Versatile cases[1]

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Case markers are thought of primarily as nominal morphemes, indicating the function of a noun phrase in a clause. In a few languages of the world case markers also appear on verbal forms. Such 'versatile' cases can express (i) temporal, causal and other relationships between clauses, and (ii) aspectual and modal meanings within a clause. Core cases tend to express aspectual and modal meanings, while oblique cases tend to be used as clause-linkers. The recurrent semantic differences between case morphemes as nominal markers, as clause-linking devices, and as exponents of clausal categories are rooted in the inherent polyfunctionality of these 'chameleon' morphemes: the specific meaning of any instance is affected by the morphosyntactic context in which it occurs. The conclusions are corroborated by a case study of Manambu, a Papuan language with extensive use of cases on nouns and on verbs, as exponents of aspectual and modal meanings and as clause-linking devices.

1. CASE ON VERBS?

Case is conventionally defined as a nominal category, whose major function is to mark the role of the noun phrase in a clause (see Matthews 1997, Blake 2001: 1, Dixon forthcoming a). Functions of a noun phrase in a clause can be marked with a bound morpheme, or with an adposition (a preposition or postposition; see Iggesen 2005: 2, and Blake 2001: 9–12, on 'synthetic' cases expressed with bound morphemes, and 'analytic cases' expressed with adpositions).

  In a number of languages of the world, case markers – bound morphemes or adpositions – are not restricted to noun phrases. They also appear on verb

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roots or inflected verbal forms. Similarities in meaning between the case marker on nouns and the same form on verbs are such that it appears counterintuitive to brush such instances aside as pure coincidence and fortuitous homonymy. Languages for which this phenomenon has been described are listed in appendix 1 (alongside additional extended uses of case not included in this discussion). This paper is the first attempt at a cross-linguistic analysis of case morphemes marking categories other than grammatical relations within a clause. 'Verbal' cases can express:

(i)   temporal, causal and other relationships between clauses, and
(ii) aspectual and modal meanings within a clause.

If used as a clause-linking device, a case has a whole clause – rather than just a noun phrase – as its scope. This is comparable to the use, in some languages, of the same set of conjunctions to coordinate noun phrases and clauses. Cases can mark obligatory (core) arguments or optional obliques (non-core, peripherals, or adjuncts).[2] We will see, throughout the paper, that core and non-core cases on verbs display somewhat different behaviours. The existence of such 'versatile' cases takes us to a broader issue: a category traditionally associated with one word class can in fact be associated with other classes.

This issue is not entirely new. For instance, tense, aspect and mood are commonly viewed as verbal categories par excellence. Recently, Nordlinger & Sadler (2004) have demonstrated that these can also be categories of nominals.[3] Another example of a verbal category is evidentiality, the grammaticalized expression of information source (Aikhenvald 2004 and references there). However, in a few languages, a noun phrase within a clause can occur marked with an evidential which is different from the evidential specification of the clause (marked on its verbal predicate), to signal that the information about this noun phrase was acquired from a different source than that of the verb (see Aikhenvald 2004: 88).

Example (1), from Jarawara, illustrates this. Jarawara has an obligatory firsthand versus non-firsthand evidential distinction in all past tenses, and also a reported evidential. The example comes from a story which relates the personal experience of the speaker who had seen the day dawn. This is why

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[2] This distinction parallels what Kuryłowicz (1964) called grammatical and semantic case: roughly, grammatical case expresses a purely grammatical relation required by the frame of a particular verb or set of verbs (which can be said to 'govern' or 'require' it – just as the verb 'fear' in Manambu requires dative). Semantic case expresses a semantic relation not obligatorily required by the verb's argument structure, e.g. location (see also Blake 2001: 31–34, on the lack of clear boundaries between these notions). This distinction only partly overlaps with the notions of structural and inherent, or lexical, case, in some formal approaches: see Kiparsky (1998, 2001), and references there. See also the survey in Iggesen (2005: 1–33).

[3] For further alternative interpretations, see Tonhauser (2006).

the verb is cast in firsthand evidential. The event took place a long time ago: this accounts for the remote past form of the verb 'become dawn' (Dixon 2004: 193). However, the speaker's source of information about the fact that the place where the day dawned was the mouth of the Banawá River is hearsay (he had seen the place, but was told what the place was). This is why the oblique noun phrase in (1) is marked for reported evidentiality.[4]

(1) {[[[Banawaa batori]-tee-**mone**]   jaa]   faja otaa
        Banawá   mouth-CUST-REP.fem at   then INSG.EXC.S
     ka-waha-**ro**   otaa-ke}
     APPL-become.dawn-REM.P.FIRSTHAND.fem INSG-DECL.fem
     'Then the day dawned on us (FIRSTHAND) (lit. we with-dawned) at the place REPORTED to be the mouth of the Banawá River'

Such differential marking of information source on different clausal constituents is reminiscent of nominal tense marking whereby the time reference of a noun or a noun phrase may be different from that of the clause, as in (2), from Tariana:

(2) [diha panisi-**pena**]   alia-**pidana**
     he   house-FUT.NOMINAL exist-REM.P.REP
     'There (reportedly) was his future house'

Tense, aspect, mood, and evidentiality on nominals share their meanings with tense, aspect, mood and evidentiality on verbs (even if they are expressed differently: see the discussion in Nordlinger & Sadler 2004). For instance, in Tariana, nominal and verbal future cover future reference, and past covers past (Aikhenvald 2003: 183–187). That is, their meaning does not significantly change depending on where they occur.

Some affixes can occur on nouns and on verbs with essentially the same meaning. In Classical Sanskrit, the suffix -*tara* was used to form 'the comparative degree of adjectives and rarely … of substantives', 'added (in older language) to adverbs … and (in later language) to verbs' (Monier-Williams 1899: 438). Comparative on adjectives and nouns marks comparison of qualities, e.g. adjective *priyá* 'beloved, dear', comparative *priyátara* 'dearer' (Whitney 1891: 175; Monier-Williams 1899: 710); noun *vīrá* 'man; hero', comparative *vīrátara* 'stronger man; greater hero' (Whitney 1891: 176; Monier-Williams 1899: 1005). Comparative on verbs marks comparison of actions or states, e.g. *vyatháyati* 'to disquiet, agitate' (causative of *vyath* 'tremble, fail'), comparative *vyathayatitarā*(*m*) 'disturbs more' (Whitney 1891: 176; Monier-Williams 1899: 1005).

In other languages, verbs, just like nouns, may occur with diminutive marking – compare Late Medieval Latin *scribillare* 'scribble, write a bit', a

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[4] Here and elsewhere phrasal constituents are in square brackets; clauses are in braces. A list of abbreviations used in this article will be found below, after the appendices.

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diminutive formation on Latin *scribere* 'write' (containing the same marker as nominal diminutives, e.g. *asellus* 'young donkey' and many others; Palmer 1954: 236f.). The same morpheme means 'do a bit' with verbs and 'small size; young age' with nouns. This does not mean that we have two different morphemes. Their general meanings remain the same, and the relatively minor semantic difference is a side-effect of the meanings of prototypical verbs and of prototypical nouns. A verb refers to an activity, and a noun to a 'thing'. Along similar lines, in Tariana (Arawak: Aikhenvald 2003: 193–195, 366f.) diminutive and augmentative enclitics occur both with verbs and on nouns. The diminutive with nouns implies the small size or young age of the referent. With verbs, it marks small extent of action, that is, doing something 'a little bit'. The augmentative on nominals expresses large size of the referent, while on verbs it indicates an intensive action or state (and has an overtone of 'really').[5]

That is, the meaning of a morpheme used in different morphosyntactic contexts changes because of the context itself. In line with this, the functions and meanings of cases on verbal forms, clauses and noun phrases tend to be similar but not identical. The recurrent semantic correspondences between them can be traced back to the inherent semantic differences between prototypical nouns and verbs, and to the semantic principles behind clause linking. Such a morpheme is not polysemous (in the sense of having an array of distinct but related meanings: Lyons 1977: 561); rather, it has a prototypical or central meaning specified by the morphosyntactic context.

We start with a typological perspective on verbal case, focussing on the meanings and functions of case morphemes on verbs, as clause-linkers and as markers of clausal categories (section 2). A case study of multiple functions of versatile case morphemes in Manambu, a Papuan language from the Sepik area of New Guinea, is given in section 3. The final section contains brief conclusions.

2. TYPOLOGICAL PERSPECTIVE ON VERSATILE CASE

2.1 *Where can case morphemes go?*

Case markers can appear on (a) fully or partially inflected verbs; and (b) unmarked verb roots. A case marker with clausal scope may be able to occur on any single constituent in a clause, or on several constituents, or at the margins of a clause. Table 1 contains a summary of morphosyntactic

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[5] Further examples include number marking on nouns and on verbs as different and partly overlapping systems (see Durie 1986; Newman 1990); classifiers and genders in various morphosyntactic environments (see Aikhenvald 2000); and different effects of reduplication depending on the word class it applies to (see Beck 2002; Hajek 2004: 355; Lynch, Ross & Crowley 2003: 44). See also Haude (2006: 239–243) on the applicative suffix used with verbs and with nouns in Movima. The vast majority of languages with such versatile affixes present no difficulty in distinguishing verbs from nouns.

VERB FORM	FUNCTION OF RESULTING FORM	LOCUS	EXAMPLE LANGUAGES
I. Inflected verb	clause-linking device (with fewer categories expressed in subordinate clauses than in main clauses)	on predicate	Tariana (Arawak)semi; Bāgandji, Djambarrpuyngu, Martuthunira (Australian area); Rama (Chibchan); numerous Tibeto-Burman languages
		at clause margins	English; Cantonese (Sinitic); Emerillon (Tupí-Guaraní)
		on any single constituent	Murinypata (Australian area)
		on several constituents of non-main clause	Yukulta, Ngarluma and Panyjima (Australian area)
II. Verb root	aspect and mood in main clause	on predicate	Lepcha (Tibeto-Burman); Kala Lagaw Ya (Australian area)

Table 1
Case morphemes on verb roots and on inflected verbs

contexts (or loci) of cases and the functions of the resulting forms, with example languages.[6]

As mentioned in section 1, functions of a noun phrase in a clause can be expressed either through bound case morphemes or through adpositions (see Blake 2001). Table 1 includes both versatile nominal cases and versatile adpositions (e.g. prepositions in English, postpositions in Rama). Based on this summary, we can note two tendencies, discussed at A and B below.

A. If a case morpheme occurs on an inflected verb, it is most likely to be used as a clause-linking device. In such a use, the 'case-marked' verb is the predicate of a subordinate clause, and thus tends to express fewer categories than would be possible in main clauses. For instance, Tariana (Arawak: Aikhenvald 2003: 524) employs two case morphemes on verbs inflected for person. The marker -*se*, whose meaning with noun phrases covers location, direction and source, means 'as soon as' when used as a clause-linker. The case marker -*ne* 'instrument; reason; location "along"; comitative "together with"' marks clauses with the meaning of 'reason' (Aikhenvald 2003: 530f.; 2006: 185f.). Example (3), from Tariana (author's fieldnotes), illustrates -*se* both on a noun phrase and with a clausal scope.

(3) {panisi-se   nu-nu-se}   {nu-wana-de pi-na}
     house-LOC 1sg-come-LOC/AS.SOON.AS   1sg-call-FUT 2sg-OBJ
     'As soon as I come into the house I will call you'[7]

A case marker with clausal scope may have additional freedom in its position within the clause which a nominal case lacks. For instance, in Murinypata (Australian: Walsh 1976: 163, 263–266) the ergative-instrumental inflection – which attaches to nouns – is the same as the affix 'when', which

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[6] I will not consider adnominal-only 'cases' (that is, cases which express only relationships of a noun phrase within another noun phrase, as opposed to a noun phrase within a clause; adnominal cases include the genitive in Ket, or the 'proprietive' and 'privative' in Australian languages). Some forms mark both the relationship of one noun to another within a noun phrase (adnominal function) and the function of a noun phrase within a clause (clausal, or 'relational', function), as with locational cases in numerous Australian languages and comitative in languages from other areas (see Aikhenvald 2003 on Tariana). These will only be considered as appropriate from the standpoint of their clausal functions. I will not consider here non-case-like nominal markers used as clause-linkers (e.g. morphemes like *eng* used as a 'determiner on "given noun phrases"' and a 'subordinating connective' between clauses in Usan (Reesink 1987: 83, 251).

[7] A non-main clause in Tariana cannot express tense or evidentiality. Since the case-marked clause in (3) is a non-main clause, neither tense nor evidentiality is marked. Along similar lines, dative-marked verbs in Bāgandji (Australian: Hercus 1982: 215) can occur with bound pronouns (subjects and objects), but do not mark any other categories (such as tense or mood). Postpositions used as 'subordinating morphemes' in Rama (Chibchan) are suffixed to tenseless verbs (Craig 1991: 469f.). The same holds for case-marked inflected verbs in Djambarrpuyngu (Australian: Wilkinson 1991: 629–653) and Martuthunira (Australian: Dench 1995).

can attach to any constituent (most often to verbs). In Yukulta (Australian: Keen 1983, Dench & Evans 1988: 22f.) a case marker as a clause-linking device can occur on any constituent except for the subject (similar phenomena have been noted in Ngarluma and Panyjima: Dench & Evans 1988: 23f.; see Dixon 2002: 238f. for a summary). Such curious facts are relevant for synchronic descriptions, but they are of little help in determining which context of the case marker is diachronically prior.

Other languages provide clues which are relevant for the path of development of the markers. A case-morpheme with clausal scope may have a different morpho-syntactic status than the same morpheme with a noun phrase. Postpositions in Rama are independent phonological and grammatical words (for instance, they have their own stress, and can be separated from the noun by intervening constituents), while the corresponding subordinators are suffixes. This difference in morpho-syntactic status is relevant for determining the direction of grammaticalization of these morphemes: from a postposition (a free morpheme) to a subordinator (a bound morpheme). A selection of these is shown in (4) (Craig 1991: 470).[8]

(4)   Postposition   Subordinator
    kama 'goal'   -*kama* 'purpose'
    ka(ng) 'ablative' -*ka*   'time, condition'
    su   'locative' -*su*   'time, after/upon'

Versatile cases can occupy different positions depending on whether their scope is a noun phrase or a clause. When used adnominally, they may be clitics or free morphemes (see section 1 above and Blake 2001: 9–12). Once they have clausal scope, they occur on clause margins (similarly to other clause-linkers in a given language). English has a number of such prepositions, as, for instance, *since*, which can be used with either a noun phrase or a clause as its scope (see (7a, b)–(8a)).[9]

B. Case morphology on a bare verbal root marks aspectual and modal categories, as in Lepcha (Tibeto-Burman: Plaisier 2006: 120) and in Kala Lagaw Ya (Kennedy 1984: 162). These morphemes show no differences in their morphosyntactic status or position in the clause whether they occur on noun phrases or on verbs. In (5), from Lepcha, the morpheme marking locative case on the noun phrase 'his house' also marks a hortative form of the verb:

(5)   hudo-sá   lí-ká   nóng-ká
    3sg.OBL-GEN house-LOC go-LOC
    'Let's go to his house'

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[8] Rose (2005) reports a similar situation in Maa (Nilo-Saharan; based on Payne 2004, which was not available to me).

[9] Similar examples are found in Cantonese (Matthews & Yip 1994: 285–299).

We will now turn to a brief survey of case markers as clause linkers and as markers of clausal categories.

2.2 *Cases as markers of clause linking*

2.2.1 *An overview*

Tables 2 and 3 contain a list of recurrent meaning correspondences between cases with noun phrases, and with clauses, as their scope. Table 2 features cases which combine core and non-core (oblique, or peripheral) functions (ergative-instrumental, ergative-ablative, etc.). Table 3 features cases that only have non-core functions (locative, allative, etc.). In each instance, I provide one or two illustrative examples of languages where such a phenomenon has been documented synchronically (the sources are listed in appendix 2).[10]

2.2.2 *Semantics of cases as clause linkers*

Polysemous cases which combine core and oblique functions appear to be more likely to have a clause as their scope than purely core cases. The few examples of purely core cases marking clause linking involve Muskogean languages (e.g. Koasati, where the nominative case suffix -*k* is identical to the same-subject switch reference suffix, and the accusative -*n* to the different-subject marker: see Kimball 1991: 225, 391–395, 522–525; parallel phenomena in Choctaw are in Nicklas 1974: 98, 211; see also Jelinek 1989: 135–137, and Jacobsen 1983: 176). In Yuman languages the erstwhile allative suffix -*m* came to be used as a same-subject marker in clause linking (Kendall 1975: 4, Langdon 1979: 630). In some Yuman languages it also developed into an object case and subsequently acquired the role of a clause complementizer (Jacobsen 1983: 175). The correlation between nominal core objective case and a complementizer was pointed out for Diegueño by Gorbet (1973: 221); see also Gorbet (1976: 121–128; 1979: 261–263) for the putative development of subjective case into a same-subject clause-linking morpheme. Muskogean and Yuman (where the interpretation varies depending on the reconstruction and approach) have not been included in table 2, so as to keep it relatively simple.

In Lepcha and Bodic languages (Tibeto-Burman), and in Murinypata and Djambarrpuyngu (Australian), the ergative case has an additional, oblique-argument marking function, and is employed to link clauses. In Kusunda, the accusative-purposive case marks direct object, recipient, beneficiary and purpose (in addition to 'dative subject'), and location; it is

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[10] Further examples can be found in Lichtenberk (1991) and Thurgood & LaPolla (2003). Lichtenberk (1991) also provides a discussion of a comitative adposition developing into a conjunction.

MEANING WITH NOUN PHRASES, AS CASE MARKER	MEANING WITH CLAUSES, AS CLAUSE LINKER	EXAMPLE LANGUAGES
Ergative/instrumental	because	Bodic (Tibeto-Burman), Limbu (Tibeto-Burman); Tauya (New Guinea area)
	when/while	Bodic; Murinhpatha (Australian area)
	causal/instrumental; temporal	Djambarrpuyngu (Australian area)
Ergative/ablative	'point of origin' and cause of action	Lepcha (Tibeto-Burman)
Accusative, dative, purposive, locative	purposive	Kusunda (isolate, Nepal)
Dative, goal, purpose	purposive	Bodic; Djambarrpuyngu; Rama (Chibchan)
	purposive; complement clause	Atong (Tibeto-Burman), Garo (Tibeto-Burman)
	purposive (SS)	Manambu (Ndu)
	optative-purposive (DS)	Bāgandji (Australian area)
	locative, relative, destination	Ket (Yenisseic)
Dative-instrumental	causal 'because'	Djambarrpuyngu (Australian area)
Benefactive	causal, conditional	Ket (Yenisseic)

Table 2

Meanings of cases having core uses, with noun phrases and with clauses

MEANING WITH NOUN PHRASES, AS CASE MARKER	MEANING WITH CLAUSES, AS CLAUSE LINKER	EXAMPLE LANGUAGES
Locative	if/although, when/while/after	Bodic
	when, while	Kham (Tibeto-Burman), Yamphu (Tibeto-Burman), Eastern Kayah Li (Tibeto-Burman); Manchu (Tungus-Manchurian)
	clausal complement	Eastern Kayah Li (Tibeto-Burman)
	purposive complement	Lepcha (Tibeto-Burman), Cogtse Gyarong (Tibeto-Burman)
	after, upon	Rama (Chibchan)
	as soon as	Tariana (Arawak); Galo (Tibeto-Burman)
	temporal, cotemporaneous, conditional	Ket (Yenisseic)
	locality; co-reference	Djambarrpuyngu (Australian area)
Ablative	when/while/after, because, condition, when	Bodic (Tibeto-Burman), Atong (Tibeto-Burman)
	causal	Lahu (Tibeto-Burman)
	condition	Rama (Chibchan); Qiang (Tibeto-Burman); Manchu (Tungus-Manchurian)
	after, if, before	Dulong-Rawang (Tibeto-Burman)
	temporal succession, then	Classical Tibetan (Tibeto-Burman)
	relative, locative, since (temporal/causal), positive purpose	Ket (Yenisseic) Toqabaqita (Oceanic)
	'precautionary', lest	Kwaio (Oceanic)
	motion from; cessation from; cause; start of temporal span; prior event	Djambarrpuyngu (Australian area)

Elative 'away from'	conditional 'if'	Kham (Tibeto-Burman), Classical Tibetan (Tibeto-Burman)
	'when'	Classical Tibetan (Tibeto-Burman)
	cause or reason	Yamphu (Tibeto-Burman)
Allative	purpose	Bodic (Tibeto-Burman)
	motion towards a situation; the situation in which O or IO is engaged	Djambarrpuyngu (Australian area)
Allative, purpose	reason, positive purpose	Toqabaqita (Oceanic)
Adessive	locative, causal, conditional	Ket (Yenisseic)
Lative 'up to'	until	Kham (Tibeto-Burman)
Prosecutive 'through, along'	temporal cotemporaneous; concurrent background action	Ket (Yenisseic)
Prolative 'by way/means of'	reason, 'until'	Toqabaqita (Oceanic)
Instrumental/comitative/perlative	reason; cause	Tariana (Arawak); Classical Tibetan (Tibeto-Burman)
Perlative	concurrent with main clause motion predicate; the situation which is the channel or means for the main clause situation	Djambarrpuyngu (Australian area)
Approximative 'about'	as long as/as much as	Kham (Tibeto-Burman)
Similative 'like'	the same way as	Limbu (Tibeto-Burman); Kwoma (Nukuma family, New Guinea area)
Sociative 'together'	sequence of events	Yamphu (Tibeto-Burman); Toqabaqita (Oceanic)
Causal 'because'	apprehensive 'lest'	Pitta-Pitta (Australian area)

Table 3
Meanings of cases lacking core uses, with noun phrases and with clauses

also employed as a clause-linking device. Tables 2 and 3 show that there are few if any semantic differences between core and non-core cases when they are used as clause-linking markers. The two sets of case-markers are presented in separate tables simply for ease of reference.

Cases and adpositions on noun phrases mark the functions of those noun phrases within the clause (see the overview in Blake 2001). In contrast, the meanings of the same morphemes as clause linkers are consistent with the major semantic types of clause linking (see Dixon forthcoming b; and also the partial list in Thompson & Longacre 1985: 177), which include temporal sequence, condition, cause, purpose, possible consequence, location, and manner. Case markers are also used as complementizers. There appear to be no examples of cases used for expressing conjunction or disjunction of clauses. Tables 2 and 3 show that a case may sometimes have a very similar meaning when it occurs with a noun phrase and with a clause. Other times, there are consistent differences.

Before proceeding to generalizations capturing these differences, we examine two examples, (a) from English, and (b) from Ket.

(a) English has a handful of prepositions which can also occur on a clause, marking its syntactic relationship with another clause. These are: *after*, *before*, *since*, *until*, *till*, and *for*. The meaning of most prepositions when used with a noun phrase and with a clause is the same: compare (6a) and (6b). Curly brackets indicate the boundaries of the noun phrase and of the clause within the scope of the preposition.

(6) (a) She had a hard time after {the death of her husband}.
     (b) She had a hard time after {her husband died}.

The preposition *since* is less straightforward: it has a temporal meaning when used with a noun phrase and either a temporal or a causal meaning when used with a clause. Both (7a) and (7b) are acceptable, and the preposition *since* has a temporal meaning in both examples; in (7a) its scope is a noun phrase, and in (7b) it is a clause.

(7) (a) I've been very lazy since {the end of summer school}.
     (b) I've been very lazy since {summer school ended}.

However, in its causal meaning *since* can only be used with a clause, as in (8a). This meaning with a noun phrase argument would not be grammatical, as shown in (8b).

(8) (a) Since {I disliked his manner}, I turned him down.
     (b) *Since my dislike for his manner, I turned him down.

Further discussion can be found in Long (1965) and in Quirk et al. (1985: 659f.). The temporal and the causal meanings are semantically linked – if two

events are mentioned together as following each other in time, it may be possible to infer that one is the cause of the other (see Thompson & Longacre 1985: 181ff., Longacre 1985). However, the fact that *since* expresses a causal relationship only when it links clauses alerts us to the fact that the context of use may entail different semantic overtones for what has traditionally been considered the same polysemous morpheme. Along similar lines, a locational case may have a somewhat different array of meanings with nouns and with clauses. This takes us to the next example.

(b) Ket (a Yenisseic language: Werner 1997a: 105, 354) has nine clausal cases (not counting genitive), six of which can be used for clause linking.[11] Adessive case means 'at, towards' when used with nouns, as shown in (9) (from Vajda 2004: 27). It can also mark the second argument of verbs denoting thinking (about something) or narrating (about something).

(9) bū   láɣ-ìn-nà-ŋta   òn   sɨkŋ̀ du-o-il-daq
    3masc Selkup-pl-AP-ADES many years 3masc.SJ-D-PT-live
    'He lived among the Selkups (lit. at the Selkups, that is, at their camp) for many years'

If used with clausal scope, the meaning of the adessive is causal, locative, or conditional. The causal meaning 'because' is illustrated in (10) (unglossed example from Werner 1997a: 353; glosses from Anderson 2004: 68):

(10) {at t-lɔver-a-vet-diŋta}   at saʔj iñ-d-aq
       I 1-work-PRESENT-SF-ADES I tea P/PERF-1-give
     'Because I work, give me tea'

The locational meaning of the adessive case is typical of nominal cases, while causal and conditional meanings are typical of clause-linking semantics (see Thompson & Longacre 1985: 177, and especially Dixon forthcoming b).

In a nutshell, the meanings of cases on noun phrases are consistent with the semantic functions of noun phrases, as recipients, beneficiaries, instruments, and locations. The meanings of cases as clause-linkers follow the major semantic types in linking clauses. These clause-linker meanings are intertwined: temporal sequence often has overtones of condition and cause; purposive clause linking may also indicate cause, or consequence, or 'lest' (Dixon forthcoming b). Based on the selection of language-specific correlations between the meanings of a case when occurring with a noun phrase

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[11] Absolutive, comitative, and caritive are not employed to link clauses in Ket. The cases which 'double' as clause-linkers are dative, benefactive, ablative, adessive, locative, and prosecutive (see tables 2 and 3). Genitive has been excluded from the table, since in Ket it only indicates relations within a noun phrase (Werner 1997a: 112); while vocative does not mark grammatical relations and has also been omitted. The related language Yugh only employs locative, ablative and benefactive for clause linking (Werner 1997b: 236f.) out of eight cases used with noun phrases (same as Ket, minus adessive).

and with a clause, as exemplified in tables 2 and 3, we can suggest a number of semantic correspondences between noun-phrase functions and clause-linking devices.

I. Noun-phrase markers with a dative, purposive, or benefactive meaning tend to have purposive meanings as clause linkers. But, despite its frequency, this is not a steadfast rule: in Ket, the dative case marker is used to mark locative clauses and even relative clauses (Werner 1997a: 353), alongside 'destination' (Vajda 2004: 25).

II. Noun-phrase markers with locational meanings are likely to develop temporal connotations indicating relative time – 'while, as soon as, after, upon' and others – if they have a clause as their scope. This correlation is akin to the well-documented semantic extension from spatial to temporal notions in the domain of adverbs and of case markers (Haspelmath 1997; Heine & Kuteva 2002: 40f., 179f., 183). This is supported by recent psychological experiments, confirming that 'spatial representations are the source of temporal representations' (Gentner et al. 2002: 557).

The locational meaning of a noun-phrase marker can carry over to its meaning when occurring with a clause, but within a temporal rather than a spatial domain. For example, the perlative case means 'along' in Djambarrpuyngu noun phrases, and 'concurrent with main clause' when used on clauses containing motion predicates. An additional extension of 'along' when used with clausal scope is 'the situation which is the channel or means for the main clause situation' (Wilkinson 1991: 641f.). In Kham, lative 'up to' means 'until' when used with a clause (Watters 2002: 317; see also examples in Blake 1999: 307f., from Australian languages; and especially Genetti 1986, 1991).

There can be additional extensions. A conditional meaning for a locative case marker when used as a clause-linker is documented for Ket; this can be viewed as an extension of its temporal meaning (Werner 1997a: 354). Elative and ablative have conditional meanings in a number of languages (Rama, Qiang, Kham and Classical Tibetan). This development can be considered an extension of an erstwhile temporal meaning of a locative morpheme (see also Thompson & Longacre 1985, for links between condition and time in clause-linking). A locational case marker can express purpose. In some Tibeto-Burman languages, a locative marks purpose complement (as in Lepcha: Plaisier 2006: 119f.; and Cogtse Gyarong: Nagano 2003: 487). Lichtenberk (1991: 71–74) provides an explanation of how an ablative postposition came to mark positive purpose in Toqabaqita, and negative consequence 'lest' in Kwaio.

III. Noun-phrase markers with instrumental meaning have a causal or a temporal meaning when used as clause linkers. At least in one of the languages

where this development has been attested the instrumental case on a noun can also express cause as a clausal linker, as in Tariana (Aikhenvald 2003). We will see in section 3.4.2 that an instrumental case without a causal meaning is used for manner clause linking.

Other, more 'exotic' non-core cases are relatively straightforward. The similative case 'like' in Kwoma and in Limbu has the same meaning as a clause linker; the sociative marker on nouns expresses sequence of events in Yamphu and Toqabaqita. Approximative 'about' in Kham develops an appropriate clause-linking meaning of temporal 'as long as', or quantitative 'as much as' (Watters 2002: 317).

In none of the instances mentioned in tables 2 and 3 using what looks like a nominal morpheme – a case or an adposition – on a verb does not imply an underlying nominalization.[12] In the absence of an overt nominalizing morpheme, to say that a verb must be nominalized with a zero marker in order to be used with a case or an adposition is pure conjecture. There is no reason to believe that a verb like *nu-nu-se* 'as soon as I come' in (3) in Tariana is nominalized. If it were, it would be the only instance of a zero-marked nominalization in the language.

In addition, in Tibeto-Burman languages (such as Lepcha: Plaisier 2006), the subject of a nominalization is marked differently from that of a subordinate clause whose predicate takes a case marker as a linking device. English also has a wide variety of nominalizing devices (see Dixon 2005: 322–352); but there are no language-internal reasons to consider dependent clauses like the ones in (6b) and (7b) and (8a) as 'nominalized'. Along similar lines, Genetti (1991: 246) argues that in Classical Newari, 'the first stage in the development of postpositions to subordinators' was 'the suffixation of nominal postpositions to fully inflected finite' verb forms, 'which lacked overt nominalizing suffixes'.

We conclude that, as expected, the semantics of 'cases' as clause-linkers fits in with the mould of semantic patterns of clause linking. A recurrent semantic correspondence is that holding between a spatial meaning of a nominal case and a temporal meaning of a clause linker, confirming that the domains of space and time share conceptual structure (see Boroditsky 2000: 25f. for experimental results to this effect, and the discussion of the underlying mental representations).

In terms of its historical development, the polysemy of nominal cases and clause-linkers has often been understood as a product of 'grammaticalization' of cases to clause linkers (in the conventional sense of the term, see Meillet 1912; Heine & Kuteva 2002). The facts of Rama (Craig 1991: 471)

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[12] Some grammarians tacitly assume this without providing explicit justification (e.g. Hercus 1982: 215).

corroborate this. Postpositions with noun phrase scope in Rama (see (4)) are free morphemes, while the corresponding markers with clausal scope are bound morphemes. This can be interpreted as pointing towards a unidirectional grammaticalization path:[13]

(11) adposition (free morpheme) with noun-phrase scope > adposition with clausal scope (developed into a bound morpheme)

The direction of development in (11) is congruent with a general path of semantic change (especially in grammaticalization) whereby more specific meanings, or meanings based on a specific situation, become more general, or 'based on the textual situation' (Genetti 1991: 249).[14]

2.3 Cases as markers of clausal categories

Cases as markers of clausal categories of aspect, mood and modalities can historically originate from cases as clause-linkers – see section 2.3.1. Cases on noun phrases within a clause can also impart aspectual value to the clause as a whole – see section 2.3.2.

2.3.1 How clause-linking cases come to mark categories of a main clause

We can recall from table 1 that, when case markers occur on verb roots,[15] they are likely to express clausal categories such as aspect, modality, and mood.

Similar developments occur if case markers attach to deverbal nominalizations used as predicates of dependent clauses. If a dependent clause

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[13] The analysis of correlations between postpositions and related subordinators in Newari (Genetti 1991) points to a development in the same direction. For similar results in a selection of Oceanic languages, see Lichtenberk (1991: 73f.); see also Blake (1993: 47–49), Dixon (2002: 239) for Australian languages, and Winter (1976: 171f.), Jacobsen (1983: 175f.), Gordon (1980), Miller (2001: 265) and Gorbet (1973; 1976: 110–153) for similar pathways in Yuman languages. Akiba (1977: 616–618) discusses the development of the direct object marker in Old Japanese into a different-subject clause-linker. According to Valenzuela (2003: 911–917), Proto-Panoan case markers came to be reanalyzed as sequential markers.

[14] A study of the few prepositions in English whose scope can be either a noun phrase or a clause provides somewhat similar results (see also Traugott 1982, and the historical study in Dill 1986). The *Oxford English Dictionary* (1989) explicitly notes that the prepositional use is primary for *till* and *until* (stating that *till* was originally the preposition governing the demonstrative pronoun *that*, in apposition with the following clause). In at least four instances (*before*, *till*, *until* and *for*), the use of the forms with noun phrase scope predates that with clausal scope. This accords with the direction of change formulated in (11).

[15] All the examples of case morphemes as markers of categories of main clauses identified so far are affixes. Whether the absence of case ADPOSITIONS in these functions is a coincidence or not remains an open question.

becomes reinterpreted as a main clause via ellipsis, the case morphemes are reinterpreted as aspect or modality markers. This path is summarized by Blake (1999, especially his table 3 on p. 304), for Australian languages.[16]

For instance, a dependent apprehensive clause referring to possible negative consequence typically occurs with the main clause expressing a warning, or something to be avoided, as in (12), from Pitta-Pitta (Blake 1999: 307, 310).

(12) wilakana-ya kiniyarri [nhan-(nh)a-ka piyawarli-lu patya-ka-la]
      hide-PRESENT girl   she-ACC-HERE dog-ERG   bite-[P]-LEST
      'The girl is hiding lest the dog bite her'

The case marker -la – which means 'lest' with clauses – has a causal meaning with noun phrases. It also marks the complement of verbs of fear (Blake 1979: 198), as in (13):[17]

(13) kiniyari ṉan-pa-ka   ṯalala kupakupa-la
      girl   she-NOMIN-HERE afraid old.man-CAUSAL
      'The girl is frightened of the old man'

The main clause may be left out in Pitta-Pitta, and then the erstwhile dependent clause comes to be used on its own, with the same 'apprehensive' meaning, as in (14) (Blake 1999: 310):

(14) nhan-(nh)a-ka piyawarli-lu patya-ka-la
      she-ACC-HERE dog-ERG   bite-[P]-LEST
      'The dog might bite her'

In Dixon's (2002: 239) words, 'types of subordinate clauses have been reanalyzed as main clauses, so that what were verbal suffixes marking subordination now take on TAM [tense, aspect, mood] values'. A typical development involves the aversive case 'for fear of' on a noun phrase to apprehensive modality on a verb in a clause (shown in (13) and (14)), and from dative case on noun phrases to purposive, intentional, or future on clauses (Dixon 2002: 237–239; Blake 1999: 309f., 1993: 40).

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[16] This process – whereby a non-main clause appears on its own with the main clause ellipsed – is known as de-subordination (see Aikhenvald 2004; an alternative, and less felicitous term, is 'insubordination'). This has been described for numerous languages, including Indo-European (such as Italian and English: Vallauri 2004; Stirling 1998). If the construction is no longer elliptical (that is, if the ellipsed verb is not recoverable, and does not have to be supplied for the clause to be grammatical), new tense–aspect–mood paradigms emerge (as in Australian languages, e.g. Kayardild: Evans 1995; see also Blake 1993, 1999 and Dixon 2002 for Australian languages in general; or Carib languages: Gildea 1998; Carlin 2004), or a reported evidential paradigm, out of de-subordinated speech report constructions (as in Estonian: Aikhenvald 2004: 281–283 and references there).

[17] The difference in spelling for 'girl' and 'she' in (12) and (13) is due to different orthographic conventions for a flap in Blake (1979) and (1999).

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Along similar lines, in Dyirbal -*gu* (Dixon 1972) is used both as dative on nouns and as purposive marker on verbs (of one conjugation). In Kalkatungu (Blake 1999: 315), the dative case marker -*ya* forms a purposive in combination with past and proprietive markers (the resulting form is: -*ny-tya-ya* P-PROP-DAT). In this same language, a combination of -*ya* 'dative' (on nouns) and future -*mi* forms potential -*mi-ya*.[18]

Reanalysis of dependent clauses as main clauses does not always proceed through the intermediary of a nominalization (as happens in Australian languages). The manifold meanings of -*k* and -*m* in Maricopa (Yuman) verbs in independent clauses appear to go back to their uses in dependent clauses (Gordon 1980: 140), but no nominalization is postulated.[19]

2.3.2 '*Aspectual*' cases

A clausal category can be expressed not only by a case marker on a predicate, but also by case on a noun phrase, as illustrated in this section. In numerous Balto-Finnic languages, especially Finnish, the choice of partitive vs. accusative case for the object of a number of verbs has aspectual implications.[20] Examples (15) and (16) (from Kiparsky 1998) illustrate this semantic effect. The 'irresultative', unbounded, and atelic event in (15) involves partitive case on the object; the bear was shot at, but not killed.

(15) Ammu-i-n <u>karhu-a</u>
      shoot-P-Isg bear-PART
      'I shot at the/a bear'

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[18] Further examples of case morphemes developing into aspects through the possible intermediary of nominalizations are discussed in Blake (1999: 312) and Dixon (2002: 238).

[19] In other instances, we cannot decide whether the use of case as a marker of mood or modality results from reinterpretation of a morpheme with the erstwhile nominal scope. We saw in (5) that the locative case marker in Lepcha (Tibeto-Burman: Plaisier 2006: 119f.) doubles as a hortative marker 'let's'. In Galo (Tibeto-Burman: Post 2007), dative case on the verb marks optative, or unrealized wish. The origin of these markers is yet to be ascertained. In Kala Lagaw Ya, a dialect of the Western Torres Strait language (Kennedy 1984: 162), case markers share the same form as tense/aspect morphemes; according to Kennedy, 'the speakers of this language have a single set of abstract categories which can be expounded in both verbal and nominal domains' (cf. Dixon 2002: 239). This requires further investigation.

[20] These aspectual overtones have been described in terms of unboundedness versus boundedness of event (e.g. Ikola 1961; Heinämäki 1984), or irresultativity versus resultativity (e.g. Itkonen 1976; Hakulinen & Karlsson 1979: 183; Larsson 1983: 22f.; see summary in Sands 2000). Similar aspectual effects of the partitive-accusative case alternation have been described for other Balto-Finnic languages, including Estonian (e.g. Tauli 1980; Tarmo 1981; see also Lees 2004 for a revealing comparison between Finnish and Estonian), Livonian (Tveite 2004), and Veps (Kettunen 1943). Larsson (1983) offers a general discussion in the light of other Finno-Ugric languages.

In contrast, the resultative and bounded version in (16) involves the object marked with the accusative. (16) 'denotes an accomplishment, "to shoot dead"', while (15) 'denotes an activity' (Kiparsky 1998: 267):[21]

(16) Ammu-i-n <u>karhu-n</u>
      shoot-P-1sg bear-ACC
      'I shot the/a bear (it is dead)'

Finnish also has intrinsically 'unbounded' verbs (such as 'love', 'touch') which require partitive objects, and intrinsically bounded verbs (such as 'kill', 'find') which require the accusative. The partitive case also denotes objects of indeterminate quantity ('some'), and can be described as a marker of indefiniteness (see Sands 2000; Sands & Campbell 2001).

In addition to this, in Finnish, 'the use of local cases […] has aspectual implications. The inessive and adessive case imply a continuing activity and so have imperfective aspect, whereas the elative, illative, ablative and allative all imply an end-point of the activity and perfective aspect' (Sands 2000: 277; and a summary in Hakulinen 1961: 333). 'The process as opposed to the result is indicated with the static-location cases (inessive and adessive)' (Sands 2000: 277). If the allative case is used, as in (17), the activity is considered to be a result; this station may be the train's final destination:

(17) Juna pysähtyi <u>asema-lle</u>
      train stop.P.3sg station-ALL
      'The train stopped at the station (lit. towards the station as its final destination)'

In (18), the adessive case implies that the station is 'simply a stopping point on the train's journey, and the train continues on'. (Comparable phenomena in Estonian are addressed in Tuldava 1994: 106f.).

(18) Juna pysähtyi <u>asema-lla</u>
      train stop.P.3sg station-ADES
      'The train stopped at the station (lit. at the station as a passing point)'

In each of these instances, the way in which a noun phrase is marked affects the aspectual value of the clause. The semantic effect of case is reminiscent of the absolutive/dative case alternation in Warlpiri: marking the object (O) of a verb like 'shoot' as dative rather than as absolutive describes 'the situation in which the effect normally resulting from the action denoted by the verb is, for one reason or another, aborted or else is subordinated in importance to the action itself' (Hale 1982: 249). This phenomenon has

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[21] Note that the English translations in examples (15) and (16) are somewhat misleading. The alternation of 'shoot somebody' and 'shoot at somebody' in English has similar, but not identical, overtones: while 'shoot at somebody' does imply that the shooting was not fatal, or that the goal was not attained, 'shooting somebody' simply implies that the O got hit (but did not necessarily die). An in-depth analysis of the partitive-accusative alternation in Finnish for various verb types appears in Heinämäki (1984).

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further been characterized as a 'conative' case alternation which imparts a special 'irresultative' aspectual value to the clause as a whole (see Kiparsky 1998: 266, 295f., and further references there). All this helps to confirm the status of aspect and modality as clausal categories which do not necessarily have to be marked specifically on the predicate.[22]

Historically speaking, the partitive case in the Balto-Finnic subgroup of Finno-Ugric comes from a locational case with a separative meaning 'from' (see Laanest 1975; Kiparsky 1998). Correlations of case marking with aspect are generally considered a later development in Balto-Finnic. Larjavaara (1991) hypothesizes that the locational 'from' case developed an aspectual overtone via a 'quantificational' meaning 'some' with a noun phrase. Further historical and comparative evidence indicates that, in Balto-Finnic, 'the partitive's emergence as a structural case is a precondition for the rise of its aspectual function' (Kiparsky 1998: 305). That is, the noun-phrase-level function of a case is primary with respect to its other functions, such as marking aspect. This is comparable to the generalization under (11) above: a case or an adposition with noun phrase scope may develop into a case or an adposition with clausal scope, but not the other way round.

We now turn to similar phenomena in Manambu, a previously un-described language from New Guinea.

3. VERSATILE CASE IN MANAMBU

Manambu, from the Ndu family (East Sepik, Papua New Guinea),[23] offers a particularly rich array of cases that can be employed both with noun phrases and on verb roots. Case morphemes are used both as clause-linking devices (cf. section 2.2) and as markers of clausal categories (cf. sections 2.3.1–2.3.2).

3.1 *Background information*

Manambu is predominantly suffixing and agglutinating with some fusion, and combines both dependent-marking and head-marking. Nouns and verbs are clearly distinguished in terms of their categories, inflectional possibilities and syntactic behaviour. Nominal categories are gender, number, a system of

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[22] In fact, in many languages aspect and modality are marked with enclitics which may attach to constituents other than the predicate (see the discussion of Tariana in Aikhenvald 2002, and further examples of other languages there).

[23] Manambu is spoken by about 2000 people in five villages in the Ambunti area of East Sepik province of Papua New Guinea. Other members of the Ndu family are: Ambulas; Boiken; Iatmul; Yelogu or Kaunga; Gala (or Ngala, or Swakap) (see Aikhenvald 2008; Jendraschek 2006). Other genetic affiliations are more tentative. Kwoma/Washkuk is a neighbouring language spoken by traditional trade-partners of the Manambu. It shares a number of features with Manambu due to long-standing contact but is not demonstrably related to it. The data presented here are based on original fieldwork.

nine case forms, and a number of derivational processes. Verbal categories include person, number, gender, aspect, mood, modality, direction, and a variety of clause-chaining markers.

Declarative verbs cross-reference two arguments: the subject and any other argument – except copula complement and speech report – which is more topical than the subject. Verbs in different-subject medial clauses cross-reference just the subject. No argument is cross-referenced on verbs marked for modalities such as desiderative and frustrative and a number of aspects. Likewise, predicates in same-subject clauses take no cross-referencing markers.

A verbal root or an inflected verb cannot be used as an argument or head a noun phrase. Deverbal action nominalizations are used instead; these are derived from the verbal root via full reduplication, e.g. *war* 'ascend', *warwar* 'ascending'.

3.2 *Cases on nouns and on verbs in Manambu*

Four of the nine case suffixes in Manambu can occur on verbs. All cases (except for the adnominal comitative) are marked once per noun phrase, almost always on its last word, which is also the head of the noun phrase.[24] When used on verbs, they appear once per clause. Meanings and functions of cases on nouns and on verbs are summarized in table 4. Cases as markers of aspect and modality are addressed in section 3.3. Cases as markers of clause linking are discussed in section 3.4.

3.3 *Cases as markers of aspect and modality*

Two cases – the objective-locative and the dative-purposive – can occur on predicates of a main clause, and impart an aspectual or a modal meaning to the whole clause. The resulting verbal forms have the same argument structure as a verb in any other context; they cannot take any cross-referencing. The person reference is either specified with a pronoun, or is recoverable from the context.

3.3.1 *The objective-locative case and completive aspect*

The objective-locative case -*Vm* on noun phrases marks a second argument if the latter is completely involved in the action, or if it is completely affected,

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[24] The five case markers which occur only on noun phrases are Ø 'subject case', -*Vb* 'terminative case "until, up to"', two synonymous transportative cases -*Vsa:p* and -*Vsa:y* 'by means of transport', and -*Vwa* 'comitative/perlative'. Every case has a variety of meanings. Only the main meanings are reflected in the glosses (a detailed discussion appears in Aikhenvald 2008: 144–167). Case-marked forms are underlined. Case markers attach to a linker *a* or *ə*, with the choice depending on the morphological subclass of the noun (Aikhenvald 2008: 72f.).

CASE FORM AND LABEL	MEANING ON NOUN	VERB FORM TO WHICH MORPHEME ATTACHES	MEANING ON VERB	FUNCTION ON VERB
1. -*Vm* 'objective-locative' (section 3.3.1)	complete involvement of second argument or attained location; definite and referential object		completed action or state	aspect
2. -*Vk* 'dative-purposive' (sections 3.3.2 & 3.4.1)	purpose, reason, third argument of ditransitive verb; object of atelic verbs; object of verbs of emotions	verb root	(i) intentional (ii) purposive same-subject	modality clause linking
3. -*Vr* 'allative-instrumental' (section 3.4.2)	direction; instrument		manner same-subject	clause linking
4. -*yæy* 'substitutive' (section 3.4.3)	substitution 'instead of something'	verb root if same-subject verb root+subject marker if different-subject	substitutive	clause linking

Table 4
Meanings and functions of cases in Manambu on nouns and verbs

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or if the action is telic. Consider the verb *kwakə-*. It means 'find' if the object is marked with the objective-locative in its function as 'complete involvement case', as in (19), and 'search, look for' if the object is unmarked, as in (20):

(19) {[a   takwa:m]   kwakə-ku}
     DEM.DIST+fem.sg woman+LK+OBJ/LOC look.for/find-COMPL.SS
     {wiya:r   wula:l}
     house+LK+ALL/INSTR go.inside+3fem.sgBAS.P
     'After having found that woman, she went inside the house'

(20) [ñanugw amæy] kwakə-ya-bana
     children mother look.for-come-1plSUBJ.NONPAST+3fem.sgBAS.NONPAST
     'We keep looking for children's mother'

The other major function of the objective-locative case is to mark a location which has been reached. An example is given in (21). The objective-locative case also conveys the idea of a completed action of reaching the cassowary's breast by climbing. (The cassowary, a flightless bird, is conceptualized here as a mythological woman. (21) comes from a myth about a man's head clinging to the cassowary's breast as if he was her baby.)

(21) [a   məd   lə-kə   muñ-a:m]
     DEM.DIST+fem.sg cassowary she-OBL+fem.sg breast-LK+OBJ/LOC
     ata   war-də-l
     then ascend-3masc.sgSUBJ.P-3fem.sgBAS.P
     'He (the man's head) went up to the cassowary's breast (reached it and stayed on it)'

If the destination has not yet been reached, the allative is appropriate, as in (22):

(22) pətəkaur   ata   war-də-l
     ladder+ALL/INSTR then ascend-3masc.sgSUBJ.P-3fem.sgBAS.P
     'Then he went up a ladder (but did not reach the top)'

The objective-locative case thus conflates two functions: it marks a core or an oblique argument, and at the same time contributes an aspectual value of 'completeness' to the whole clause. This is reminiscent of the aspectual overtones of the partitive case in Finnish discussed in section 2.3.2, and even more so of the locational cases (see (17) and (18) above).

This same objective-locative case morpheme occurs on verbal roots. There, it indicates completion of an action, or total achievement of a state, e.g. (23):

(23) wun [də-kə-m]   wukəmar-ə-m
     I   he-LK-OBJ/LOC forget-LK-OBJ/LOC
     'I completely forgot him'

The completive meaning of the objective-locative case on a verb is strongly reminiscent of the overtone of 'complete' involvement of an object or a

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location which is characteristic of the objective-locative as used with noun phrases. None of Manambu's relatives has any cognates of the objective-locative case. Consequently, we cannot tell which function of the -*Vm* form is historically prior. This is quite unlike the Balto-Finnic languages (see section 2.3.2), where – as we know – the primary function of cases with 'aspectual' overtones was to mark grammatical relations, while the aspectual overtones represent a later development.

3.3.2 *The dative-purposive case and intentional modality*

The dative-purposive case -*Vk* with noun phrases expresses intention and purpose, as in the first clause of (24), and the third argument of a ditransitive verb, as in the second clause:

(24) [sana:k   ya-k-na-di]   sa:n
      money+LK+DAT/PURP come-FUT-ACT.FOC-3plBAS.NONPAST money
      dayak   kui-tukwa
      they+DAT   give.to.third.person-PROH
      'They will come for money (to get money, with the intention to receive money), don't give them money'

The dative-purposive case is also used to mark reason (as in (26), on *agwajapək* 'what for'), the object of verbs of emotions, such as 'like', 'dislike', 'yearn for', 'refuse', and the object of verbs of fear. It can also mark the object of an atelic verb with slightly frustrative overtones. We can recall, from (19), that the verb *kwakə*- means 'find (telic action)' if its object is marked with the objective-locative case, indicating complete involvement of the second argument; if the object is unmarked, the action is atelic ('look for'), as in (20). If the object is instead marked with the dative-purposive case, the action is equally atelic, but with an additional frustrative overtone of 'doing something in vain':

(25) amæyik   kwakə-dana
      mother+LK+DAT/PURP look.for-3plSUBJ.NONPAST+3fem.sgBAS.NONPAST
      'They are looking for their mother in vain (and not finding her)'

The semantic effect of the objective-locative case in (19), as compared to that of the dative-purposive case in (25), is strongly reminiscent of the absolutive/dative case alternation in Warlpiri (see Hale 1982: 249; and section 2.3.2 above). The dative-purposive case imparts a modal frustrative value to the whole clause.

The dative-purposive case when occurring on a verbal root form marks intentional modality. In (26), it attaches to the verb root *warya*- 'fight':

(26) ñən   wun-a-wa agwa-japək   warya-k
      you.fem I-LK-COM   what-thing+LK+DAT fight-DAT/PURP
      'I am going to fight, why (lit. what for) are you going to fight with me?'

The semantic link between the purposive meaning of the dative-purposive on nouns, as in (24), and on verbs, as in (26), is straightforward. The dative-purposive on verbs is also used as a clause-linking device – see the next section.

3.4 *Cases as markers of clause linking in Manambu*

Three case forms in Manambu are used as clause-linking devices. The dative-purposive case occurs on the root of the predicate of a dependent clause to mark a same-subject purposive complement. The allative-instrumental case on a verb root marks the predicate of a same-subject manner clause. The substitutive case on a verb root marks a same-subject dependent clause with the substitutive meaning 'instead of doing X, rather than doing X'. If the substitute attaches to a verb inflected just for subject, it marks a different-subject dependent clause with the same substitutive meaning.

We can recall, from section 3.1, that predicates of all same-subject clauses in Manambu are unmarked for subject. Predicates of different-subject clauses do mark subject. The behaviour of case-marked dependent clauses is consistent with this pattern.[25]

3.4.1 *The dative-purposive case and same-subject purposive clauses*

The intentional or purposive meaning of dative-purposive-marked predicates echoes the meaning of similarly marked noun phrases. A same-subject purpose complement to a verb of motion is shown in (27):

(27) {wun {mən-a:m   karda-k}
    I   you:masc-LK+OBJ/LOC   take+DOWN-PURP.SS
    war-na-dəwun}
    ascend-ACT.FOC-1masc.sgBAS.NONPAST
    'I have come up to take you downwards'

A noun marked with the dative-purposive and a verb marked with the same-subject verbal purposive are used in identical contexts. (28) illustrates a dative-purposive-marked verb *warya-* 'to fight' expressing purpose of speaking. In (29), a dative-purposive-marked noun *di* 'shit' is used.

(28) warya-k   wa-na
    fight-PURP.SS   say-ACT.FOC+3fem.sgBAS.NONPAST
    'She intends to fight (lit. she said she was going to fight)'

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[25] A different-subject purposive (-*kək* or -*kəkək*, with the choice depending on the number of syllables in the verb stem) may or may not be related to -*k* (see Aikhenvald 2008: 286–290). Of the nine types of Manambu medial clauses, the opposition of same- versus different-subject is found only in completive and substitutive clauses; the other medial clause types are either same-subject only, or different-subject only (see Aikhenvald 2008: 446–465).

(29) diya:k   wa-na
      shit+LK+DAT/PURP say-ACT.FOC+3fem.sgBAS.NONPAST
      'She intends to have a shit (lit. she said for shit)'

There is no reason to consider the same-subject purposive form, or the intentional, a nominalization. These forms have no nominal properties whatsoever. Neither does the bare root of a verb. The intentional and the same-subject purposive are semantically similar. One may hypothesize that both go back to the dependent purposive, and postulate a subsequent re-analysis of the dependent purposive as a main clause, and of the verb form as intentional modality (along the lines of section 2.3.1 above). This analysis is plausible. However, it does not account for the lack of same-subject constraint when the morpheme occurs in intentional modality, and thus remains a mere hypothesis.

Whether an originally nominal case in fact got extended to a verbal environment in Manambu is an open issue. The cognates of the Manambu dative-purposive appear on both nouns and verbs in related languages. The Maprik dialect of Ambulas (Ndu family, Papua New Guinea: Wilson 1980: 68–75, 119f.) has a 'referential' case -ke which marks purpose, goal and theme (of a conversation). The same case-morpheme occurs as a marker of intentional modality in dependent clauses (cf. also Wendel 1993: 88, 102). This suggests that the dative-purposive in Proto-Ndu could have been just as polyfunctional as it is in the present-day languages, and that there is no reason to consider either the nominal or the verbal context to be diachronically prior.

3.4.2 *The allative-instrumental case and same-subject manner clauses*

Unlike the objective-locative and the dative-purposive cases which can mark core arguments, the allative-instrumental case always marks obliques. When used with noun phrases, the allative-instrumental case -*Vr* marks direction, as in (22), and instrument, as in (30):[26]

(30) [am-awa   nəbi:r]   ata vya-də-di
      bow-LK+COM arrow+INSTR then hit-3masc.sgSUBJ.P-3plBAS.P
      'He then hit them with bow and arrow'

---

[26] The syncretism of an allative and an instrumental marker is cross-linguistically infrequent. It is attested in a couple of Australian languages (the same form is used for allative and for instrumental in Patjtjamalh; in Yanyuwa, allative has the same form as ergative, purposive and instrumental: Dixon 2002: 168). In Kwoma/Washkuk (Kooyers 1974: 30), an unrelated neighbour of Manambu, and in a number of other Ndu languages, locative and instrumental are expressed with the same morpheme (e.g. Hanga Hundi: Wendel 1993: 105, and Boiken: Freudenburg 1970, 1979). This syncretism is also found in Emerillon (Tupí-Guaraní: Rose 2003) and is rather common in Tibeto-Burman languages – e.g. Atong where allative and instrumental are expressed with the same morpheme (van Breugel forthcoming). Further examples and statistics appear in LaPolla (1995: 1171).

The allative-instrumental case has an additional meaning of 'along' (e.g. a road). It does not have any comitative overtones; neither is it used to express reason.

The allative-instrumental case appears on verbal roots to mark the predicate of same-subject manner clauses, as in (31).

(31) {ñam   kuyar}   {ñanugwa:k
       chewed.food give.to.third.person+INSTR   children+LK+DAT
       kamna:gw kui-la}
       food   give.to.third.person-3fem.sgSUBJ.P+3fem.sgBAS.P
       'She gave food to children by giving (them) chewed food'

Tables 2 and 3 show that cross-linguistically an instrumental case occurring with clauses typically expresses causal or temporal linkage. The unusual meaning of manner linkage of the instrumental case in Manambu may be due to its lack of causal overtones; this is where it differs from the instrumental case in Tariana (see III in section 2.2.2 above). An instrumenal case typically acquires a manner extension (Blake 2001). However, Manambu is unusual in that the allative-instrumental case marks manner only when used with verbs as a clause-linking device, and does not express any other semantic relationships (e.g. reason, as in other languages). A noun expressing manner is unmarked for case. Also note that, except in Manambu, case markers do not seem to be used for manner linkage in the languages for which descriptions were available (see table 3).

The allative-instrumental case has clear cognates throughout the Ndu family. However, its use with verb roots has not been documented for any language other than Manambu.

3.4.3 The substitutive case and substitutive clauses

The substitutive case when used with noun phrases means 'instead of'. Just like the allative-instrumental case, it occurs on obliques only, as in (32).

(32) pilou-a-yæy   kusu-wapwi a-tak
       pillow-LK-SUBST wear-clothes IMPV-put
       'Put clothes (on your bed) instead of a pillow'

The substitutive -yæy on a verbal root is a same-subject sequencing marker with the meaning 'instead of, rather than':

(33) {awarwa warya-yæy} {aka kəp
        REC   fight-SUBST:SS   then just
       lakati-dana}
       sort.out-3plSUBJ.NONPAST+3fem.sgBAS.NONPAST
       'Instead of fighting each other, they just sorted it out'

If the subjects are different, the substitutive case marker attaches to a partially inflected verb (which, as we can recall, implies cross-referencing just the subject). An example is (34).

(34) {ñən   kiya-ñəna-yæy}   {də-kə-m
       you.fem die-2fem.sgSUBJ.NONPAST-SUBST   he-OBL-OBJ
       vya-təpul-kə-la-d}
       kill-'hit'-FUT-3fem.sgSUBJ.NONPAST-3masc.sgBAS.NONPAST
       'Instead of you dying, she will kill him'

The substitutive case has no cognates in other Ndu languages. That is, we have no historical information as to whether its adnominal or its verbal use is diachronically prior.

3.5 *Case on nouns and on verbs in Manambu: a summary*

Manambu demonstrates an unusually rich array of cases used both with nouns and with verbs. In contrast to other verbal predicates of declarative clauses, a 'case-marked' verb never cross-references two arguments. This property is consistent with the categories expressed by 'case-marked' verbs, since in Manambu most modalities, aspects and same-subject clauses take no cross-referencing. Different-subject clauses cross-reference only the subject. None of the case-marked verbal forms has any nominal properties.

We saw above that some languages employ case morphemes as clause-linkers; others use them to express aspectual and modal meanings. Manambu appears to be unique in that it offers both options. Three case markers link clauses – these are dative-purposive, allative-instrumental and substitutive. Two case markers express main clause categories of aspect and modality – these are objective-locative and dative-purposive. Case morphemes on verbs in Manambu have a wider array of functions than in any other language described so far which exhibits the versatile case phenomenon.

The meanings of these case morphemes on verbs are transparently related to those of the same case morphemes on nouns. But the detailed correlations are not identical. The objective-locative case has a distinct overtone of complete involvement of the second argument, that is, a completely affected object, as in (19). On an oblique it marks a completely attained location, as in (21). The case on a noun imparts an overtone of telicity to its clause. This semantic feature of completeness acquires enhanced prominence when the case marker attaches to the predicate: the objective-locative case on verbs marks completive aspect.

The dative-purposive case has the object of intention or incompletely affected object one is seeking to affect as components of its meaning (see (24)). This intentional meaning becomes prominent once the marker

attaches to a verb root. The result is intentional modality. In addition, the dative-purposive case on a noun may impart a meaning of atelic action (with an overtone of frustrative 'in vain') to the whole clause (see (25)).

One multifunctional morpheme thus imparts an aspectual meaning of 'completion' and of telicity to the predicate and to the clause; the other imparts a modal meaning of intentionality, and an aspectual one of atelicity. These effects of core cases on verbs are summarized in schema 1. Shared semantic features are in bold.

Object and Location **completely** affected by or involved in the action   }   on nouns
Completive aspect   on verbs

Object of **purpose** and **intention** } on nouns
Intentional modality   on verbs

Schema 1
Semantic overlap in core case markers with noun phrases and with verbs in Manambu

The dative-purposive case on verbs also links clauses. So do the allative-instrumental and substitutive cases. Manambu is unusual (see table 3) in that the allative-instrumental case on nouns marks manner clauses rather than having a causal or temporal meaning. As stated above, the allative-instrumental case does not mark manner on nouns. The substitutive case has identical meanings on nouns and on verbs; this is in line with a few other 'exotic' cases mentioned in section 2.2, e.g. similative or sociative, which have the same meaning when used on nouns and as clause-linking devices.

Of the four relevant case forms in Manambu, the adnominal use of the allative-instrumental can be considered historically older than its verbal use, as predicted by the generalization in (11) on page 580 above. For the objective-locative and substitutive cases we cannot tell, due to the absence of cognates. The dative-purposive marker is used both adnominally and with verbs in other languages of the Ndu family. This suggests an old polyfunctionality of the marker -Vk with nouns and with verbs.

Proto-Ndu may have had other versatile cases. Iatmul, another Ndu language, has an oblique case marker -$(n)k\partial t$ which marks recipients, beneficiaries, purpose and intention (and also objects high on the nominal hierarchy: Staalsen 1965). This form is not used with verbs. It is cognate to Manambu -$k\partial r$, a marker of purposive-desiderative modality, e.g. *wun və-kər* (I see-DES) 'I want to see, I intend to see'. The Manambu form is no longer used with nouns. As expected, over the history of individual languages, a conventionalized usage of a morpheme in a given environment may result in its reinterpretation, as is the case with Manambu -$k\partial r$.

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4. WHAT CAN WE CONCLUDE?

Case morphemes need not be restricted to noun phrases. If they occur on a verb root, or on an inflected verb, they may link clauses or they may express aspects, modalities and moods. The most common semantic correspondences between the same morpheme as marker of the function of a noun phrase and as clause-linking device are:

I.   Dative or purposive marking on a noun phrase tends to have a purposive meaning when used as a clause linker.
II.   Locational marking on a noun phrase tends to have temporal or, more rarely, conditional or purposive meaning when used as a clause linker.
III. Instrumental marking on a noun phrase tends to have a causal or temporal, or (more rarely) a manner meaning when used as a clause linker.

The meanings of cases as markers of grammatical functions of a noun phrase and as clause linkers are determined by the syntactic environment. In other words, the same set of morphemes marks typical functions of noun phrases and typical relationships between clauses.

A morpheme may originate as a case with a noun phrase as its scope, and then get extended to be a case with clausal scope, in agreement with the generalization in (11) above (page 580). This direction of development is congruent with a general path of semantic change in grammaticalization – more specific meanings become more general.

Alternatively, the case markers may be inherently polyfunctional, being used both with noun phrases and with clauses. Their meanings will then be partly conditioned by the syntactic environment. They will mark typical semantic functions of noun phrases, such as location, and typical semantic types of clause linking, such as temporal or causal relationships (as outlined by Thompson & Longacre 1985; Dixon forthcoming b). It is also possible for the same morpheme to mark case and clausal categories of aspect, modality and mood. This second function may develop out of the first one as the result of reinterpretation of erstwhile dependent clauses as main clauses. If so, then case morphemes as exponents of clausal categories can be traced back to their use as clause linkers.

Alternatively, case morphemes on verbs may have aspectual and modal meanings by virtue of their inherent polyfunctionality. A prime example comes from Manambu (also cf. Kennedy 1984: 162 for a similar approach to Kala Lagaw Ya). Since nouns typically have more concrete meanings than verbs, the underlying semantic differences between word classes trigger the meaning differences between the same morphemes when occurring on nouns and on verbs. The inherent polyfunctionality of cases as markers of aspect and modality in Manambu verbs is corroborated by the way in which these

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cases impart aspectual and modal meaning to a clause even when they occur on a noun phrase (see schema 1).

We hypothesize that core cases are likely to affect the aspect and modality value of the whole clause. This is corroborated by the evidence from Manambu and a number of other languages (see Kiparsky 1998). The same generalisation is also true for cases which can be used both as core and as non-core cases. In contrast, non-core cases are more likely to 'double' as clause-linkers only.

To conclude: cases which are used both on noun phrases and on verbs are 'chameleon' morphemes with fairly general semantics which acquire more specific meanings appropriate to their particular morphosyntactic locus (that is, noun phrases or verbs) and syntactic scope (that is, noun phrase or clause). This is quite unlike nominal vs. verbal tense and aspect, which constitute distinct groups of grammatical categories, each in its own right. To the extent that it has been possible to establish generalisations about the contribution of word class to the specific meanings of these case morphemes, this has implications for word class typology, suggesting a semantic basis underlying the grammar of nouns and verbs as universal word classes.

APPENDIX 1

Languages with cases on verbs and the sources

Case morphemes used with verbs have been noted in the following areas:

- Australian languages (Dixon 1972, 1977, 2002; Hercus 1982; Blake 1987, 1993, 1999; Dench & Evans 1988; Simpson 1988), including Kala Lagaw Ya (Kennedy 1984; Dixon 2002: 239)
- a few languages from Central Siberia, especially Ket and Yugh (Werner 1997a, b; Vajda 2004; Anderson 2004)
- a few languages and language families of the Americas, such as Yuman (Gorbet 1973, 1976, 1979; Gordon 1980: 141; Kendall 1975), Muskogean (Kimball 1991: 225; Nicklas 1974: 98; Jelinek 1989; Jacobsen 1983), Kalapalo (Carib: Ellen Basso, p.c.) and Tariana (Arawak: Aikhenvald 2003)
- a few Oceanic languages (Lichtenberk 1991), and languages from the New Guinea area (Tauya: MacDonald 1988, 1990; Kwoma: Kooyers 1974)
- numerous Tibeto-Burman languages (e.g. Genetti 1986, 1991; Watters 2002; Burling 2004; Plaisier 2006; LaPolla 2004, 2006; Post 2007; van Breugel forthcoming; and papers in Thurgood & LaPolla 2003)
- the recently discovered isolate Kusunda spoken in Nepal (Watters 2005a, b).

As with bound cases, adpositions may have a whole clause rather than just a noun phrase as their scope (some describe these as adpositions with a subordinating function). This has been described by Long (1965) for English; by Genetti (1986, 1991) for languages from the Bodic subgroup of Tibeto-Burman; and by Craig (1991) for Rama (Chibchan). Rose (2005) offers a partial analysis of this phenomenon in general, adding a few other languages, including Emerillon (of the Tupí-Guaraní group; see also Rose 2003). Other studies include Ohori (1996) and Akiba (1977). Konow (1909: 9) was perhaps the first scholar ever to notice this phenomenon in a Tibeto-Burman language.

Case markers can also occur on deverbal nominalizations which otherwise have few nominal properties. Such nominalizations – be they action nominalizations, relative forms of verbs, or 'participles', 'infinitives', or 'supines' – already have some non-verbal features (and some may arguably be considered 'defective' nouns or 'defective' adjectives). This has been noted for languages from the Cushitic subgroup of Afroasiatic (Palmer 1957; Hetzron 1969; Hudson 1976; and summary in Dolgopolsky 1991), Turkic and Samoyedic (see overview in Anderson 2004), Australian (e.g. Dyirbal, Warlpiri, Yidiñ: see Dixon 2002: 237–239), Balto-Finnic and numerous Indo-European languages (see, for instance, Blake 1999: 299f.), and Japanese (Ohori 1996; Martin 1975: 885). Tibeto-Burman languages in which case markers attach to nominalized verbs include Meithei (Chelliah 1997: 172–175), Dumi (van Driem 1993: 271, 245f.), and some instances in Yamphu (Rutgers 1998: 267, 274f.; see also examples in Moravcsik 1972). An in-depth study of these is a topic for a separate project which is not undertaken here.

Likewise, I exclude discussion of constructions in which an adposition has to be followed by a subordinator in order to be able to occur with a clause in its scope, as is the case of French *avant*+Noun Phrase 'before, in front' and *avant que*+clause 'before'. Similar examples include preposition+*that* clauses in highly colloquial varieties of American English, e.g. *It's something I loved SINCE THAT I was a kid* (Arnold Zwicky, p.c.). Another type of evolving dependent clause structure found in some varieties of Modern American English is *wh-* constructions accompanied by an additional subordinator *that*, illustrated in the title of Zwicky (2002), and discussed there. These constructions also lie outside the scope of this discussion. The effects of cases with deverbal nominalizations, and of composite clause-linkers consisting of an adposition and a subordinator, are comparable to those of cases and adpositions with clausal scope; however, they involve different mechanisms (see the discussion in Rose 2005 and Ohori 1996). To limit the scope of the discussion here, I will not consider instances of case markers on a dependent clause which already contains a marker of syntactic dependency.

APPENDIX 2

Sources for languages cited in tables 2 and 3

Atong (Tibeto-Burman): van Breugel (2006)
Bāgandji (Australian area): Hercus (1982: 215)
Bodic (Tibeto-Burman): Genetti (1986, 1991)
Classical Tibetan (Tibeto-Burman): DeLancey (2003: 266)
Cogtse Gyarong (Tibeto-Burman): Nagano (2003: 487)
Djambarrpuyngu (Australian area): Wilkinson (1991: 634–636)
Dulong-Rawang (Tibeto-Burman): LaPolla (2006)
Eastern Kayah Li (Tibeto-Burman): Solnit (1997: 213, 249, 259)
Galo (Tibeto-Burman): Post (2007)
Garo (Tibeto-Burman): Burling (2004: 189, 319)
Ket (Yenisseic): Werner (1997a: 105, 354)
Kham (Tibeto-Burman): Watters (2002: 317)
Kusunda (isolate, Nepal): Watters (2005a: 62–66, 145–150), Watters (2005b)
Kwaio (Oceanic): Keesing (1985), Lichtenberk (1991: 71)
Kwoma (Nukuma family, New Guinea area): Kooyers (1974)
Lahu (Tibeto-Burman): Matisoff (1973: 168, 419)
Lepcha (Tibeto-Burman): Plaisier (2006: 119–123)
Limbu (Tibeto-Burman): van Driem (1987: 230–235)
Manambu (Ndu): own fieldwork; Aikhenvald (2008)
Manchu (Tungus-Manchurian): Holm (2006)
Murinypata (Australian area): Walsh (1976: 263f.)
Pitta-Pitta (Australian area): Blake (1979: 198; 1999: 307, 310)
Qiang (Tibeto-Burman): LaPolla (2004: 93, 244f.)
Rama (Chibchan): Craig (1991)
Tariana (Arawak): Aikhenvald (2003: 530f.)
Tauya (New Guinea area): MacDonald (1988, 1990: 236–238)
Toqabaqita (Oceanic): Lichtenberk (1991: 67)
Yamphu (Tibeto-Burman): Rutgers (1998: 267f.)

ABBREVIATIONS

I – first person
2 – second person
3 – third person
ACC – accusative
ACT.FOC – action focus
ADES – adessive
ALL – allative
ALL/INSTR – allative-instrumental
AP – animate plural
APPL – applicative
BAS – basic person marking
COM – comitative
COMPL – completive non-main clause
CUST – customary
D – durative marker
DAT – dative
DAT/PURP – dative-purposive
DECL – declarative
DEM.DIST – distal demonstrative
DES – desiderative
DS – different-subject
ERG – ergative
exc – exclusive
fem – feminine
FUT – future
GEN – genitive
IMPV – imperative
INSTR – instrumental
IO – indirect object

LK – linker
LOC – locative
masc – masculine
NOMIN – nominative
nsg – nonsingular
O – object function
OBJ – objective
OBJ/LOC – objective-locative
OBL – oblique marker
P – past
PART – partitive
PERF – perfect
pl – plural
PROH – prohibitive
PROP – proprietive case
PT – past tense
PURP – purposive
REC – reciprocal
REM.P – remote past
REP – reported
S – intransitive subject
SF – stem formant
sg – singular
SJ – verb-internal subject
  agreeent affix, or subject pronoun
ss – same-subject
SUBJ – subject person marking
SUBST – substitutive case

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