho*. Pietermaritzburg: Shuter & Shuter.

Gärtner, Eberhard. 1998. *Grammatik der portugiesischen Sprache*. Tübingen: Niemeyer.

Hagman, Roy Stephan. 1977. *Nama Hottentott grammar* (Language Science Monographs 15). Bloomington: Indiana University Press.

Haider, Hubert & Ronald Zwanziger. 1984. Relatively attributive: The 'ezafe'-construction from Old Iranian to Modern Persian. In Jacek Fisiak (ed.), *Historical syntax*, 137–172. Berlin: Mouton.

Haiman, John. 1997. Rhaeto-Romance. In Martin Harris & Nigel Vincent (eds.), *The Romance languages* (Routledge Language Family Descriptions), 351–390. London: Routledge.

Hajdú, Péter. 1996. Lappáliák. In Edit Mészáros (ed.), *ünnepi könyv Mikola Tibor tiszteletére*, 114–118. Szeged: JATE Finnugor Tanszék.

Halwachs, Dieter W. & Michael Wogg. 2002. *Burgenland-Romani* (Languages of the World/Materials 107). München: LINCOM Europa.

Hancock, Ian. 1993. *A handbook of Vlax Romani*. Columbus: Slavica.

Harriehausen, Bettina. 1990. *Hmong njua: Syntaktische analyse einer gesprochenen sprache mithilfe datenverarbeitungstechnischer mittel und sprachvergleichender beschreibung des südostasiatischen sprachraumes* (Linguistische Arbeiten 245). Tübingen: Niemeyer.

Harris, Alice C. 1991a. Mingrelian. In Alice C. Harris (ed.), *The Kartvelian languages*, vol. 1 (The indigenous languages of the Caucasus), 313–394. Delmar: Caravan Books.

Harris, Alice C. 1991b. Overview on the history of the Kartvelian languages. In Alice C. Harris (ed.), *The Kartvelian languages*, vol. 1 (The indigenous languages of the Caucasus), 7–83. Delmar: Caravan Books.

Harris, Alice C. 1991c. Svan. In Alice C. Harris (ed.), *The Kartvelian languages*, vol. 1 (The indigenous languages of the Caucasus), 473–556. Delmar: Caravan Books.
Harris, Martin. 1997. French. In Martin Harris & Nigel Vincent (eds.), *The Romance languages* (Routledge Language Family Descriptions), 209–245. London: Routledge.
Haspelmath, Martin. 1993. *A grammar of Lezgian* (Mouton Grammar Library 9). Berlin: Mouton de Gruyter.
Haspelmath, Martin. 2003. The geometry of grammatical meaning: Semantic maps and cross linguistic comparison. In Michael Tomasello (ed.), *The new psychology of language*, vol. 2, 211–242. Mahwah: Erlbaum.
Haspelmath, Martin. 2010a. Comparative concepts and descriptive categories in cross-linguistic studies. *Language* 86(3). DOI:10.1353/lan.2010.0021
Haspelmath, Martin. 2010b. Framework-free grammatical theory. In Bernd Heine & Heiko Narrog (eds.), *The Oxford handbook of grammatical analysis*, 341–365. Oxford: Oxford University Press.
Heath, Jeffrey. 1998. *A grammar of Koyra Chiini* (Mouton Grammar Library 19). Berlin: Mouton de Gruyter.
Heine, Bernd & Tania Kuteva. 2005. *Language contact and grammatical change* (Cambridge approaches to language contact). Cambridge: Cambridge University Press.
Heinrichs, Heinrich Matthias. 1954. *Studien zum bestimmten Artikel in den germanischen Sprachen*. Gießen: Schmitz.
Helimski, Eugene. 1998. Selkup. In Daniel Abondolo (ed.) (Routledge Language Family Descriptions), 548–579. London: Routledge.
Helimski, Eugene. 2005. Uralic languages in Sprachbünde: Areal connections within and across the family. In M. M. Jocelyne Fernandez-Vest (ed.), *The Uralic languages today: A linguistic and cognitive approach* (Bibliothèque de l'Ecole des hautes études 240), 87–99. Paris: Honoré Champion.
Hengeveld, Kees J., Jan Rijkhoff & Anna Siewierska. 2004. Parts-of-speech systems and word order. *Journal of Linguistics* 40(3). 527–570.
Hewitt, George B. 1994. Abkhaz. In George B. Hewitt (ed.), *The North West Caucasian languages*, vol. 2 (The indigenous languages of the Caucasus), 38–88. Delmar: Caravan Books.
Himmelmann, Nikolaus P. 1997. *Deiktikon, artikel, nominalphrase: Zur emergenz syntaktischer struktur* (Linguistische Arbeiten 362). Tübingen: Niemeyer.

Holisky, Dee Ann. 1991. Laz. In Alice C. Harris (ed.), *The Kartvelian languages*, vol. 1 (The indigenous languages of the Caucasus), 395–472. Delmar: Caravan Books.

Holisky, Dee Ann & Rusudan Gagua. 1994. Tsova-Tush (Batsbi). In Rieks Smeets (ed.), *The North East Caucasian languages 2*, vol. 4 (The indigenous languages of the Caucasus), 147–212. Delmar: Caravan Books.

Holm, Britta & Elizabeth Nylund. 1970. *Deskriptiv svensk grammatik*. Stockholm: Skriptor.

Holmberg, Anders & Göran Sandström. 2003. Vad är det för särskilt med nordsvenska nominalfraser? In Øystein A. Vangsnes, Anders Holmberg & Lars-Olof Delsing (eds.) (Tromsø-studier i språkvitenskap 22), 85–98. Tromsø: Novus.

Holzinger, Daniel. 1995. *Romanes* (Languages of the World/Materials 105). München: LINCOM Europa.

Honti, László. 1997. Fremdes oder eigenständiges?: Zum historischen hintergrund der attributivkongruenz in uralischen sprachen. In Sirkka-Liisa Hahmo, Tette Hofstra, László Honti, Paul van Linde & Osmo Nikkilä (eds.), *Finnisch-ugrische sprachen in kontakt: Vorträge des symposiums aus anlaß des 30-jährigen bestehens der finnougristik an der rijksuniversiteit groningen 21.–23. november 1996*, 135–144. Maastricht: Shaker.

Đình Hoà Nguyễn. 1987. Vietnamese. In Bernard Comrie (ed.), *The world's major languages* (Routledge Language Family Series), 777–796. London: Routledge.

Hualde, José Ignacio. 1992. *Catalan* (Descriptive grammars). London: Routledge.

Hualde, José Ignacio & Jon Ortiz de Urbina (eds.). 2003. *A grammar of Basque* (Mouton Grammar Library 26). Berlin: Mouton de Gruyter.

Hudak, Thomas John. 1987. Thai. In Bernard Comrie (ed.), *The world's major languages* (Routledge Language Family Series), 757–757. London: Routledge.

Hudson, Grover. 1997. Amharic and Argobba. In Robert Hetzron (ed.), *The Semitic languages* (Routledge Language Family Descriptions), 457–485. London: Routledge.

Ido, Shinji. 2005. *Tajik* (Languages of the World/Materials 442). München: LINCOM Europa.

Isaev, Magomedšapi A. 2004. Dargwa. In Michael Job (ed.), *The North East Caucasian languages 2*, vol. 3 (The indigenous languages of the Caucasus), 299–343. Ann Arbour: Caravan Books.

Isakov, Isak A. & Madžid Š. Xalilov. 2004. Hinukh. In Michael Job (ed.), *The North East Caucasian languages 2*, vol. 3 (The indigenous languages of the Caucasus), 169–214. Ann Arbour: Caravan Books.

Itkonen, Terho. 1980. Spesies suomessa ja germaanisissa kielissä. *Virittäjä* 84. 27–38.
Jachontova, Natalija S. 1997. Mongol'skie jazyki. In Vladimir M. Alpatov, Igor' V. Kormušin, Grigorij C. Pjurbeev & Ol'ga I. Romanova (eds.) (Jazyki mira), 10–18. Moskva: Indrik.
Jacobs, Neil G., Ellen F. Prince & Johan van der Auwera. 1994. Yiddish. In Ekkehard König (ed.), *The Germanic languages* (Cambridge Language Surveys), 388–419. Cambridge: Cambridge University Press.
Jakobson, Roman. 1971. Word and language. In Roman Jakobson (ed.), *Notes on Gilyak*. Vol. 2: *Selected writings*, 72–97. The Hague: Mouton.
Janaš, Pětr. 1976. *Niedersorbische grammatik: Für den gebrauch der sorbischen erweiterten oberschule*. Bautzen: Domowina.
Janda, Laura A. & Charles E. Townsend. 2000. *Czech* (Languages of the World/Materials 125). München: LINCOM Europa.
Janhunen, Juha. 1981. On the structure of Proto-Uralic. *Finnisch-Ugrische Forschungen* 44. 23–42.
Janhunen, Juha. 2003. Proto-Mongolian. In Juha Janhunen (ed.) (Routledge Language Family Series 5), 1–29. London: Routledge.
Janhunen, Juha. 2005. *Khamnigan Mongol* (Languages of the World/Materials 173). München: LINCOM Europa.
Johanson, Lars. 2002. *Structural factors in Turkic language contacts*. Richmond: Curzon.
Jones, Michael. 1997. Sardinian. In Martin Harris & Nigel Vincent (eds.), *The Romance languages* (Routledge Language Family Descriptions), 314–350. London: Routledge.
Judakin, Anatolij P. 1997. *Sravnitel'no-istoričeskaja grammatika finno-ugorskich jazykov: Stanovlenie sistemy padežej*. Moskva: Glas.
Julien, Marit. 2003. Double definiteness in Scandinavian. In Anne Dahl, Kristine Bentzen & Peter Svenonius (eds.), *Proceedings of the 19th Scandinavian Conference of Linguistics* (Nordlyd 31:1), 230–244. Tromsø: Tromsø university.
Julien, Marit. 2005. *Nominal phrases from a Scandinavian perspective* (Linguistik Aktuell 87). Amsterdam: John Benjamins.
Kacaoğlu, Timur. 2002. *Karay: the Trakai dialect* (Languages of the World/Materials 458). München: LINCOM Europa.
Kadyradžiev, Kalsyn S. 2000. Kumykskij jazyk. In Gadži G. Gamzatov (ed.) (Jazyki narodov Rossii 1), 115–133. Machačkala: IJALII.
Kalimov, Abdurachman A. 1968. Dunganskij jazyk. In Viktor V. Vinogradov & Petr Ja. Skorik (eds.) (Jazyki narodov SSSR 5), 474–488. Moskva: Nauka.

Kara, Dávid Somfai. 2002. *Kazak* (Languages of the World/Materials 417). München: LINCOM Europa.
Kara, Dávid Somfai. 2003. *Kyrgyz* (Languages of the World/Materials 423). LINCOM Europa.
Karlsson, Fred. 1999. *Finnish: An essential grammar* (Routledge grammars). London: Routledge.
Katz, Dovid. 1987. *Grammar of the Yiddish language*. London: Duckworth.
Kazenin, Konstantin. 1996. In Alexandr E. Kibrik (ed.), *Godoberi: I. word order in noun phrases* (LINCOM Studies in Caucasian Linguistics 2), 148–154. München: LINCOM Europa.
Kel'makov, Valentin & Sara Hännikäinen. 1999. *Udmurtin kielioppia ja harjoituksia* (Hilfsmittel für das Studium der finnisch-ugrischen Sprachen 14). Helsinki: Suomalais-Ugrilainen Seura.
Kenesei, István, Robert M. Vago & Anna Fenyvesi. 1998. *Hungarian* (Descriptive Grammar Series). London: Routledge.
Kibort, Anna. 2008+. A typology of grammatical features. In Anna Kibort & Greville G. Corbett (eds.), *Grammatical features*. Surrey Morphology Group. http://www.grammaticalfeatures.net/inventory.html, accessed 2014-02-16.
Kibort, Anna. 2010. Towards a typology of grammatical features: Perspectives on a key notion in linguistics. In Anna Kibort & Greville G. Corbett (eds.), *Features*, 64–106. Oxford: Oxford University Press.
Kibort, Anna & Greville G. Corbett (eds.). 2010. *Features: Perspectives on a Key Notion in Linguistics*. Oxford: Oxford University Press.
Kibrik, Aleksandr E. 1994a. Archi. In Rieks Smeets (ed.), *The North East Caucasian languages 2*, vol. 4 (The indigenous languages of the Caucasus), 297–265. Delmar: Caravan Books.
Kibrik, Aleksandr E. 1994b. Khinalug. In Rieks Smeets (ed.), *The North East Caucasian languages 2*, vol. 4 (The indigenous languages of the Caucasus), 367–406. Delmar: Caravan Books.
Kibrik, Aleksandr E., Sandro V. Kodzasov & Irina A. Murav'eva. 2000. *Jazyk i fol'klor aljutorcev*. Moskva: Nasledie.
Kibrik, Aleksandr E. & Jakov G. Testelets. 2004. Bezhta. In Michael Job (ed.), *The North East Caucasian languages 2*, vol. 3 (The indigenous languages of the Caucasus), 217–295. Ann Arbour: Caravan Books.
Kiekbaev, Džalil' G. 1965. O grammatičeskoj kategorij opredelennosti i neopredelennosti v uralo-altajskich jazykach. *Sovetskoe finno-ugrovedenie* 1(4). 237–244.
Kimball, Geoffrey. 1991. *Koasati grammar*. Lincoln: University of Nebraska Press.

Koch, Christoph. 1992. Zur Vorgeschichte des relativen Attributkonnexes im Baltischen und Slavischen. In Bernd Barschel, Maria Kozianka & Karin Weber (eds.), *Indogermanisch, Slawisch und Baltisch: Materialien des vom 21.-22. September 1989 in Jena in Zusammenarbeit mit der Indogermanischen Gesellschaft durchgeführten Kolloquiums*, 45–88. München: Otto Sagner.
Koch, Christoph. 1999. Weiterungen des relativen attributivkonnexes: Die westslavischen adverbialadjektiva auf *-ej's-*. *Zeitschrift für Slavistik* 44(4). 455–475.
Kokkonen, Paula. 1984. *Komisyrjäänin kielioppia ja tekstejä* (Hilfsmittel für das Studium der finnisch-ugrischen Sprachen 9). Helsinki: Suomalais-Ugrilainen Seura.
Koptjevskaja-Tamm, Maria. 2006. The circle that won't come full: Two potential isoglosses in the Circum-Baltic area. In Yaron Matras, April McMahon & Nigel Vincent (eds.), *Linguistic areas: Convergence in historical and typological perspective*, 182–226. Houndmills: Palgrave Macmillan.
Kordic, Snjezana. 1997. *Serbo-Croatian* (Languages of the World/Materials 148). München: LINCOM Europa.
Korhonen, Mikko. 1981. *Johdatus lapin kielen historiaan* (Suomalaisen Kirjallisuuden Seuran toimituksia 370). Helsinki: Suomalaisen Kirjallisuuden Seura.
Korjakov, Jurij B. 2006. *Atlas kavkazskich jazykov*. Moskva: Institut Jazykoznanija RAN.
Kormušin, Igor' V. 2005. Tunguso-man'čžurskie jazyki. In Viktor A. Vinogradov & Viktorija N. Jarceva (eds.), *Jazyki rossijskoj federacii i sosednich gosudarstv: Ėnciklopedija v trech tomach*, vol. 3, 127–137. Moskva: Nauka.
Kornfilt, Jaklin. 1997. *Turkish* (Descriptive grammars). London: Routledge.
Kotcheva, Kristina. 1996. *Den*-lösa konstruktionen i svenska: Synkroni och diakroni. In Jurij Kusmenko & Sven Lange (eds.), *Nordisk språkhistoria: Föredrag från det 1:a studentkollokviet i nordisk språkvetenskap* (Kleine Schriften des Nordeuropa-Instituts 7), 36–45. Berlin: Nordeuropa-Institut.
Kouwenberg, Silvia. 1994. *Berbice Dutch Creole* (Mouton Grammar Library 12). Berlin: Mouton de Gruyter.
Krejnovič, Eruchim A. 1982. *Issledovanija i materialy po jukagirskomu jazyku*. Leningrad: Nauka.
Kress, Bruno. 1982. *Isländische Grammatik*. Leipzig: Enzyklopädie.
Krjukova, Elena A. 2007. Substantivacija v jenisejskich jazykach (na materiale ketskogo, jugskogo i kottskogo jazykov). In M. D Voejkova (ed.), *Tipologija jazyka i teorija grammatiki: materialy meždunarodnoj konferencii posvjaščennoj 100-letiju so dnja roždenija S. D. Kacnel'sona*, 115–117. SankthypPeterburg: Nestor-Istorija.

Krotkoff, Georg. 1982. *A Neo-Aramaic dialect of Kurdistan: Text, grammar, and vocabulary* (American Oriental Series 64). New Haven: American Oriental Society.

Krueger, John Richard. 1961. *Chuvash manual: Introduction, grammar, reader, and vocabulary* (Uralic and Altaic Series 7). Bloomington: Indiana University.

Krueger, John Richard. 1964. *Yakut manual: Area handbook, grammar, graded reader and glossery* (Uralic and Altaic Series 21). Bloomington: Indiana University.

Krámský, Jiří. 1972. *The article and the concept of definiteness in language*. The Hague: Mouton.

Kurbanov, Kazi K. 1986. *Morfologija tabasaranskogo jazyka (posobie dlja učitelja.* Machačkala: Dagučpedgiz.

Kusmenko, Jurij. 2008. *Der samische einfluss auf die skandinavischen sprachen: Beitrag zur nordgermanischen sprachgeschichte* (Berliner Beiträge zur Skandinavistik 10). Berlin: Humboldt-Universität zu Berlin.

Kutsch Lojenga, Constance. 1994. *Ngiti: A Central-Sudanic language of Zaire* (Nilo-Saharan. Linguistic Analyses and Documentation 9). Köln: Köppe.

Kämpfe, Hans-Rainer & Alexander P. Volodin. 1995. *Abriß der tschuktischen Grammatik auf der Basis der Schriftsprache* (Tunguso Sibirica 1). Wiesbaden: Harrassowitz.

Künnap, Ago. 2004. About the non-personal definite function of the Uralic 3rd person possessive suffix. *Linguistica Uralica* 40(1). 1–4.

Laanest, Arvo. 1997. Ižorskij jazyk: Ėnciklopedija v trech tomach. In Viktorija N. Jarceva (ed.), vol. 1, 376–382. Moskva: Nauka.

Larsson, Seth. 1929. *Substantivböjningen i Västerbottens folkmål*. Uppsala: Appelberg.

Lehmann, Christian. 1984. *Der relativsatz: Typologie seiner strukturen. theorie seiner funktionen. kompendium seiner grammatik* (Language Universals Series 3). Tübingen: Narr.

Lehtiranta, Juhani. 1989. *Yhteissaamelainen sanasto* (Suomalais-Ugrilaisen Seuran Toimituksia 200). Helsinki: Suomalais-Ugrilainen Seura.

Leinonen, Marja. 2006. Omistussuhteen ulokkeita: Komin possessiivisuffiksin eipossessiivista funktioista. *Suomalais-Ugrilaisen Seuran Aikakauskirja* 91. 93–114.

Leskien, August. 1871. *Handbuch der altbulgarischen (altkirchenslavischen) sprache: Grammatik, texte, glossar*. Weimar: H. Böhlau.

Leskien, August. 1919. *Litauisches Lesebuch mit Grammatik und Wörterbuch*. Heidelberg: Winter.

Leslau, Wolf. 1995. *Reference grammar of Amharic*. Wiesbaden: Harrassowitz.
Li, Charles N. & Sandra A. Thompson. 1981. *Mandarin Chinese: A functional reference grammar*. Berkeley: University of California Press.
Liljegren, Henrik. 2016. *A grammar of Palula* (Studies in Diversity Linguistics 8). Berlin: Language Science Press. DOI:10.17169/langsci.b82.86
Lockwood, William B. 1955. *An introduction to Modern Faroese*. København: Ejnar Munksgaard.
Lomtatidze, Ketevan & Rauf Klychev. 1994. Abaza. In George B. Hewitt (ed.), *The North West Caucasian languages*, vol. 2 (The indigenous languages of the Caucasus), 89–154. Delmar: Caravan Books.
Lund, Jens. 1932. *Morsingmålets Lyd- og Formlære*. København: Rietzel.
Lytkin, Vasilij I. 1966a. Komi-Permjak. In Vasilij I. Lytkin & Klara E. Majtinskaja (eds.), *Finno-ugorskie i samodijskie jazyki*, vol. 3 (Jazyki narodov SSSR), 301–315. Moskva: Nauka.
Lytkin, Vasilij I. 1966b. Komi-Zyrjanskij jazyk. In Vasilij I. Lytkin & Klara E. Majtinskaja (eds.), *Jazyki narodov SSSR*. Vol. 3: *Finno-ugorskie i samodijskie jazyki*, 281–299. Moskva: Nauka.
MacAulay, Donald. 1992. The Scottish Gaelic language. In Donald MacAulay (ed.) (Cambridge Language Surveys), 137–248. Cambridge: Cambridge University Press.
Magomedbekova, Zagidat M. 1971. *Karatinskij jazyk: Grammatičeskij analiz, teksty, slovar'*. Tbilisi: Mecniereba.
Magomedbekova, Zagidat M. 2000. Achvachskij jazyk. In Gadži G. Gamzatov (ed.) (Jazyki narodov Rossii 1), 306–318. Machačkala: IJALII.
Magomedova, Patimat T. 2000a. Bagvalinskij jazyk. In Gadži G. Gamzatov (ed.) (Jazyki narodov Rossii 1), 319–331. Machačkala: IJALII.
Magomedova, Patimat T. 2000b. Tindinskij jazyk. In Gadži G. Gamzatov (ed.) (Jazyki narodov Rossii 1), 422–435. Machačkala: IJALII.
Magomedova, Patimat T. 2004. Chamalal. In Michael Job (ed.), *The North East Caucasian languages 2*, vol. 3 (The indigenous languages of the Caucasus), 3. Ann Arbour: Caravan Books.
Mahootian, Shahrzad. 1997. *Persian* (Descriptive grammars). London: Routledge.
Maiden, Martin & Cecilia Robustelli. 2000. *A reference grammar of Modern Italian*. London: Edward Arnold.
Malchukov, Andrej L. 1995. *Even* (Languages of the World/Materials 12). München: LINCOM Europa.

Malchukov, Andrej L. 2000. *Dependency reversal in noun-attributive constructions: Towards a typology* (LINCOM Studies in Language Typology 3). München: LINCOM Europa.

Margetts, Anna. 1999. *Valence and transitivity in Saliba, an Oceanic language of Papua New Guinea* (MPI Series in Psycholinguistics). Nijmegen: Max Planck Institute for Psycholinguistics.

Martin, Samuel E. & Young-Sook Lee. 1969. *Beginning Korean.* New Haven: Yale University Press.

Marušič, Franc & Rok Žaucer. 2007a. O določnem ta v pogovorni slovenščini (z navezavo na določno obliko pridevnika). *Slavistična revija* 55(1-2). 223–247.

Marušič, Franc & Rok Žaucer. 2007b. On the adjectival definite article in Slovenian. *Pismo* 5(1). 102–124.

Masica, Colin P. 1991. *The Indo-Aryan languages* (Cambridge Language Surveys). Cambridge: Cambridge University Press.

Maslova, Elena. 2003a. *A grammar of Kolyma Yukaghir* (Mouton Grammar Library 27). Berlin: Mouton de Gruyter.

Maslova, Elena. 2003b. *Tundra Yukaghir* (Languages of the World/Materials 372). München: LINCOM Europa.

Matisoff, James A. 1973. *The grammar of Lahu* (University of California Publications in Linguistics 75). Berkeley: University of California Press.

Matras, Yaron & Gertrud Reershemius. 2003. *Low German* (Languages of the World/Materials 421). München: LINCOM Europa.

Mayo, Peter. 1993. Belorussian. In Bernard Comrie & Greville G. Corbett (eds.), *The Slavonic languages* (Routledge Language Family Descriptions), 887–946. London: Routledge.

Meillet, Antoine. 1931. *Grammaire du vieux-perse.* Paris: Honoré Champion.

Mel'čuk, Igor. 1993. Agreement, government, congruence. *Lingvisticae Investigationes* 17. 307–372.

Mel'čuk, Igor. 1998. *Kurs obščej morfologii: 2. morfologičeskie značenija.* Moskva: Jazyki Russkoj Kul'tury.

Mel'čuk, Igor. 2006. *Aspects of the theory of morphology.* David Beck (ed.) (Trends in linguistics. Studies and Monographs 146). Berlin: Mouton de Gruyter.

Mendoza, Imke. 2004. *Nominaldetermination im Polnischen: Die primären Ausdrucksmittel.* Polish; Slavic. München: Ludwig-Maximilians-Universität München Habilitationsschrift im Fach Slavische Philologie.

Merlan, Franceska. 1983. *Ngalakan grammar, texts, and vocabulary* (Pacific Linguistics B:89). Canberra: Australian National University.

Mikkola, Jooseppi Julius. 1950. In. *Urslavische Grammatik: Einführung in das vergleichende Studium der slavischen Sprachen*. Vol. 3: *Formenlehre*. Heidelberg: Winter.
Mithun, Marianne & Reginald Henry. 1982. *A Cayuga grammar*. Brantford: Woodland Indian Cultural & Educational Centre.
Mosel, Ulrike. 1994. *Saliba* (Languages of the World/Materials 31). München: LINCOM Europa.
Moseley, Christopher. 2002. *Livonian* (Languages of the World/Materials 144). München: LINCOM Europa.
Márk, Tamás. 1979. Wortart und Kongruenz. *Finnisch-Ugrische Forschungen* 43. 208–212.
Nadžip, Ėmir N. 1991. *Sovremennyj ujgurskij jazyk*. Moskva: Nauka.
Nagayama, Yukari. 2003. *Grammatical outline of Alutor* (Endangered Languages of the Pacific Rim Publications Series A2/038). Osaka: ELPR.
Nau, Nicole. 1996. *Latvian* (Languages of the World/Materials 217). München: LINCOM Europa.
Nedjalkov, Igor. 1997. *Evenki* (Descriptive grammars). London: Routledge.
Nedjalkov, Igor V. 2001. Negidal'skij jazyk: Ėnciklopedija v trech tomach. In Viktor A. Vinogradov & Viktorija N. Jarceva (eds.), vol. 2, 338–342. Moskva: Nauka.
Nichols, Johanna. 1986. Head-marking and dependent-marking grammars. *Language* 62. 56–119.
Nichols, Johanna. 1992. *Linguistic diversity in space and time*. Chicago: University of Chicago Press.
Nichols, Johanna. 1994a. Chechen. In Rieks Smeets (ed.), *The North East Caucasian languages 2*, vol. 4 (The indigenous languages of the Caucasus), 1–77. Delmar: Caravan Books.
Nichols, Johanna. 1994b. Ingush. In Rieks Smeets (ed.), *The North East Caucasian languages 2*, vol. 4 (The indigenous languages of the Caucasus), 79–145. Delmar: Caravan Books.
Nickel, Klaus Peter. 1996. *Samisk grammatikk*. Kárášjohka: Davvi Girji.
Nielsen, Konrad. 1933. A note on the origin of attributive forms in Lapp. In Arthur Byhan, Berthold Laufer, Just K. Qvigstad & Karl B. Wiklund (eds.), *Liber semisaecularis societatis fenno-ugricae* (Suomalais-Ugrilaisen Seuran Toimituksia 67), 296–307. Helsinki: Suomalais-Ugrilainen Seura.
Nielsen, Konrad. 1945. A note on the origin of attributive forms in Lapp. In Konrad Nielsen (ed.), *Lappiske studier* (Studia septentrionalia 1), 199–209. Oslo: A. W. Brøggers boktrykkeri.

Nikolaeva, Irina. 1999. *Ostyak* (Languages of the World/Materials 305). München: LINCOM Europa.

Nikolaeva, Irina & Maria Tolskaya. 2001. *A grammar of Udihe*. Vol. 22 (Mouton Grammar Library). Berlin: Mouton de Gruyter.

Nikolaeva, Irina A. 1997. Vodskij jazyk: Ėnciklopedija v trech tomach. In Viktorija N. Jarceva (ed.), vol. 1, 267–272. Moskva: Nauka.

Nocentini, Alberto. 1996. Typology and genesis of the article in the European languages. In Rosanna Benacchio, Francesca Fici & Lucyna Gebert (eds.), *Determinezza e indeterminezza nelle lingue slave: atti del Convegno svoltosi a Firenze 26-28 ottobre 1995* (Problemi di morfosintassi delle lingue slave 5), 1–9. Firenze: Unipress.

Noonan, Michael. 1992. *A grammar of Longo* (Mouton Grammar Library 7). Berlin: Mouton de Gruyter.

Olthuis, Marja-Liisa. 2000. *Kielâoppâ*. Inari: Sämitigge.

Oranskaja, Tat'jana I. 2001. Par'ja jazyk: Ėnciklopedija v trech tomach. In Viktor A. Vinogradov & Viktorija N. Jarceva (eds.), vol. 2, 413–426. Moskva: Nauka.

Ortmann, Albert. 2002. *Kategorien des Nomens: Schnittstellen und Ökonomie* (Linguistische Arbeiten 458). Tübingen: Niemeyer.

Osborne, Charles R. 1974. *The Tiwi language* (Australian Aboriginal Studies 55). Canberra: Australian Institute for Aboriginal Studies.

Panfilov, Vladimir Z. 1965. *Grammatika nivchskogo jazyka*. Vol. 2. Moskva: Nauka.

Papp, István. 1962. Zur frage der kongruenz des Adjektivattributs im Finnischen. In *Commentationes Fenno-Ugricae in honorem Paavo Ravila* (Suomalais-Ugrilaisen Seuran Toimituksia 125), 399–412. Helsinki: Suomais-Ugrilainen Seura.

Paris, Catherine. 1994. West Circassian (Adyghe: Abzakh dialect). In George B. Hewitt (ed.), *The North West Caucasian languages*, vol. 2 (The indigenous languages of the Caucasus), 155–260. Delmar: Caravan Books.

Pavlov, Ivan P. 1985. Kategorija vydelenija v sovremennom čuvašskom jazyke. In Ivan P. Pavlov (ed.), *Issledovanija po fonetike, morfologii i frazeologii sovremennogo čuvašskogo jazyka*, 3–15. Čeboksary: Naučno-issledovatel'skij institut jazyka, literatura, istorii i ėkonomiki.

Payne, John. 1989. Pamir languages. In Rüdiger Schmitt (ed.), *Compendium linguarum iranicarum*, 417–444. Wiesbaden: Ludwig Reichert.

Petrova, Taisija I. 1967. *Jazyk orokov (ul'ta)*. Leningrad: Nauka.

Philippi, Julia. 1997. The rise of the article in the Germanic languages. In Ans van Kemenade & Nigel Vincent (eds.), *Parameters of morphosyntactic change*, 62–93. Cambridge University Press.

Phillips, John D. 2004. *Manx grammar* (Languages of the World/Materials 434). München: LINCOM Europa.
Plank, Frans. 2003. Double articulation. In Frans Plank (ed.), *Noun phrase structure in the languages of Europe* (Empirical Approaches to Language Typology/EUROTYP 20-7), 337–395. Berlin: Mouton de Gruyter.
Pohl, Heinz Dieter. 1980. Baltisch und Slavisch: Die fiktion von der baltisch-slavischen Spracheinheit. Erster Teil. *Klagenfurter Beiträge zur Sprachwissenschaft* 6. 58–101.
Pokrovskaja, Ljudmila A. 1997. Gagauzskij jazyk. In Ėdgem R. Tenišev (ed.) (Jazyki mira), 224–235. Moskva: Indrik.
Poppe, Nicholas. 1963. *Tatar manual: Descriptive grammar and texts with a Tatar-English glossary* (Uralic and Altaic Series 25). Bloomington: Indiana University.
Poppe, Nicholas. 1964. *Bashkir manual: Descriptive grammar and texts with a Bashkir-English glossary* (Uralic and Altaic Series 36). Bloomington: Indiana University.
Posner, Rebecca. 1996. *The Romance languages* (Cambridge Language Surveys). Cambridge: Cambridge University Press.
Press, Ian. 2005. *Standard Lithuanian* (Languages of the World/Materials 439). München: LINCOM Europa.
Priestly, Tom M. S. 1993. Slovene. In Bernard Comrie & Greville G. Corbett (eds.), *The Slavonic languages* (Routledge Language Family Descriptions), 388–451. London: Routledge.
Pustet, Regina. 1989. *Die Morphosyntax des "Adjektivs" im Sprachvergleich* (Continuum. Schriftenreihe zur Linguistik 7). Frankfurt am Main: Peter Lang.
Pérez Bouza, José A. 1996. *El Gallego* (Languages of the World/Materials 70). München: LINCOM Europa.
Qvigstad, Just Knud. 1893. *Nordische Lehnwörter im Lappischen* (Christiania Videnskabs-Selskabs Forhandlinger for 1893 1). Christiania: Christiania Videnskabs-Selskab.
Rastorgueva, Vera S. & Herbert H. Paper. 1963. *A short sketch of Tajik grammar* (Publications / Research Center in Anthropology, Folklore and Linguistics 28). Bloomington: Indiana University.
Rausch, Peter J. 1912. Die Sprache von Südost-Bougainville, Deutsche Salomoninseln. *Anthropos* 7. 105–134, 585–616, 964–994.
Ravila, Paavo. 1941. über die Verwendung der Numeruszeichen in den uralischen Sprachen. *Finnisch-ugrische Forschungen* 27. 1–136.
Reese, Johannes. 2006. *Swiss German: The modern Alemannic vernacular in and around Zurich* (Languages of the World/Materials 462). München: LINCOM Europa.

Refsing, Kirsten. 1986. *The Ainu language: The morphology and syntax of the Shizunai dialect.* Aarhus: University Press.

Reh, Mechthild. 1985. *Die krongo-sprache (nìinò mó-dì): Beschreibung, texte, wörterverzeichnis.* Berlin: Reimer.

de Reuse, Willem Joseph. 1994. *Siberian Yupik Eskimo: The language and its contacts with Chukchi* (Studies in the Indigenous languages of the Americas). Salt Lake City: University of Utah Press.

Riese, Timothy. 2003. *Vogul (Mansi)* (Languages of the World/Materials 158). München: LINCOM Europa.

Rießler, Michael. 2001. North Scandinavian and Saami – two morphosyntactic parallels. In Arthur Holmer, Jan-Olof Svantesson & Åke Viberg (eds.), *Proceedings of the 18th Scandinavian Conference of Linguistics* (Travaux de l'Institut de Linguistique de Lund 39:2), 168–179. Lund: Lunds universitet.

Rießler, Michael. 2002. Samiskt och finskt substrat i nordskandinaviska dialekter. In Jurij Kusmenko & Sven Lange (eds.), *Strövtåg i nordisk språkvetenskap: Föredrag från det 5:e studentkollokviet i nordisk språkvetenskap* (Kleine Schriften des Nordeuropa-Instituts 27), 78–90. Berlin: Nordeuropa-Institut.

Rießler, Michael. 2006a. Die evolution attributiver markierungen im nordgermanischen. In Antje Hornscheidt, Kristina Kotcheva, Tomas Milosch & Michael Rießler (eds.), *Grenzgänger*. Festschrift zum 65. Geburtstag von Jurij Kusmenko (Berliner Beiträge zur Skandinavistik 9), 258–274. Berlin: Humboldt-Universität zu Berlin.

Rießler, Michael. 2006b. On samiskans attributiva adjektivform. In Andrea Amft & Mikael Svonni (eds.), *Sápmi Y1K: Livet i samernas bosättningsområde för ett tusen år sedan*, 135–150. Umeå: Umeå universitet.

Rießler, Michael. 2009. Loanwords in Kildin Saami, a Uralic language of northern Europe. In Martin Haspelmath & Uri Tadmor (eds.), *Loanwords in the world's languages: a comparative handbook of lexical borrowing*, 384–413. Berlin: de Gruyter Mouton.

Rießler, Michael. 2011. *Typology and evolution of adjective attribution marking in the languages of northern Eurasia.* [CD-ROM]. Leipzig: Universität Leipzig PhD thesis. http://d-nb.info/1013503309/.

Rijkhoff, Jan. 2002. *The noun phrase* (Oxford studies in typology and linguistic theory). Oxford: Oxford University Press.

Ringe, Don. 2006. *From Proto-Indo-European to Proto-Germanic*. Vol. 1: A Linguistic History of English. Oxford: Oxford University Press.

Ringgaard, Kristian. 1960. *Vestjysk stød.* Aarhus: Universitetsforlaget.

Robert A. Hall, Jr. 1938. An analytical grammar of the Hungarian language. *Language* 14(2). 9–113.
Ross, Malcolm. 1998. Possessive like attributive constructions in the Oceanic languages of Northwest Melanesia. *Oceanic Linguistics* 37(2). 234–276.
Rubin, Edward J. 1994. *Modification: A syntactic analysis and its consequences*. Ithaca: Cornell University PhD thesis.
Ruge, Hans. 1986. *Grammatik des neugriechischen: Lautlehre, formenlehre, syntax*. Köln: Romiosini.
Saadiev, Šamseddin M. 1994. Kryts. In Rieks Smeets (ed.), *The North East Caucasian languages 2*, vol. 4 (The indigenous languages of the Caucasus), 407–446. Delmar: Caravan Books.
Saidova, Patimat A. 2000. Andijskij jazyk. In Gadži G. Gamzatov (ed.) (Jazyki narodov Rossii 1), 275–288. Machačkala: IJALII.
Saidova, Patimat A. 2004. Ghodoberi. In Michael Job (ed.), *The North East Caucasian languages 2*, vol. 3 (The indigenous languages of the Caucasus), 69–112. Ann Arbour: Caravan Books.
Salminen, Tapani. 1998. Tundra nenets. In Daniel Abondolo (ed.) (Routledge Language Family Descriptions). London: Routledge.
Salminen, Tapani. 2007. Europe and North Asia. In Christopher Moseley (ed.), *Encyclopedia of the world's endangered languages*, 211–280. London: Routledge.
Saltarelli, Mario. 1988. *Basque* (Croom Helm Descriptive Grammars). London: Croom Helm.
Sammallahti, Pekka. 1998. *The Saami languages: An introduction*. Kárášjohka: Davvi Girji.
Samvelian, Pollet. 2007a. A (phrasal) affix analysis of the Persian *ezafe*. *Journal of Linguistics* 43(3). 605–645.
Samvelian, Pollet. 2007b. The Ezafe as a head-marking inflectional affix: Evidence from Persian and Kurmanji Kurdish. In S. Karimi, V. Samiian & Don Stilo (eds.), *Aspects of Iranian linguistics: Papers in honor of Mohammad Reza Bateni*, 339–361. Cambridge: Cambridge Scholars Publishing.
Sandström, Göran & Anders Holmberg. 2003. Ett polysyntetiskt drag i svenska dialekter. In Øystein A. Vangsnes, Anders Holmberg & Lars-Olof Delsing (eds.) (Tromsø-studier i språkvitenskap 22), 99–111. Tromsø: Novus.
Sarv, Marju. 2001. Predicative and attributive forms of adjectives in Kola and Skolt Sami dialects. In Tõnu Seilenthal, Anu Nurk & Triinu Palo (eds.), *Congressus nonus internationalis fenno-ugristarum 7.-13.8.2000. tartu*, 150–157. Tartu: Eesti Fennougristide Komitee.

Sasse, Hans-Jürgen. 1991. *Arvanitika: Die albanischen Sprachreste in griechenland.* Vol. 1. Wiesbaden: Harrassowitz.

Saul, Janice E. & Nancy Freiberger Wilson. 1980. *Nung grammar* (Summer Institute of Linguistics Publications in Linguistics 62). Dallas: SIL.

Schaarschmidt, Gunter. 2004. *Upper Sorbian* (Languages of the World/Materials 160). München: LINCOM Europa.

Schachter, Paul. 1987. Tagalog. In Bernard Comrie (ed.), *The world's major languages* (Routledge Language Family Series), 936–958. London: Routledge.

Schackow, Diana. 2015. *A grammar of Yakkha* (Studies in Diversity Linguistics 7). Berlin: Language Science Press. DOI:10.17169/langsci.b66.106

Schanen, François & Jacqui Zimmer. 2005-2006. *Lëtzebuergesch Grammaire.* Vol. 1-3. Esch-sur-Alzette: Schortgen.

Schaub, Willi. 1985. *Babungo.* London: Croom Helm.

Schmidt, Karl Horst. 1959. Zur Komplexion attributiv bestimmter Nomina und zur Frage der "bestimmten Adjektiva". In Karl Hoffmann & Helmut Humbach (eds.), *Geburtstagsgabe für Wilhelm Wissmann: Ii Indogermanica – Orientalica* (Münchener Studien zur Sprachwissenschaft 14), 13–22. München: J. Kitzinger.

Schroeder, Christoph. 2002. Zur Nominalphrasenstruktur des Kirmancî. In W. Bublitz, M. von Roncador & H. Vater (eds.), *Philologie, Typologie und Sprachstruktur: Festschrift Winfried Boeder zum 65. Geburtstag*, 191–210. Frankfurt am Main: Peter Lang.

Schulze, Wolfgang. 1997. *Tsakhur* (Languages of the World/Materials 133). München: LINCOM Europa.

Schulze, Wolfgang. 2000. *Northern Talysh* (Languages of the World/Materials 380). München: Lincom Europa.

Schulze-Fürhoff, Wolfgang. 1994. Udi. In Rieks Smeets (ed.), *The North East Caucasian languages 2*, vol. 4 (The indigenous languages of the Caucasus), 447–514. Delmar: Caravan Books.

Schäfer, Roland. 2015. *Einführung in die grammatische beschreibung des deutschen.* German (Textbooks in Language Sciences 2). Berlin: Language Science Press. DOI:10.17169/langsci.b17.34

Seegmiller, Steve. 1996. *Karachay* (Languages of the World/Materials 109). München: Lincom Europa.

Senkevič-Gudkova, Viktorija V. 1968. O differencjal'nych morfologičeskich priznakach imeni prilagatel'nogo v saamskom jazyke (na materiale notozerskogo dialekta): Na materiale jazykov različnych tipov. In Viktor M. Žirmunskij & Orest P. Sunik (eds.), *Voprosy teorii častej reči*, 274–281. Leningrad: Nauka.

Serebrennikov, Boris A. 1963. *Istoričeskaja morfologija permskich jazykov*. Moskva: Nauka.
Shevelov, George Y. 1993. Ukrainian. In Bernard Comrie & Greville G. Corbett (eds.), *The Slavonic languages* (Routledge Language Family Descriptions), 947–998. London: Routledge.
Short, David. 1993. Slovak. In Bernard Comrie & Greville G. Corbett (eds.), *The Slavonic languages* (Routledge Language Family Descriptions), 533–592. London: Routledge.
Siegl, Florian. 2013. *Materials on Forest Enets, an indigenous language of northern Siberia* (Suomalais-Ugrilaisen Seuran Toimituksia 267). Helsinki: Suomalais-Ugrilainen Seura.
Silvestri, Domenico. 1998. The Italic languages. In Anna Giacalone Ramat & Paolo Ramat (eds.) (Routledge language family descriptions), 322–344. London: Routledge.
Skorik, Petr Ja. 1960. *Grammatika čukotskogo jazyka: Fonetika i morfologija imennych častej reči*. Moskva: Nauka.
Skribnik, Elena. 2003. Buryat. In Juha Janhunen (ed.) (Routledge Language Family Series 5), 102–128. London: Routledge.
Sköld, Tryggve. 1954. Om uttalet av runan R och några nordiska lånord i lapskan. In Dag Strömbeck (ed.), *Scandinavia at Fenno-Ugrica: studier tillägnade Björn Collinder*, 33–48. Stockholm: Almqvist & Wiksell.
Slater, Keith W. 2003. Mangghuer. In Juha Janhunen (ed.) (Routledge Language Family Series 5), 307–324. London: Routledge.
Sorokina, Irina P. 2010. *Ėneckij jazyk*. Saint Petersburg: Nauka.
Spiik, Nils Eric. 1989. *Lulesamisk grammatik*. Second, revised edition. Jokkmokk: Sameskolstyrelsen.
Steele, Susan. 1978. Word order variation: A typological study. In Joseph H. Greenberg, Charles A. Ferguson & Edith A. Moravcsik (eds.), *Universals of human language 4. Syntax*, 585–623. Stanford: Stanford University Press.
Stilo, Donald. 2005. Iranian as buffer zone between the universal typologies of Turkic and Semitic. In Éva Ágnes Csató, Bo Isaksson & Carina Jahani (eds.), *Linguistic convergence and areal diffusion: case studies from Iranian, Semitic and Turkic* (Forum for Modern Language Studies 41:1), 35–63. London: Routledge Curzon.
Stolz, Thomas. 2015. Adjective-noun agreement in language contact: Loss, realignment and innovation. In Francesco Gardani, Peter Arkadiev & Nino Amiridze (eds.), *Borrowed morphology* (Language Contact and Bilingualism 8), 269–301. Berlin: De Gruyter Mouton.

Stone, Gerald. 1993a. Cassubian. In Bernard Comrie & Greville G. Corbett (eds.), *The Slavonic languages* (Routledge Language Family Descriptions), 759–794. London: Routledge.

Stone, Gerald. 1993b. Sorbian. In Bernard Comrie & Greville G. Corbett (eds.), *The Slavonic languages* (Routledge Language Family Descriptions), 593–685. London: Routledge.

Stroomer, Harry. 1995. *A grammar of Boraane Oromo (Kenya)* (Cushitic Language Studies 11). Köln: Köppe.

Sunik, Orest P. 1968. Tunguso-man'čžurskie jazyki (vvedenie). In Viktor V. Vinogradov & Petr Ja. Skorik (eds.) (Jazyki narodov SSSR 5), 53–67. Moskva: Nauka.

Sunik, Orest P. 1985. *Ul'čskij jazyk: Issledovanija i materialy*. Leningrad: Nauka.

Svantesson, Jan-Olof. 2003. Khalkha. In Juha Janhunen (ed.) (Routledge Language Family Series 5), 154–176. London: Routledge.

Svonni, Mikael. 2009. *Samisk grammatik: Kompendium*. Tromsø: Universitetet i Tromsø.

Szakos, József. 1994. *Die sprache der cou: Untersuchungen zur synchronie einer austronesischen sprache auf taiwan*. Köln: Rheinische Friedrich-Wilhelms-Universität PhD thesis.

Talibov, Bukar B. 2004. Tsakhur. In Michael Job (ed.), *The North East Caucasian languages 2*, vol. 3 (The indigenous languages of the Caucasus), 347–419. Ann Arbour: Caravan Books.

Tatevosov, Sergej G. 1996. In Alexandr E. Kibrik (ed.), *Godoberi: Ii. attributives* (LINCOM Studies in Caucasian Linguistics 2), 20–35. München: LINCOM Europa.

Tauli, Valter. 1955. On the foreign contacts of the Uralic languages. *Ural-Altaische Jahrbücher* 27. 7–31.

Tauli, Valter. 1966. *Structural tendencies in Uralic languages* (Uralic and Altaic Series 17). Bloomington: Indiana University.

Tenser, Anton. 2005. *Lithuanian Romani* (Languages of the World/Materials 452). München: LINCOM Europa.

Ternes, Elmar. 1992. The Breton language. In Donald MacAulay (ed.) (Cambridge Language Surveys), 371–452. Cambridge: Cambridge University Press.

Testelets, Yakov G. 1998. Word order variation in some SOV languages of Europe. In Anna Siewierska (ed.), *Constituent order in the languages of Europe* (Empirical Approaches to Language Typology 20:1), 649–679. Berlin: Mouton de Gruyter.

Thomas, Alan R. 1992a. The Cornish language. In Donald MacAulay (ed.) (Cambridge Language Surveys), 346–370. Cambridge: Cambridge University Press.

Thomas, Alan R. 1992b. The Welsh language. In Donald MacAulay (ed.) (Cambridge Language Surveys), 251–345. Cambridge: Cambridge University Press.
Thomson, Robert L. 1992. The Manx language. In Donald MacAulay (ed.) (Cambridge Language Surveys), 100–136. Cambridge: Cambridge University Press.
Thordarson, Fridrik. 1989. Ossetic. In Rüdiger Schmitt (ed.), *Compendium linguarum iranicarum*, 456–79. Wiesbaden: Reichert.
Tiersma, Peter Meijes. 1985. *Frisian reference grammar*. Dordrecht: Foris.
Tolstoj, Nikita I. 1957. Značenie polnych i kratkich form prilagatelnych v staroslavjanskom jazyke. *Voprosy slavjanskogo jazykoznanija* 2. 45–122.
Torrego, Leonardo Gómez. 1998. *Gramática didáctica del Español*. Madrid: SM.
Trost, Pavel. 1966. O složeném adjektivu baltoslovanském. In Zdeňka Havránková & Jaroslav Popela (eds.), *Prof. dr. Antonínu Dostálovi, DrSc., k 60. narozeninám* (Bulletin Ústavu ruského jazyka a literatury 10), 35–38. Praha: Universita Karlova.
Tsumagari, Toshiro. 2003. Dagur. In Juha Janhunen (ed.) (Routledge Language Family Series 5), 129–153. London: Routledge.
Tucker, Childs G. 1995. *A grammar of Kisi: A Southern Atlantic language* (Mouton Grammar Library 16). Berlin: Mouton de Gruyter.
Tuite, Kevin. 1997. *Svan* (Languages of the World/Materials 139). München: LINCOM Europa.
Tuite, Kevin. 1998. *Kartvelian morphosyntax: Number agreement and morphosyntactic orientation in the South Caucasian languages* (LINCOM Studies in Caucasian Linguistics 12). München: LINCOM Europa.
Ubrjatova, Elizaveta I. 1985. *Jazyk noril'skich dolgan*. Novosibirsk: Nauka.
Vajda, Edward J. 2004. *Ket* (Languages of the World/Materials 2004). München: LINCOM Europa.
Vajda, Edward J. 2005. *Ket language structure in typological perspective*. Talk given at the Max Planck Institute for Evolutionary Anthropology, Leipzig.
Van Pottelberge, Jeroen. 2001. Sprachbünde: Beschreiben sie sprachen oder linguisten? *Linguistik online* 8. http://www.linguistik-online.de/1_01/VanPottelberge.html.
Viitso, Tiit-Rein. 1998. Estonian. In Daniel Abondolo (ed.) (Routledge Language Family Descriptions), 115–148. London: Routledge.
Volodin, Aleksandr P. 1997. Itel'menskij jazyk. In Viktorija N. Jarceva (ed.), *Paleoaziatskie jazyki* (Jazyki mira), 60–71. Moskva: Indrik.
Chrestomathia Nganasanica. 2002. In Beáta Wagner-Nagy (ed.) (Studia Uralo-Altaica (Supplementum) 10). Szeged: SzTE Finnugor Tanszék.

Watkins, Calvert. 1998. Proto-Indo-European: Comparison and reconstruction. In Anna Giacalone Ramat & Paolo Ramat (eds.) (Routledge language family descriptions), 25–73. London: Routledge.
Weiers, Michael. 2003. Moghol. In Juha Janhunen (ed.) (Routledge Language Family Series 5), 248–264. London: Routledge.
Werner, Heinrich. 1997. Jenisejskie jazyki. In Viktorija N. Jarceva (ed.), *Paleoaziatskie jazyki* (Jazyki mira), 169–177. Moskva: Indrik.
Wetzer, Harrie. 1996. *The typology of adjectival predication* (Empirical Approaches to Language Typology 17). Berlin: Mouton de Gruyter.
Wheatley, Julian K. 1987. Burmese. In Bernard Comrie (ed.), *The world's major languages* (Routledge Language Family Series), 834–854. London: Routledge.
Whorf, Benjamin L. 1946. The Hopi language, Toreva dialect. In Cornelius Osgood & Harry Hoijer (eds.), *Linguistic structures of Native America* (Viking Fund Publications in Anthropology 6), 158–183. New York: Viking Fund.
van Wijk, Nicolaas. 1935. Eine slavisch-germanische syntaktische Parallele. *Germanoslavica* 3(1). 19–30.
Wilbur, Joshua. 2014. *A grammar of Pite Saami* (Studies in Diversity Linguistics 5). Berlin: Language Science Press. DOI:10.17169/langsci.b17.34
Winkler, Eberhard. 2001. *Udmurt* (Languages of the World/Materials 212). München: LINCOM Europa.
Wissemann, Heinz. 1958. Zur nominalen Determination i: Die Grundfunktion des bestimmten Adjektivs im Baltischen und Slavischen. *Indogermanische Forschungen* 63(1). 61–78.
Wolff, Ekkehard H. 1993. *Referenzgrammatik des Hausa: Zur Begleitung des Fremdsprachenunterrichts und zur Einführung in das Selbststudium* (Hamburger Beiträge zur Afrikanistik 2). Münster: Lit.
Yue, Anne O. 2003. Chinese dialects: Grammar. In Graham Thurgood & Randy J. LaPolla (eds.), *The Sino-Tibetan languages* (Routledge Language Family Series), 84–125. London: Routledge.
Zajceva, Marija I. 1981. *Grammatika vepsskogo jazyka: Fonetika i morfologija.* Leningrad: Nauka.
Zajkov, Petr M. 1999. *Grammatika karel'skogo jazyka (fonetika i morfologija).* Petrozavodsk: Periodika.
Zavodova, Raisa A. & Michail N. Koljadenkov. 1964. *Grammatika mordovskich (mokšanskogo i ėrzjanskogo) jazykov.* Moskva: Nauka.
Zevachina, Tat'jana S. 2001. Funkcional'no-grammatičeskaja parametrizacija prilagatel'nogo (po dannym polevogo issledovanija dunganskogo jazyka). In Vik-

torija V. Krasnych & Andrej I. Izotov (eds.), *Jazyk, soznanie, kommunikacija. vypusk 20*, 69–86. Moskva: MAKS Press.
Zlatić, Larisa. 1997. *The structure of the Serbian noun phrase*. Austin: The University of Texas at Austin PhD thesis.
Zwarts, Joost. 2003. *The phonology of Endo: A Southern Nilotic language of Kenya*. Utrecht: Universiteit Utrecht PhD thesis.
Zúñiga, Fernando. 2000. *Mapudungun* (Languages of the World/Materials 376). München: LINCOM Europa.
Åström, Per. 1893. *Degerforsmålets formlära* (Svenska landsmål och svenskt folkliv 13:2). Stockholm: Kungliga Gustav Adolfs Akademien för svensk folkkultur.
Šaumjan, R. M. 1941. *Grammatičeskij očerk agul'skogo jazyka: S tekstami i slovarem* (Caucasica 2). Moskva: Nauka.
Širaliev, M. Š. & Ė. V. Sevort'an. 1971. *Grammatika azerbajdžanskogo jazyka (fonetika, morfologija i sintaksis)*. Baku: Ėlm.
Žirkov, Lev I. 1955. *Lakskij jazyk: Fonetika i morfologija*. Moskva: Nauka.
Žukova, Alevtina N. 1997. Korjakskij jazyk. In Viktorija N. Jarceva (ed.), *Paleoaziatskie jazyki* (Jazyki mira), 39–53. Moskva: Indrik.

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Adjective attribution

This book is the first typological study of adjective attribution marking. Its focus lies on northern Eurasia, although it covers many more languages and presents an ontology of morphosyntactic categories relevant to noun phrase structure in general. Beside treating synchronic data, the study contributes to historical linguistics by reconstructing the origin of new types specifically in the language contact area between the Indo-European and Uralic families.

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