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HETEROSEMY OF CASE MARKERS AND CLAUSE-LINKERS IN ANDAANDI (NILE NUBIAN)[1]

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Case markers are usually associated with nouns or noun phrases but, as shown in Aikhenvald's (2008) cross-linguistic study on "versatile cases", case markers are also used as clause-linkers in a wide range of genetically diverse languages. However, African languages are not found in Aikhenvald's sample. Our paper shows that in some subgroups of Nilo-Saharan and Afro-Asiatic case markers are, in fact, attested on subordinate clauses.

Focusing on Andaandi, a Nubian language classified as a member of the Eastern Sudanic subgroup of Nilo-Saharan, we first present an outline of the system of grammatical relations and an overview over the use of core and peripheral case markers on noun phrases. This overview serves as a background for our study of case markers. While the Accusative case marker is employed as subordinator of object complement clauses, various peripheral case markers are used as subordinators of adverbial clauses. The different morphosyntactic contexts in which the case markers occur, i.e. on noun phrases and on verbs of subordinate clauses, determine their functional change and heterosemy.

Keyword: Andaandi, Nilo-Saharan, case markers, clause-linkers, morphosyntax

1. Topic of paper

Case markers are commonly viewed as properties of dependent noun phrases indicating the type of relationship they bear to their heads (Blake 1994: 1). However, in some languages case markers are additionally used on verbal forms where they serve as clause-linkers or even as aspect, modality, and mood markers. The semantic and functional change affecting grammatical and lexical elements that have a common origin but occur in different morphosyntactic contexts

[1] This paper is an extended version of the draft presented at the Afrikanistentag at Cologne University, May 30 to June 2, 2012. We wish to express our thanks to Gerrit Dimmendaal who first drew our attention to Aikhenvald's article on *versatile cases* (2008) and to several Afro-Asiatic and Nilo-Saharan languages in which case markers are attested as clause-linkers, too. Our thanks are also due to Doris Richter genannt Kemmermann, Marcus Jaeger, and Russell Norton for their helpful comments on earlier drafts of our paper. Moreover we gratefully acknowledge the anonymous reviewers' constructive criticism from which our study has greatly benefited. Of course we accept responsibility for any remaining errors in this paper.

[2] The second author of this paper, El-Shafie El-Guzuuli, is a mother-tongue speaker of Andaandi, who is engaged in the revitalization of his language and the promotion of the Nubian script. He has published three primers for Andaandi. Moreover, he has translated the Old Nubian legend *The Miracle of Saint Mina* into Andaandi (2012).

(here: the use of case markers on subordinate clauses) has come to be known as heterosemy (Lichtenberk 1991: 480).

In her cross-linguistic study on "versatile cases", Aikhenvald (2008) explores the variable use of case markers on verbal forms. One of the conclusions arrived at is that the grammatical function and meaning of a morpheme is determined by its morphosyntactic context. Aikhenvald's findings are based on data drawn from genetically as diverse languages as Tibeto-Burman, Oceanic, and South American languages, as well as languages of the New Guinean, Australian, and northeast Asian area. African languages, however, are not found in her sample.

In fact, the use of case markers as clause-linkers – or, more precisely, as clause subordinators – is attested in several African languages, particularly in subgroups of the Nilo-Saharan and Afro-Asiatic phyla. Konso, a member of the Cushitic branch of Afro-Asiatic spoken in Ethiopia is a case in point. Two of the non-core case clitics in Konso, the Dative *-'é* and the adverbial case marker *-yyé,* are attested on verbs, where *-'é* marks purpose clauses and *-yyé* adverbial clauses (Mous and Oda 2009: 338-340). In Alaaba, another Cushitic language, the Ablative case marker is employed on verbs marking temporal clauses (Schneider-Blum 2009: 66). Maale, in turn, is part of the Omotic subgroup of the Ethiopian Afro-Asiatic languages. The Maale Dative case marker *-óm* is attested on verbs marking purposive clauses (Amha 2001: 186).

Kanuri is a member of the Saharan languages, which represent a primary branch of the Nilo-Saharan phylum. Kanuri is spoken in northeastern Nigeria. It has two peripheral case markers attested as clause subordinators, the 'indirect postposition' *-ro* marking purpose, reason and complement clauses and the Locative/Instrumental postposition *-lan* marking temporal clauses (Hutchison 1981: 259f.).

As we will show in Section 4, the use of case markers as subordinating devices is attested in Andaandi, too. This Nubian language is spoken in the Nile valley of northern Sudan. It is most closely related to Kenzi in southern Egypt.[3] According to Rilly (2010), Nubian, along with Tama, Nyimang, Nara, and the extinct Meroitic language, forms the northern branch of Eastern Sudanic, which, in turn, is a major subgroup of the Nilo-Saharan language phylum.

This paper is based on data drawn from various sources, i.e. Armbruster's Andaandi grammar (1960) and lexicon (1965), Massenbach's Andaandi texts (1962), and the second author's translation of *The Miracle of Saint Mina* (2012).[4] This means that the language data employed in this paper are in written rather than in oral form and that the present study is preliminary insofar

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[3] In African language studies and in Sudan, Andaandi is often referred to by the term Dongolawi or Dongolese. In the reference work *Ethnologue* this xenonym has recently been replaced by Andaandi, the code for Andaandi being [dgl] (http://www.ethnologue.com/language/dgl). The code for Kenzi (also known as Kunuz and Kunuzi) is [xnz]. Kenzi speakers use the term *Mattoki* to refer to their language.

[4] To indicate the various sources of the data, the examples in this paper exhibit the following abbreviations: § = Armbruster (1960), Lex = Armbruster (1965), M1 = Massenbach (1961), M2 = Massenbach (1962), Sh = El-Shafie El-Guzuuli, StM = *The Miracle of Saint Mina* (2012).

as the question whether tone plays a role in case marking is not addressed.[5] Moreover we have unified the various ways of transcribing Andaandi.[6]

In previous studies of Andaandi the system of grammatical relations, as reflected in the core cases and the cross-referencing of core arguments on the verb, has not been described. Therefore Section 2 aims at providing a description of this system to serve as a background for the study of the case markers.

Before embarking on that issue, let us briefly consider the notion of 'case' and how case may be realized. The definition of the function of case markers, which we have offered in the beginning of this section, addresses two kinds of relations, "the relationship of a noun to a verb at the clause level or of a noun to a preposition, postposition or another noun at the phrase level" (Blake 1994: 1). Therefore cases such as the nominative and accusative which mark the relationship of a dependent noun phrase to a verb may be conceived of as 'verbal cases'. The genitive, by contrast, which marks the dependency of a noun to a noun, may be conceived of as a 'nominal case' (Butt 2006: 8).

In traditional grammars case has been confined to the inflectional suffixes on nouns and their modifiers, as attested in many European languages such as Latin and German. In modern typological studies, however, the term case is also used when it is realized by other morphological or phonological devices such as adpositions or tone (Primus 2011: 304). In Andaandi, as we show in detail below, case is marked by postpositional clitics which are phonologically bound to the last element in a noun phrase. Most case-marking clitics have phonologically conditioned allomorphs.

Although it is assumed that the main function of cases is to express head–dependent relationships (Primus 2011: 314), core case markers are often attested not only on arguments but also on (adverbial) adjuncts (Butt 2006: 7). This raises the question whether core case markers are distinct from case markers on adjuncts (Blake 1994: 9-13). In Andaandi the postpositional clitic *-gi* marks the core case accusative but also temporal adjuncts, see example (29). Moreover *-gi* is used as the base of several other morphologically complex postpositions marking adjuncts

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5 The question whether Andaandi is a tone language has not been investigated. The acute accent used in Armbruster's and Massenbach's works does not mark tone, as one of the reviewers suspects, but rather (word) stress (German 'Akzent'). Massenbach (1961: 242) points out that the distinction between stressed and unstressed syllables is of little relevance to the meaning of a word.

6 The unified transcription used in our paper is based on Jaeger and Hissein's phonological study (2012) showing that Andaandi has a five vowel system with an opposition between short and long vowels. There is no evidence of ATR vowel harmony. Although Massenbach (1961) does not consider phonological issues, her distinction of five long and short vowels conforms with Jaeger and Hissein's insights. Armbruster's vowel chart (§ 328), by contrast, displays eight vowels, i, ɪ, ə, ɛ, ɑ, a, o, u. However, according to Jaeger and Hissein, there is neither a phonological opposition between i and ɪ nor between ɑ and a. As for the central vowel ə, it is only displayed in Armbruster's vowel chart but not attested in any of his lexical data. These considerations confirm that the number of vowels can be reduced to five. As for the representation of long vowels, we use double vowels rather than a macron on a single vowel character, as Massenbach and Armbruster do. We write, for instance, *ee* and *aa* rather than *ē* and *ā*. As for diphthongs, Massenbach and Armbruster use variable spellings, e.g. *mēw* or *mēu* 'pregnant' and *bāj* or *bāi* 'be distant'. Jaeger and Hissein, by contrast, interpret them as a sequence of a long vowel plus a syllable-final approximant, e.g. as *meew* and *baaj*.

(see Table 2). This suggests that in Andaandi there is no clear cut boundary between (core) case markers on arguments and case markers on adjuncts. For this reason we have decided to use the term case to refer to both markers.

2. The system of grammatical relations

The grammatical relations between the head (i.e. the verb) of a clause and its dependents (i.e., the noun phrases) may be morphosyntactically expressed by several devices, including constituent order, case marking, cross-referencing on the verb, and valency changing morphology. In Andaandi, the basic constituent order is Subject-Verb (SV) in intransitive clauses and Subject-Object-Verb (SOV) in transitive clauses, but Object-Subject-Verb (OSV) order is also attested.

Both the S and the A argument are unmarked for Nominative case, as illustrated in the intransitive clause (1) where S is represented by the unmarked noun phrase *ten tiinci,* and in the transitive clause (2), where A is represented by the unmarked noun phrase *een.* By contrast, the P argument is marked for Accusative case by *-gi,*[7] as shown in (2) by *kobid*.

	S		V	
(1)	*ten*	*tii-nci*	*meew-an-kor-an*	StM
	3SG.GEN	cow-PL	pregnant-INCH-PT1-3PL	
	'His/her cows became pregnant.'			

	A	P	V	
(2)	*een*	*kobid=ki*	*kus-ko-n*	StM
	woman	door=ACC	open-PT1-3SG	
	'The woman opened the door.'			

The fact that S and A are morphosyntactically treated in the same way whereas P is treated differently may be briefly summarized in the formula S=A, P. This pattern is characteristic of a (nominative-) accusative system of grammatical relations.

As for cross-referencing, both the S and the A argument are indexed by subject suffixes on the verb. So the verb agrees in person and number with the entity referred to by the S and A argument. Table 1 presents the paradigm of the subject suffixes.[8]

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[7] The case marker *-gi* is realized with a voiced velar [g] when following a vowel or sonorant (nasal, liquid, approximant), and with a voiceless velar [k] when following a non-sonorant (obstruent).

[8] The 2nd and 3rd person singular, on the one hand, and the 1st and 2nd person plural form, on the other, hand are not morphologically distinguished.

Table 1. Subject suffixes

Number	Person	Subject suffix
Singular	1	*-i*
	2	*-(i)n*
	3	*-(i)n*
Plural	1	*-u*
	2	*-u*
	3	*-an*

When comparing the relationship between the two objects of a ditransitive clause, as in (3), and the single object of a monotransitive clause, as in (2), one recognizes that all objects are ACC-marked. In (3), T (theme) is realized by the ACC-marked noun phrase *ten kiray* and R (recipient) by the ACC-marked noun phrase *ʃaafa.*[9]

	A	R	T		V	
(3)	*ay*	*ʃaafa=gi*	*ten*	*kiray=gi*	*tir-kor-i*	Sh
	1SG	child=ACC	3SG.GEN	present=ACC	give3-PT1-1SG	
	'I gave the child his/her present.'					

The fact that both T and R receive ACC-marking just like the ACC-marked P realized by *kobid* in the transitive clause (2), suggests that there is a double-object construction in the ditransitive clause. However, when their referents are plural, it is both R and P that are cross-referenced on the verb; for the T relation this is not possible.

In fact, both the P noun phrase of a transitive clause and the R noun phrase of a ditransitive clause are cross-referenced by the verbal extension *(-ir)-ir* (realized on some verbs as *-ir,* on other verbs as *-irir*)[10] when the entities to which these noun phrases refer are plural; see example (4) and (6). We gloss the *(-ir)-ir*-extension as 'plural object' (PLOJ), adopting this term from Armbruster (1960: §3031ff.) and Massenbach (1961: 271).[11]

Note that the plural object is encoded on the verb by the suffix *(-ir)-ir* and the imperfective (glossed as R)[12] by the suffix *-ir*. When the suffix encoding the plural object precedes the imperfective suffix the sequence *-ir-ir-ir* is realized as *[iridd],* as seen in (4), and the sequence -

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[9] Both complements of a ditransitive verb of speech receive ACC-marking, too.
ay *awad=ki* *ay* *juubu-s-i=gi* *wee* *tir-kor-i*
1SG Awad=ACC 1SG come-PT2-1SG=ACC tell APPL-PT1-1SG
'I told Awad that I was coming.'

[10] The question when the plural object is cross-referenced by *-ir* and when by *-ir-ir* requires further study.

[11] The Andaandi verbal extensions *-ir* and *-ir-ir* are restricted to cross-referencing the plurality of the P and R/B participant. In the Kordofan Nubian languages, by contrast, the number of the S and P participants is cross-referenced on the verb.

[12] Although we have not yet explored the tense/aspect system of Andaandi, there is evidence suggesting that the R-suffix is an imperfective marker and as such functionally contrasting with the *s*-morpheme marking the perfective aspect. For this reason we do not gloss the R-suffix as 'Present Tense' or 'Neutral', as suggested by Armbruster (1960) and Abdel-Hafiz (1988), respectively.

ir-ir as *[idd]* (Armbruster 1960: §3045). The plural object extension is illustrated in the transitive clause (4) and the ditransitive clause (6). The ditransitive clause (3) and the transitive clause (5), by contrast, attest the absence of the plural object suffix because the number of the entity to which R and P refer is singular.

(4) *ay* *bitaan-i=gi* *jom-irid-d-i* Sh
1SG child-PL=ACC hit-PLOJ-R-1SG
'I hit the children.'

(5) *ay* *bitaan=gi* *jom-ir-i* Sh
1SG child=ACC hit-R-1SG
'I hit the child.'

	A	R	T		V	
(6)	*ay*	*ʃaafa-ri=gi*	*tin*	*kiray=gi*	*tir-ir-kor-i*	Sh
	1SG	child-PL=ACC	3PL.GEN	present=ACC	give3-PLOJ-PT1-1SG	
	'I gave the children their present.'					

As shown in (6) and (7), the T, here realized by *tin kiray* and *ten kiray-i,* respectively, is ACC-marked but unlike P and R, the T relation is not cross-referenced by the *(-ir)-ir*-extension on the verb when it refers to a plural entity. The absence of this extension is illustrated in (7).

	A	R	T		V	
(7)	*ay*	*ʃaafa=gi*	*ten*	*kiray-i=gi*	*tir-kor-i*	Sh
	1SG	child=ACC	3SG.GEN	present-PL=ACC	give3-PT1-1SG	
	'I gave the child his/her presents.'					

Thus, in respect to accusative marking and the cross-referencing of the 'plural object' by *(-ir)-ir* on the verb, the R relation in a ditransitive clause and the P relation in a monotransitive clause are morphosyntactically treated alike. For this reason P and R can be grouped together as 'primary object', as opposed to T which may be referred to as 'secondary object'. A relationship characterized by identical morphosyntactic coding of R and P while T is treated differently is known as secondary object construction (Haspelmath 2011).[13]

In a ditransitive clause, the recipient or beneficiary noun phrase (briefly R/B) and the T noun phrase are distinguished by constituent order as well as cross-referencing. As shown in (6) to (9), the R/B constituent precedes the T constituent. Except when R/B and T are dependents of the independent verb *tir* or *deen* 'give', as in (3), (6), and (7) above, they are morphosyntactically distinguished by the applicative morpheme following a lexical verb, such as *kus* 'open' in (8) and (9). In such multiverb constructions, the 'give' verbs *tir* and *deen* assume the function of

[13] In the WALS map showing the feature "Ditransitive Constructions: The Verb Give", Andaandi is erroneously classified as a language characterized by an 'indirect object construction' (Haspelmath 2011: chapter 105). By definition this construction requires the theme of a ditransitive verb to be coded like the patient of a transitive verb.

applicative morphemes cross-referencing the R/B relation; the T relation, however, is not cross-referenced on the verb.[14]

	A	B	T		
(8)	*burw-i*	*tintin-baab=ki*[15]	*kaa=gi*		
	girl-PL	3PL.GEN-father=ACC	house=ACC		
	V				
	kus	*tir-kor-an*			Sh
	open	APPL2/3-PT1-3PL			
	'The girls opened the house for their father.'				

	A	B	T	V		
(9)	*burw-i*	*ay=gi*	*kaa=gi*	*kus*	*deen-kor-an*	Sh
	girl-PL	1SG=ACC	house=ACC	open	APPL1-PT1-3PL	
	'The girls opened the house for me.'					

Taking cross-referencing on the verb as the decisive criterion, the analysis sees S, A, P, and R/B as core relations. The T relation is not cross-referenced on the verb and therefore would not count as a core relation. In respect to Accusative marking, however, T is grouped with the core relations P and R/B.

The non-core (i.e. peripheral) relations such as instrument, location, and accompaniment are not cross-referenced on the verb. Rather, they are encoded by specific peripheral case markers, as illustrated in Section 3 below.

The case markers are postpositional clitics rather than suffixes. They attach to the last word of a noun phrase irrespective of the grammatical category of this last item, which may be a noun, a pronoun, an adjective or a numeral.[16] The clitics are phonologically dependent on the preceding segment. So each clitic has allomorphs, as shown in Table 2 below. Clitics can be identified as 'analytic' case markers, 'synthetic' case markers, by contrast, are realized by inflectional morphology, as attested in Latin and German, for instance (Blake 1994: 9).

Table 2 provides a brief overview over the case marking clitics. The notions core and peripheral case are adopted from Blake (1994: 34) who defines as core cases "the cases that encode the complements of typical one-place [intransitive] and two-place transitive verbs."

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[14] There are two 'give' verbs, *tir* and *deen.* The first one refers to a 2nd or 3rd person R/B. The second one refers to a 1st person R/B. Accordingly, when *tir* and *deen* are used as independent verbs, they are glossed as 'give2/3' and 'give1', when they are used as applicative morphemes in multiverb constructions, as seen in (8) and (9), they are glossed as APPL2/3 and APPL1, respectively.

[15] Kinship terms are obligatorily marked by a person pronoun plus Genitive *-n*, i.e. a possessive prefix. The possessive prefixes are commonly represented in the plural form, so *tin-een* 'his/her mother' literally means 'their mother', as in (54). When the possessor is plural, however, the possessive prefix is reduplicated, as shown by *tintin-baab* in (8).

[16] In respect to the orthography of Andaandi, other solutions may be adopted to facilitate the reading and writing of case markers on noun phrases.

Table 2. Andaandi case markers

Core cases	NOMINATIVE	unmarked
	ACCUSATIVE	*=gi ~ g ~ ki ~ k*
Peripheral cases	GENITIVE	*=n ~ ɲ ~ ŋ*
	INSTRUMENTAL	*=g-ed ~ k-ed*
	COMITATIVE	*=g-onon ~ k-onon*
	ALLATIVE 1	*=g-addi ~ k-addi*
	ALLATIVE 2	*=g-ir ~ k-ir*
	LOCATIVE	*=r ~ ir ~ ro ~ lo ~ do*
	ADESSIVE	*=na-r*
	ABLATIVE 1	*=r-toon ~ ir-toon ~ ro-toon ~ lo-toon ~ do-toon*
	ABLATIVE 2	*=na-r-toon*
	SIMILATIVE	*=nahad*

As argued above, the (core case) Accusative marker *-gi* does not only encode complements of two-place transitive verbs, as shown in (2), but also the complements of three-place ditransitive verbs, as illustrated in (3) and (6) to (9). Additionally, the Accusative is used to encode expressions of time, as shown in the commentary preceding example (29). Moreover *-gi* represents the morphological base of the four *g*-initial peripheral case markers, *-g-ed* (Instrumental), *-g-onon* (Comitative), *-g-addi* (Allative 1), and *-g-ir* (Allative 2), as seen in Table 2. Thus the Accusative is a highly multifunctional case involved in the encoding of both core and peripheral relations.

3. Peripheral cases

Peripheral cases are "cases that encode purely semantic relations" (Blake 1994: 205).

The Genitive case is marked by the clitic *-n.* It is defined as the "case that encodes the adnominal relation that subsumes the role of possessor" (Blake 1994: 201). The Genitive is the only grammatical case that relates two nouns, rather than a noun and a verb. The Genitive precedes its head, as illustrated in (10), where the GEN-marked noun *erhiis* has the role of possessor while the head (i.e. the possessee) is represented by the noun *missi.*

(10) *erhiis=n* *missi* StM
skipper=GEN eye
'the skipper's eye'

The Instrumental is marked by the clitic *-ged* (allomorph *-ked*). It may be defined as a "case expressing the means by which an activity is carried out" (Blake 1994: 202). This basic function of the Instrumental is illustrated in (11) where the noun phrase *kushar* is INS-marked since it plays the role of instrument or tool. In interaction with the semantics of the verb and the INS-marked noun phrase, however, the Instrumental can express a wide range of other semantic roles, including means of transport, location, path, time, material, manner, reference, rate, and cause (for details see Jakobi and El-Guzuuli 2014). Thus, the semantic interpretation of an INS-marked noun phrase strongly depends on the context. This is illustrated in (12) to (23).

(11) *kufar=ked kob-buu-n* §4665
key=INS shut-STAT-3SG
'It is locked with a key.'

Except when referring to an animal used as a means of transport, as *kaj* 'horse' in (12), the referent of the INS-marked noun phrase is usually inanimate.

(12) *kaj=ked nog-in* §4343
horse=INS go-3SG
'He goes on horseback.'

The INS-marked noun phrase is assigned the role of location when it designates a location, as *tingaar* 'west bank' in the following example.

(13) *tingaar=ked bel-ko-n* M2.104
west.bank=INS get.out-PT1-3SG
'S/he got out [of the boat] on the west bank.'

However, an INS-marked noun phrase designating a location, as *abaag* 'buttock, back part, end' may also assign the role of time to that noun phrase.

(14) *ay abaag=ked bi nal-l-i* Sh
1SG end=INS INT see-R-1SG
'I will look at it later.'

When an INS-marked noun phrase designates a quantifiable temporal expression, it assigns the role of duration. In the next example the item *yoom* 'day' is a borrowing from Arabic.

(15) *ay yoom kolod=ked kooloon=do bu taa-r-i* Sh
1SG day seven=INS Cologne=LOC INT come-R-1SG
'I will come for seven days to Cologne.'

In interaction with a verb expressing directed motion, as *taar*[17] 'come' in the following example, the Instrumental assigns the role of route or path to a noun phrase designating a place.

(16) *ay urdi=ged taa-gor-i* Sh
1SG urdi=INS come-PT1-1SG
'I came via Urdi.'

[17] The root-final *-r* of *taar* is deleted in the present grammatical context. In the imperative singular form, the root is reduced and realized as [ta], see (28).

The INS-marker *-ged* assigns the role of goal to a noun phrase designating a destination, as *kannee* 'north' in the following example.

(17) *medresa=gi an kaa=n kannee=ged*
school=ACC 1PL.GEN house=GEN north=INS

goŋ-kor-an Sh
build-PT1-3PL
'They have built the school north of our house.'

A motion verb like *daa* 'come' assigns the role of source to the INS-marked noun phrase.

(18) *isaay=ged daa-n* Sh
which=INS come-2SG
'From where are you coming?'

A verb designating a manufacturing process, such as *goŋ* 'build', can assign the role of material in interaction with a noun phrase marked for Instrumental case.

(19) *tuub=ked aag=goŋ-ir-an-dee* Sh
brick=INS CONT=build-R-3PL-Q
'Are they building in brick?'

When the INS-marker is attached to a noun phrase designating an abstract notion (like *alee* 'truth'), the case marker may assign the role of manner to that noun phrase.

(20) *alee=ged gon ay on uski-gi-r-i* StM
truth=INS and 1SG EMPH give.birth-COND-R-1SG
'And truly, if I give birth […]'

In interaction with a verb designating commercial activities like selling, buying, bartering *-ged* assigns the role of rate or price to a noun phrase designating quantifiable entities.

(21) *in=gi giriʃ=n toorti=ged jaan*[18]*-kor-i* Lex62
this=ACC girish=GEN half=INS buy-PT1-1SG
'I bought this for half a girish.'/'I sold this for half a girish.'

An INS-marked noun phrase designating an utterance or declaration can be assigned the role of reference.

[18] The meaning of the verb *jaan* depends on the context, rendered as either 'buy' or 'sell'.

(22) *arti=n* *amur=ked* StM
God=GEN order=INS
'according to the order/wish of God'

As mentioned above, the Instrumental is the "case expressing the means by which an activity is carried out" (Blake 1994: 202), where the notion of 'means' is cognitively closely associated with an inanimate force that brings about change or that causes a change of state. Therefore the Instrumental case can be employed to assign the role of cause or reason to a noun phrase, as illustrated in the next example, where *eer* 'desire' is a noun.

(23) *essi=n* *eer=ked* *dii-gor-an* Lex62
water=GEN desire=INS die-PT1-3PL
'They have died of thirst.'

The Comitative is marked by the clitic *-gonon* (allomorph *-konon*). Blake (1994: 198) describes it as a "case expressing with whom an entity is located. Usually used of animates." This is true for Andaandi, too, as seen in the following example, where the Comitative marker assigns the role of accompaniment to the noun phrase *ahmed.*

(24) *ar* *ahmed=konon* *taa-gor-u* Sh
1PL Ahmed=COM come-PT1-1PL
'We came with Ahmed.'

There are two Allative cases. We suggest distinguishing them by numbers, as Allative 1 (glossed as ALL1) and Allative 2 (ALL2). They are marked by *-gaddi* (allomorph *-kaddi*) and *-gir* (allomorph *-kir*), respectively.

Both case markers are morphologically complex. As for Allative 2, we assume that *-gir* is composed of the Accusative *-g(i)* plus the Locative *-ir.* As for Allative 1, the morphological composition is less transparent. However, evidence for the components of *-gaddi* comes from the etymologically related Allative case marker *-kabir* attested in Abdel-Hafiz's Kenzi grammar (1988: 99). He provides just this morpheme which undoubtedly is an allomorph of *-gabir*. It is conceivable that *-gabir* is composed of three morphemes, *-g-ab-ir,* the first morpheme being the Accusative *-g(i),* the final morpheme being the Locative *-ir,* the medial morpheme *-ab* being yet unidentified. Due to metathesis of the two final segments, *-gabir* was probably first realized as *-gabri.* After this unattested intermediate stage, the consonant sequence *br* was replaced by *bd* which is attested by *-(g)-abdi* in Armbruster's grammar (1960: §4335). Triggered by anticipatory assimilation, the labial stop *b* in *-gabdi* has adopted the place of articulation of the following alveolar stop *d,* resulting in the realization *-gaddi,* as attested in Andaandi.

(25) *maar* *owwinti* *weer=kaddi* *mukki-go-n* StM
village second IDF=ALL1 sail-PT1-3SG
'He sailed to another village.'

Just like Allative 1, Allative 2 is attached to noun phrases denoting places. Blake (1994: 197) briefly describes the Allative as "case expressing 'to'." That is, the Allative case markers assign the role of goal to a noun phrase.[19]

(26) *ay* *xartuum=gir* *nog-buu-r-i* Sh
1SG Khartoum=ALL2 go-STAT-R-1SG
'I am going to Khartoum.'

The Locative is marked by the clitic *-r.* It has several allomorphs *-ir, -ro, -lo, -do* that are triggered by the preceding segment. The Locative is the "case that expresses the role of location" (Blake 1994: 203). It is attested on noun phrases referring to animate or inanimate entities, as illustrated in (27) and (28).

(27) *kaj* *aroo* *weer=ro* *kuj-aag-in* StM
horse white IDF=LOC ride-PROG-3SG
'He was riding on a white horse.'

However, in connection with a verb of directed motion, a LOC-marked noun phrase is assigned the role of goal.

(28) *kaa=r* *ta* Sh
house=LOC come.IMP.2SG
'Come to [my] house.'

Since place and time are cognitively closely associated, the Locative case is also used to encode temporal expressions, e.g. *bedri-r* 'early', *fejir-ro* 'at dawn', *ogol-lo* 'before, previously to', *adir-ro* 'in winter'. Apart from the Locative, the Accusative and the Instrumental case markers may be employed, too, to encode noun phrases with the role of time, e.g. *asal-gi* '(by) tomorrow', *wiil-gi* 'yesterday', *uguu-gi* 'by night', *ʃaare-gi* 'at dusk', *in jen-gi* 'this year', *abaag-ked* 'afterwards', *baad-ked* 'afterwards'. The variable case marking of temporal noun phrases by *-r, -ged* or even *-gi,* as in (29) suggests that it cannot be predicted; it is lexicalized.

(29) *ugrees=ki* *neer-r-an* §4290
day=ACC sleep-R-3PL
'They (habitually) sleep by day time.'

According to Blake (1994: 196), the Adessive (glossed as AD) is a "case expressing 'at' or 'near'." It is marked by the clitic *-nar* and is used with noun phrases referring to humans and places associated with them. This is illustrated by (30) and (31), respectively. Note that in (31)

[19] Further research is required to find out whether there is a semantic or subtle functional distinction between *-gir* and *-gaddi.*

the semantic role of the AD-marked noun phrase is interpreted as goal because of its semantic interaction with the directed motion verb *nog* 'go (to)'.

As for the origin of the morpheme *-nar*, we assume that it is a complex morpheme composed of *-na* and the Locative marker *-r*. The first component, *-na*, is probably a reflex of the Proto-Nubian Genitive marker **-na* which is otherwise not used in Andaandi but well attested in Kenzi (Abdel-Hafiz 1988: 94). Our analysis differs from Armbruster's (1960: §4304) who suggests that *-n* is the Genitive. He does not identify *-ar*, however.

(30) *tajir=nar wersi* §4304
merchant=AD demand.IMP.2SG
'Try to get it at the merchant's'

(31) *doktoor=n-aa=nar nog-ir-an* Sh
doctor=GEN-same=AD go.to-R-3PL
'They go to the same doctor.'

There are two Ablative cases, which we differentiate by numbers, i.e. Ablative 1 (glossed as ABL1) and Ablative 2 (ABL2). While Ablative 1 is marked by *-rtoon* (allomorphs *-irtoon, -lotoon, -dotoon*), Ablative 2 is marked by *-nartoon.* Both case markers are morphologically complex, *-rtoon* being composed of the Locative *-r* plus *-toon,* and *-nartoon* being composed of three parts, *-na-r-toon.* Blake (1994: 196) defines the Ablative as the "case that expresses the role of source, which is expressed by 'from' in English." The entity referred to by the ABL1-marked noun phrase is inanimate, as shown in (32) and (33).

(32) *ay umbud=ki saatti=n dukkaan=dotoon jaan-kor-i* Sh
1SG salt=ACC Saatti=GEN shop=ABL1 buy-PT1-1SG
'I have bought the salt from Saatti's shop.'

(33) *er in=dotoon imbel-ki-n* StM
2SG DEM.PROX=ABL1 start.off-COND-2SG
'If you start off from here [...]'

In addition to encoding the role of source, Ablative 1 is also employed to mark the temporal relation 'since', e.g. *nii=rtoon* 'since last year', *buuf=irtoon* 'since Monday'. Furthermore Ablative 1 assigns the semantic role of material, see (34). Alternatively, the role of material may be expressed by the Instrumental, as shown in (19) above.

(34) *kade=rtoon aw-katti-n* §4308
cloth=ABL1 make-PASS-3SG
'It is made of cloth.'

Ablative 2 is assumed to be composed of the Genitive **-na,* the Locative *-r,* and *-toon.* Like the Adessive case marker *-nar,* on which *-nar-toon* is based, Ablative 2 is restricted to noun phrases

referring to humans. It assigns the role of source to these noun phrases. This is illustrated in the following two examples.

(35) *samil=nartoon* *daa-r-an* Sh
chief=ABL2 come-R-3PL
'They are coming from the chief.'

(36) *dungi=gi* *im-baab=nartoon* *aar* Sh
money=ACC 2PL.GEN-father=ABL2 take.IMP.2SG
'Get/take the money from your father.'

The Similative[20] case (glossed as SIM) is marked by *-nahad*.[21] It assigns the role of resemblance or similitude to the noun phrase to which it is attached. This case may be rendered in English as 'like, as'. Interestingly, *nahad* is also attested in combination with the case markers *-gi* and *-ged,* as seen in (38) and (39), respectively. This may mean that the speakers do not 'feel' that *nahad* is a case marker. Rather they appear to perceive *nahad* as a noun-like element.

(37) *wel=nahad* *uukki-go-n* §4320
dog=SIM bark-PT1-3SG
'It barked like a dog.'

The following example is rendered as an intransitive clause in Armbruster (1960: §4324). However, according to the second author of the present paper, it is rather a transitive clause to be rendered as 'Something burned something else like a fire'.

(38) *iig=nahad=ki* *jugur-ko-n* §4324
fire=SIM=ACC burn-PT1-3SG
'It burned like fire.'

(39) *kaare=nahad=ked* *boww-in* §4326
fish=SIM=INS swim-3SG
'S/he swims like a fish.'

The preceding sections have shown that different case markers may assign similar semantic roles to a noun phrase. This is particularly obvious for the Accusative *-gi* and the Locative *-r* which can both mark temporal relations, for the Instrumental *-ged* and Ablative 1 *-rtoon* which can both mark noun phrases with the role of material, and for the Allative 1 *-gaddi* and Allative 2 *-gir.* The functional overlap of these case markers probably gives rise to a lexicalized distribution of

[20] Blake (1994) does not account for the Similative.

[21] According to the second author of this paper, *nahad* is not a borrowing from Arabic. So he does not agree with Armbruster's hypothesis (1960: §4320) claiming that *nahad* is based on Arabic *naḥt* 'nature, natural disposition, cast of constitution'.

the case markers, as attested with the unpredictable and therefore lexicalized occurrence of *-gi* and *-r* on noun phrases expressing time.

Among the various peripheral case markers the local cases are the most numerous. They encode "roles relating to position (location) or change of position (source, path, destination)", as Blake (1994: 203) writes. In Andaandi, the local cases include,

- the Locative and the Adessive,
- Ablative 1 and Ablative 2,
- Allative 1 and Allative 2, and
- the Instrumental when it interacts with motion verbs.

The Instrumental is usually not conceived of as a local case. However, as illustrated in (13), (16), and (18), it can encode the role of location, path/route, and source.

Having shown in Section 2 and 3 how case markers are used to encode core and peripheral relations to the verb, Section 4 will be concerned with case markers used as subordinators.

4. Case markers employed as subordinators

The term 'subordinate clause' is used as a cover term for clauses which are grammatically dependent on another clause or some element in another clause. According to Thompson, Longacre and Hwang (2007: 237f.), these clauses comprise i) complements functioning as noun phrases, ii) adverbial clauses which modify verb phrases or entire clauses, and iii) relative clauses functioning as modifiers of nouns. Since Andaandi case markers are not attested as subordinators of relative clauses, these clauses are excluded from further consideration.

In contrast to subordinate clauses, main clauses are conceived of as independent declarative clauses. Subordinate clauses differ from main clauses in (at least) two respects.

- Subordinate clauses most often precede the main clause.
- The morphological encoding of past events differs in main and subordinate clauses. For details see the comments following example (40b).

The preferred order, subordinate clause – main clause, is attested in (40a) and most of the examples in this section.

(40a)	*[waas-in][22]=bokkon*	*iig=ir*	*kujur-r-an*	Sh
	[boil-3SG]=until	fire=LOC	put.on-R-3PL	
	'They put it on the fire until it boils.'			

The reversed order, main clause – subordinate clause, as attested in (40b) and (48), is pragmatically motivated.

[22] Here and in the following examples the subordinate clauses are highlighted by square brackets.

(40b) *iig=ir* *kujur-r-an* *[waas-in]=bokkon* M1.307
fire=LOC put.on-R-3PL [boil-3SG]=until
'They put it on the fire until it boils.'

In main clauses, past events are either marked by the complex morpheme *-ko-r*[23], which we provisionally label 'preterite 1' (glossed as PT1), or the simple morpheme *-s,* provisionally labeled 'preterite 2' (glossed as PT2). The choice between these two morphemes is probably determined by aspectual distinctions.[24] Moreover, while *-s* is employed to mark past events in subordinate clauses, *-ko-r* is not permitted in them.

Note that there are two exceptions to *s*-marking. They concern conditional clauses as well as temporal clauses marked by the subordinator *-gaal*. Temporal clauses marked by *-gaal* 'when' neither receive *s-* nor *-ko-r-*marking. Rather, the finite verbs of these clauses receive imperfective marking (glossed by R), as illustrated in (41).

(41) *[ay* *nog-ir-i]=gaal* *oŋ-ko-n* Sh
[1SG go.to-R-1SG]=when cry-PT1-3SG
'When I left, s/he wept.'

Except for conditional clauses, subordinate clauses are commonly marked by a subordinator attached to the clause-final verb. This is first illustrated by two subordinators not having case marking function. Example (40) above and (42) illustrate temporal clauses marked by the subordinators *-n-bokkon* 'until' and *-taad* 'when', respectively.[25]

(42) *[tir* *nog-ir-an]=taad* *ay=gi* *wee* *deen* §6200
[3PL go.to-R-3PL]=when 1SG=ACC say APPL1.IMP.2SG
'When they go, tell me.'

However, the marking of conditional clauses differs since they do not take a subordinator attached to the finite verb but rather the inflectional suffix *-gi* (allomorph *-ki*). Additionally, when the A or S noun phrase of the conditional clause is overtly expressed, it is marked by the clitic *-on* which we provisionally gloss as marker of emphasis (EMPH).

(43) *[ay=on* *uski-gi-r-i]* *ay* *bi*
[1SG=EMPH give.birth-COND-R-1SG] 1SG INT

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[23] This morpheme is realized as *[ko]* when it precedes the subject suffix of the 2nd and 3rd person singular *-n.* When preceded by a vowel, the suffixes *-kor* and *-ko* are realized as *[gor]* and *[go],* respectively.

[24] The function and distribution of the tense/aspect markers *-s*, *-ko-r* and *-r* is not yet fully understood and therefore requires further research.

[25] Armbruster (1960: §4328 and §4337) renders both *-gaal* and *-taad* by English 'when'. However Massenbach (1961: 306-307), in a section dealing with temporal clauses, renders *-gal* and *-ga* (which are dialectal variants of *-gaal*) by German 'als' and *-tad* and *-ta* (dialectal variants of *-taad*) by German 'wenn, als'. This suggests that, apart from its temporal meaning, *-taad* also has conditional meaning.

mesiihi-an-d-i StM
Christian-INCH-R-1SG
'If I give birth, I will become a Christian.'

Moreover in conditional clauses preterite 1, *kor*, is used rather than preterite 2, *-s*, as seen in example (44), which expresses a hypothetical, counterfactual situation in the past.

(44) *[ter=on oddi-go-gi-n]* *doktoor=nar*
[3SG=EMPH be.sick-PT1-COND-3SG] doctor=AD

bi juu-go-n Sh
INT go.to-PT1-3SG
'If s/he had been sick, s/he would have gone to the doctor.'

The following two sections, 4.1 and 4.2, are devoted to the Andaandi case markers and their various functions as subordinators in complement and adverbial clauses.

4.1. Complement clauses. An object complement clause bears the same grammatical relation to the verb as the object complement or P argument. This relation is encoded by the core case marker *-gi,* as illustrated in (45) to (47), respectively. Complement clauses are often arguments of perception verbs such as *gijir* 'hear' and verbs of knowledge and opinion, such as *uŋur* 'know' and *karj* 'testify'.

(45) *bitaan* *[tin-een taa-s-in]=gi*
child [3PL.GEN-mother come-PT2-3SG]=ACC

gijir-ko-n M1.303
hear-PT1-3SG
'The child heard that his/her mother has come.'

(46) *[ter juubu-n]=gi* *uŋud-d-i* Sh
[3SG come-3SG]=ACC know-R-1SG
'I know that s/he is coming.'

(47) *[ali kaa=r aag-s-in]=gi*
[Ali house=LOC stay-PT2-3SG]=ACC

aag=karj-ir-an §6191
CONT=testify-R-3PL
'They keep on testifying that Ali was in the house.'

In English, such object complement clauses are often introduced by the complementizer 'that'.

4.2. Adverbial clauses. When a peripheral case marker is attached to the verb of a subordinate clause, the case marker assumes the function of an adverbial clause subordinator, i.e. it assigns a semantic role to that clause. Peripheral case markers attested as subordinators are the Instrumental *-ged,* the Comitative *-gonon*, the Locative *-r,* the Ablative 1 *-rtoon,* the Similative *-nahad,* and the Genitive *-n.*

Adverbial clauses marked by *-ged*. In Section 2, we have pointed out that the notion of instrument is cognitively closely associated with an inanimate force that brings about a change. For this reason the Instrumental case marker assigns the role of cause to a noun phrase, as seen in (23) above. Even in a different morphosyntactic context, when the Instrumental case marker *-ged* is attached to a clause-final verb, *-ged* assigns the role of cause to that clause. That is, it is interpreted as a subordinator for causal clauses, as illustrated in (48) and (49).

(48) *enn* *erri=ged* *tagir-os*
2SG.GEN name=INS cover-CPL.2SG

[ay *aabe=gi* *aaw-edaag-ir-i]=ged* StM
[1SG sin=ACC do-RESUL-R-1SG]=INS
'Protect me with your name because I have committed sin.'

(49) *[sand-in]=ged* *iig=n* *atti=r* *teeg-in* Sh
[fear-3SG]=INS fire=GEN beside=LOC sit-3SG
'Because s/he is afraid s/he sits by the fire.'

Adverbial clauses marked by *-gonon*. When the Comitative case marker *-gonon* is attached to a noun phrase it assigns the role of accompaniment to an animate referent, as seen in (24). However when *-gonon* is attached to a subordinate clause it expresses a temporal relation between two events of which one event is immediately anterior to the other. This suggests that the notion of physical accompaniment is semantically extended to the temporal domain.

(50) *[ar=gi* *nal-s-an]=gonon* *bood-kor-an* Sh
[1PL=ACC see-PT2-3PL]=COM run.away-PT1-3PL
'As soon as they saw us they ran away.'

(51) *[ten* *dummade-nci=n* *barre=r*
[3SG.GEN hen-PL=GEN intervening.space=LOC

undur-s-in]=gonon *dumal=lo* *malle* *kumbu=gi*
put-PT2-3SG]=COM sudden=LOC all egg=ACC

mug-kor-an StM
lay.egg-PT1-3PL
'As soon as s/he put it among the hens
they all suddenly laid eggs.'

Thus, when the Comitative case marker *-gonon* is used as a subordinator it acquires the reading 'as soon as' or '(at the same time) when'.

Adverbial clauses marked by *-r*. When *-r* is employed as a subordinator, it is linked to the finite verb of the subordinate clause by means of *-n*. This linker (which originates in the Genitive case marker) is, however, not required when the verb ends in *n.* The resulting complex morpheme *-n-r* is realized as *[ndo]*. In regard to its morphological complexity, *-ndo* is comparable to the purpose clause marker *-n-illar* 'in order to' and the temporal clause marker *-n-bokkon* 'until' which – unless the verb ends in a nasal – are also linked by *-n* to the preceding finite verb of the subordinate clause.

As a subordinator, the Locative assigns to that clause a temporal or locational role, as shown in (52) and (53). When used as a subordinator of temporal clauses the Locative expresses a sequence of events, the event expressed in the subordinate clause preceding the event in the main clause.

(52) *[am-baab* *dii-s-in]=do* *dungi=gi*
[1PL.GEN-father die-PT2-3SG]=LOC money=ACC

mug-ko-mun-un Sh
leave-PT1-NEG-3SG
'When my father died he did not leave any money.'

At first sight, the locational clause (53) looks like a relative clause, particularly since the locational noun is shifted to the left, which is common with relativized nouns.

(53) *beled* *[ar* *bi* *nog-ir-u]=n=do* *in*
country [1PL INT go.to-R-1PL]=GEN=LOC this

digrii-n Lex167
plentiful-COP.3SG
'In the country to which we will go this is plentiful.'

However, in contrast to such adverbial clauses which are case-marked on the verb, in relative clauses there are no case markers on the verb (Jakobi and El-Guzuuli 2015). This is shown in the relative clauses (54) and (58). The head noun *beled* in (54) has the role of Goal assigned to it by the directed motion verb *taar* 'come'. The Goal role is encoded by the Locative marker on the resumptive pronoun *ter* rather than on the verb.

(54)	*in*	*tannan*	*beled*	*ay*	*ter=do*	*ogol=lo*	*taa-s-i*	Sh
	this	PRED	country	1SG	3SG=LOC	before=LOC	come-PT1-1SG	
	'This is the country to which I have come before.'							

Locational clauses may be realized with or without a noun expressing a location. In (53) the locational noun *beled* 'country' is present and in (55a) there is *agar* 'place', but in (55b) *agar* is absent.[26]

(55a)	*agar*	*[ir*	*aag-ir-u]=d=do*	*teeg-we*	Sh
	place	[2PL	stay-R-1PL]=GEN=LOC	stay-IMP.2PL	
	'Stay at the place where you are sitting.'				

(55b)	*[ir*	*aag-ir-u]=d=do*	*teeg-we*	Sh
	[2PL	stay-R-1PL]=GEN=LOC	stay-IMP.2PL	
	'Stay where you are sitting.'			

Alternatively, example (55a) and (55b) can be expressed by (55c). In this example the Genitive *-n* is attached to the finite verb. The case marker assigns the role of possessor to the clause *ir aagiru.* Consequently the following locational noun *agar* assumes the role of possessee. The order possessor – possessee or Genitive – head noun is the common pattern of Genitive constructions in Andaandi, as already explained in Section 3. Independently of its possessee role for the subordinate clause, *agar* is LOC-marked in the main clause and thus assigned the role of location.

(55c)	*[ir*	*aag-ir-u]=n*	*agar=ro*	*teeg-we*	Sh
	[2PL	stay-R-1PL]=GEN	place=LOC	stay-IMP.2PL	
	'Stay at the place where you are sitting.'				

Adverbial clauses marked by *-rtoon*. Unless the finite verb of the subordinate clause ends in *n,* the Ablative 1 marker *-rtoon* is attached by means of the Genitive *-n* to that verb. The resulting morpheme sequence *-n-ro-toon* is realized as *[ddotoon]*.

[26] The sequence of the genitive *=n* and the locative *=do* may be realized either as *[ndo]*, as seen in (53), or, due to anticipatory assimilation, as *[ddo]*, as seen in (55a) and (55b). These alternative realizations are also addressed in Armbruster's grammar (1960: §4350).

Depending on the context, the Ablative 1 case marker *-rtoon* can either assign to an adverbial clause the role of source, as seen in (57a) to (57c) or the role of the temporal relation 'since', as seen in (56).

(56) *[in=do taa-s-i]=n=dotoon jen kemis=kiri*
[this=LOC come-PT2-1SG]=GEN=ABL1 year four=about

tannan Sh
PRED
'It's about four years since I have come here.'

Whereas in (56) the temporal interpretation of the Ablative 1 case marker is triggered by the presence of the temporal expression *jen kemis* 'four years', the spatial interpretation of that case marker is due to the presence of the motion verbs *bel* 'come out' and *taar* 'come'.

(57a) *agar [ir aag-ir-u]=d=dotoon bel taa-we* Sh
place [2PL sit-R-2PL]=GEN=ABL1 come.out come-IMP.2PL
'Come out from the place where you are (sitting).'

A locational noun such as *agar* in (57a) is not required. It may be absent, as illustrated in (57b).

(57b) *[ir aag-ir-u]=d=dotoon bel taa-we* Lex168
[2PL sit-R-2PL]=GEN=ABL1 come.out come-IMP.2PL
'Come out from where you are (sitting).'

The following example presents an alternative way of expressing (57a) and (57b). In (57c), the clause *ir aagiru* is marked for Genitive thus assigning the role of possessor to that clause. Consequently, the following noun *agar* assumes the role of possessee for the subordinate clause. In the main clause, however, *agar* is ABL1-marked and is thereby assigned the role of source.

(57c) *[ir aag-ir-u]=n agar=rotoon bel taa-we* Sh
[2PL sit-R-2PL]=GEN place=ABL1 come.out come-IMP.2PL
'Come out from the place where you are (sitting).'

The English rendering of the preceding examples suggests that they are relative clauses. However, adverbial and relative clauses differ in that adverbial clauses are characterized by the presence of case markers on the finite verb whereas case markers do not occur on finite verbs of relative clauses, as shown in (54) and (58).

The head of the relative clause (58) has the role of Source assigned to it by the directed motion verb *daa* 'come'. The Source role is encoded by the ablative case marker *=rotoon* (glossed as ABL1) which is hosted by the resumptive pronoun *ter.*

(58) *beled ar ted=doton daa-r-u desen warr-in* Sh
country 1PL 3sg=ABL1 come-R-1PL very far-COP.3SG
'The country from which we come is very far.'

Adverbial clauses marked by *-nahad*. When attached to a noun phrase, the case marker *-nahad* assigns the role of similitude or resemblance, as seen in (37). As a subordinator *-nahad* assigns the same role to the subordinate clause.

(59) *[ar teeb-s-u]=nahad teeb-kor-u* Sh
[1PL be-PT2-1PL]=SIM remain-PT1-1PL
'We have remained as we were.'

As already shown in (38) and (39), when attached to a noun phrase, *-nahad* is attested in combination either with the case markers *-gi* or *-ged*. As subordinate clause marker, *-nahad* is attested in combination with *-gi* as well, however with *-ged* it is not found.

(60) *[ay teeb-s-i]=nahad=ki teeb-kor-i* Sh
[1SG remain-PT2-1PL]=SIM=ACC remain-PT1-1SG
'I have remained as I was.'

In the preceding Sections 4.1 and 4.2, we have presented those case markers that are attested on verbs of subordinate clauses. Although there is no separate section concerned with the Genitive *-n*, we have illustrated in (55c) and (57c) that the Genitive can be employed as a subordinator of clauses which assume the function of possessor when followed by a noun that functions as head of the Genitive construction.

Section 4.1 and 4.2 are summarized in Table 3 offering an overview of the case markers attested on subordinate clauses.

Table 3. Case markers attested on subordinate clauses

Case marker		Case marker on subordinate clause	Case marker on noun phrase
core case	*-gi*	object complement clause	Accusative
peripheral case	*-n*	possessor clause	Genitive
	-ged	causal clause	Instrumental
	-gonon	temporal clause	Comitative
	-r	locational and temporal clause	Locative
	-rtoon	locational and temporal clause	Ablative 1
	-nahad	similative clause	Similative

The case markers encoding the Adessive, Allative 1 and Allative 2, and Ablative 2 are not attested as subordinate clause markers.

5. Conclusions

To provide a background to the central topic of the paper, the use of case markers as subordinators, we have first established that Andaandi has an accusative system of grammatical relations.

As for the relationship between the coding properties of the two objects in a ditransitive clause and the properties of the single object in a monotransitive clause, two criteria are taken into account, case marking and cross-referencing on the verb. In respect to case marking there is evidence that both T and R of the ditransitive verb are coded like the monotransitive P, that is, each of these three arguments is case-marked for Accusative. Such a relationship is known as a double-object construction (Haspelmath 2011).

Our paper also shows that Andaandi has a rich inventory of postpositional clitics marking case, except for the unmarked nominative (see Table 2).

Apart from the Accusative *-gi,* the Locative *-r* and the Similative *-nahad,* all other case markers are morphologically complex. Apparently, the Accusative *-g(i)* represents the base for the case markers *-g-ed, -g-onon, -g-addi,* and *-g-ir*. The Locative *-r*, by contrast, is part of the Ablative 1, *-r-toon,* the Adessive *-na-r,* the Allative 2 *-gi-r*, and the Ablative 2 *-na-r-toon.*

Some case markers can encode a wide range of semantic roles. This is particularly true for the Instrumental but also for the Accusative. The latter encodes P, R, and T but also adverbial expressions of time. However, some temporal expressions are encoded by the Locative and even the Instrumental, the choice between the Accusative, Locative and Instrumental case markers being lexicalized.

The paper also shows how case marking and the assignment of roles interacts with the semantics of the verb. The local cases, Locative and Adessive, and even the Instrumental interact with directed motion verbs such as 'go' and 'come'. The verbs *juu* and *nog* 'go to', for instance, assign to LOC- or AD-marked noun phrases the role of goal, whereas INS-marked noun phrases are assigned the role of path or route when interacting with a verb of directed motion.

Although case markers are typically hosted by noun phrases, several case markers of Andaandi are attested on finite verbs of complement and adverbial clauses. The subordinating function assumed by the case markers more or less closely corresponds to their function on noun phrases. The Accusative, for instance, is used as a complementizer on object complement clauses, thus assuming a function comparable to the encoding of a P noun phrase of a transitive clause.

When peripheral case markers are attached to noun phrases they encode the specific semantic relations which these noun phrases bear to the verb. When employed as subordinators these case markers establish a semantic relation between the subordinate and the main clause.

When the INS-marker, for instance, is attached to a noun phrase it encodes the role of an inanimate means by which a change of state is brought about. The cognitive association of the Instrumental case with the notion of caused change of state has, no doubt, contributed to its use as a subordinator of causal clauses, establishing a causal relation between the subordinate and the main clause.

When the COM-marker *-gonon* is attached to a noun phrase it encodes the role of physical accompaniment; however when *-gonon* is used as a subordinator its meaning is extended to the

temporal domain expressing a relation between the two events designated in the subordinate and the main clause. This temporal relation is rendered in English by 'as soon as'.

When the Locative and Ablative 1 are used on clauses they express a corresponding spatial or temporal relation between the events designated in the subordinate and main clause. The spatial relation expressed by the Locative may be rendered in English by the conjunction 'where', the temporal relation by the conjunction 'when'. The spatial and temporal relations expressed by Ablative 1 may be rendered by 'from where' and 'since', respectively. When the Similative is employed as a subordinator, it establishes a relation of similarity or resemblance between the events designated in the subordinate and the main clause.

The Genitive differs from other case markers since it encodes the relation of a noun phrase to another noun phrase rather than the relation of a noun phrase to the verb. The Genitive can assign the role of possessor both to a noun phrase, as seen in (10), and to a clause, as seen in (54c) and (56c). However, this assignment requires that the GEN-marked possessor is followed by a noun assuming the role of possessee. When this requirement is not fulfilled, the Genitive *-n* is interpreted as a linker between morphemes, as attested by the subordinators *-n-illar* and *-n-bokkon* or other subordinating case markers attached via *-n* to clause-final verbs.

Thus, the versatility of the case markers depends on the grammatical context in which they are used. Their case-marking function is realized when they are hosted by noun phrases, their function as subordinators is realized when they are hosted by finite verbs of subordinate clauses.[27] Case markers on noun phrases have scope over those noun phrases, but case markers on clause-final verbs have scope over clauses. These observations confirm Aikhenvald's finding (2008: 568), "[t]he meaning of a morpheme used in different morphosyntactic contexts changes because of the context itself".

The heterosemy of case markers and subordinators appears to be rare in Africa. In fact, it appears to be confined to some subgroups of Nilo-Saharan and Afro-Asiatic. As discussed in Section 1, this typological feature is attested in Andaandi and Kanuri, i.e., languages belonging to different subgroups of Nilo-Saharan; it is also documented in a few Cushitic and Omotic languages of Ethiopia, which may be one reason why this feature has gone unnoticed in the typological literature so far.

Andaandi case markers are often morphologically complex. This complexity is a feature which Andaandi shares with various genetically unrelated Omotic and Cushitic languages in Ethiopia. In the grammar of Maale, an Omotic language, Azeb Amha (2001: 55) points out, "[g]enerally, peripheral case markers are preceded by one of the core cases […], the Absolutive case". In Maale, the Absolutive marker *-ó* precedes five case markers, the Dative marker *-m,* the Instrumental marker *-na,* the Genitive *-ídda,* the Genitive *-ko,* and the Ablative *-ppa* (Amha 2001: 58-68). By contrast, in the Omotic language Haro, the peripheral case markers encoding the Dative, Instrumental, Comitative, Genitive, Ablative, and Directive are preceded by the Genitive marker (Woldemariam 2009: 104). In the Cushitic language K'abeena, the Genitive case marker, too, represents the basis for the Dative, Instrumental-Comitative, Genitive, and Ablative case markers (Crass 2005: 86). Similarly, in Alaaba, another Cushitic language, the

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[27] According to Gerrit Dimmendaal (p.c.), there is probably one underlying (morphophonological) principle operating in the language: Avoiding monosyllabic words. This principle overrides "iconicity" (place the constituent where it is relevant from a semantic point of view).

Genitive is required as base for the case markers encoding the Dative, Ablative, Genitive, Instrumental, and Similative (Schneider-Blum 2009: 62-70). Note that in none of these languages the case markers are based on the Accusative, as attested by the Andaandi case markers *-g-ed, -g-onon, -g-addi,* and *-g-ir*. We assume that the choice of a core case marker serving as a basis for other case markers is determined by specific properties of the system of grammatical relations, Andaandi being characterized by an accusative system, as shown in Section 2.

Interestingly, the two features addressed in our paper, i.e., the use of case markers as clause subordinators and the morphological complexity of case markers, are spread over a linguistic area defined by several other typological characteristics, including verb-final constituent order, extensive case marking, Differential Object Marking, the frequent use of converbs as well as the use of co-verbs and light verbs (Amha and Dimmendaal 2006, Dimmendaal 2007, Dimmendaal 2010). Since these typological features are widely diffused in the Saharan languages and in Eastern Sudanic subgroups of Nilo-Saharan and in sub-groups of the genetically unrelated Afro-Asiatic languages of north-eastern Africa, Dimmendaal (2007) assumes that the diffusion area must have been an ancient contact zone where speakers of these diverse language groups have met. The geographic distribution of the two typological features addressed in our paper coincides with that linguistic area and therefore corroborates Dimmendaal's hypothesis.

Abbreviations used

1	1st person	INCH	inchoative
2	2nd person	INS	instrumental
3	3rd person	INT	intentional
A	agent	IPF	imperfective
ABL	ablative	LOC	locative
ACC	accusative	P	patient
AD	adessive	PASS	passive
ALL	allative	PF	perfective
APPL1	applicative cross-referencing 1st person	PL	plural
APPL2/3	applicative cross-referencing 2nd and 3rd person	PLOJ	plural object
B	beneficiary	PRED	predication marker
COM	comitative	PROG	progressive
COND	conditional	PT1	preterite1 (*-kor*)
CONT	continuous	PT2	preterite2 (*-s*)
COP	copula	PTC	participle
CPL	completive	R (as verbal suffix)	tense/aspect marker *-r*
DEM.PROX	proximal demonstrative	R	recipient
EMPH	emphasis	RESUL	state resulting from an accomplishment
GEN	genitive	S	subject
HUM	human	SG	singular
IDF	indefinite	STAT	stative
IMP	imperative	T	theme

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