

Grammaticalization of propositional and phrasal relators in Chadic

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ABSTRACT: The purpose of this study is to show that different languages code different functional domains when it comes to relationships between nouns and between clauses. The scope of the present study is limited to subdomains which, when translated into the language of symbolic logic, would be represented as $p \ \& \ q$. The study demonstrates that instead of the simple category 'nominal coordinating conjunction', some languages have grammaticalized two functional domains. The second part of the study explores the little-studied process of the grammaticalization of the sequential marker from verbs of movement. The study demonstrates that grammaticalization occurred through a discourse formula, whereby the speaker resumes the discourse at the last verb of movement, either by repeating the same verb or by using another verb of movement. The new verb of movement becomes a departing point for the narration of the subsequent event. Methodological implications for typology of grammatical categories constitute the third part of the present study.

1 The aim, scope and method of the study

The general aim of the present study is to explore the grammaticalization of the domain of the relationship between noun phrases and between clauses. The scope is restricted to subdomains which, when translated into the language of symbolic logic, would be represented as $p \ \& \ q$. The purpose of this study is to show that different languages code different functional domains when it comes to relationships between nouns and between clauses, and that translating these relationships into the language of symbolic logic or into a natural language with different functional domains eliminates or obfuscates the distinctions actually made in the source language.

The notion of functional domain is defined in the present study as in Frajzyngier & Mycielski 1998:

- (a) A functional domain D is a class of expressions with a certain set of meanings D^* , such that D^* is disjoint with E^* for any domain $E \neq D$ of the same language;
- (b) The expressions within domain D are mutually exclusive and are constructed by the set of specific coding means $M^*(D)$;
- (c) The expressions within the domain D have a specific pragmatic or semantic function in common.

The description of a grammar of a language L should consist of at least three components:

- (1) A list of functional domains D_1, D_2, \dots , defined in terms of their sets of meanings $(D_1)^*, (D_2)^*, \dots$;
- (2) Alternative descriptions of D_1, D_2, \dots , defined in terms of their coding means $M(D_1), M(D_2), \dots$;
- (3) The means of construction of expressions composed of expressions belonging to different domains of L .

The proposed approach is diametrically different from that taken by Stassen (2000), who postulates “a language-independent definition of the domain of the inquiry, that is a demarcation of the relevant body of facts, which can be applied to any language, regardless of its structural characteristics” (Stassen 2000: 4). Instead, I argue for a typology that involves comparing the functional domains and subdomains actually grammaticalized in specific languages rather than comparing prototypical categories that are artifacts of the linguist’s assumptions about the forms and functions of these categories.¹ Within the proposed approach, a functional domain cannot be said to exist in a given language L unless it is coded by a grammatical (rather than periphrastic) means of that language. The specific range of a given functional domain can be established only by contrasting it with other functional domains in the same language.

The application of this concept to the present study is as follows. If a language has only one means – e.g. a conjunction – of constructing a set consisting of two or more tokens of a given category – e.g. nouns – then the language must be said to have only one functional domain with regard to this type of set construction; the marker used to construct such a set does not have any other function than to construct a set. It is this function, that of set construction, that probably gave rise to the logical symbol ‘&’. However, if a language has two or more means of constructing sets of tokens from the same category –

e.g., if the language has two or more conjunctions – the functions of these different means must be discovered.

In what follows, I first illustrate the functions encoded by the system of conjunctions in Polish, then describe the functions of the system of conjunctions in Gidar, a Central Chadic language.

One advantage of having discovered the function of a form is that it allows us to better explain its grammaticalization. The final two sections of this study are devoted to a discussion of the grammaticalization of conjunctions in Gidar and the grammaticalization of propositional relators in Hdi and Mina, two other Central Chadic languages.

2 Syntactic set and semantic set

In Frajzyngier 1986 and 1987, I discuss certain aspects of the conjunctions *i* and *a* in Polish. The significance of these conjunctions for the present study is that, when translated into the language of symbolic logic, both will be represented by '&'. Although their syntactic functions appear to be identical, I will show that the two conjunctions are quite distinct.

The marker *i* indicates that two nouns that form a syntactic set, i.e., a set that has the same function within a clause or sentence, also belong to one set in the extra-linguistic world, i.e., the universe outside of language, whether real or imagined:

- (1) *a teraz gołe pole i trawy*
 CONJ now naked field CONJ grass:PL
 'and now an empty field and grasses' (Sources)

- (2) *może wywiozę ją do lasu i*
 may be drive out:FUT:1SG 3F:ACC PREP forest:DAT CONJ
każę, by wachała żywicę i igliwie.
 order:FUT:1SG SUBJ smell:3F:PAST resin:ACC CONJ needles
 'Maybe I will take her to the forest and tell her to smell resin and needles' (Sources refers to electronic version of sources to Kurcz & al. 1990)

The evidence that the conjunction *i* codes a set is that it forms subsets among groups of elements having the same grammatical function, such as subject or object. In the following fragment, the conjunction *i*

is used to conjoin sets of antonyms, all of which have the grammatical function of object:

- (3) *fotografuję* *twarze chude, opaste, młode, stare,*
 photograph:PRES:1SG face:PL slim fat young old
brzydkie i ładne, sympatyczne i odrażające
 ugly CONJ pretty sympathetic CONJ repulsive
twarze pijaków i głupawych ascetów.
 face:PL drunk:PL CONJ slightly stupid ascetic:PL
Nadęte władzą i spłaszczone pokorą.
 puffed up power:INSTR CONJ flattened humility:INSTR
Twarze debilów i maniaków
 face:PL feeble minded:N:PL CONJ maniac:PL
twarze nietknięte złem i zbrodnicze.
 face:PL untouched evil:INSTR CONJ criminal:ADJ:PL

'I photograph [all kinds of] faces: slim, fat, young, old, ugly and pretty, sympathetic and repulsive. Faces of drunkards and stupid ascetics. Faces puffed up by power and flattened by humility. Faces of feeble-minded and of maniacs. Faces untouched by evil and criminal faces.' (Sources)

In contrast, the conjunction *a* in Polish indicates that two constituents, whether nouns, adjectives, or verbs, have the same grammatical role within a given construction but belong to different sets in the extra-linguistic world:

- (4) *odkąd wprowadziłam* *do świątyni Sodomy posąg*
 since introduce:PAST:1SG:F PREP temple Sodom monument
Tamuzą ofiaruje się kwiaty a nie dzieci
 Tamuz:GEN offer REF flower CONJ NEG children

'Ever since I have introduced into the temple of Sodom the monument of Tamuz, flowers are offered instead of children'

- (5) *pojechałem na jego miejsce, tą drugą*
 travel:1SG:PAST PREP 3M:GEN place:NOM DEM second:INSTR
drogą, kamienistą, błotnistą, polską.
 road:INSTR stony:INSTR muddy:INSTR Polish:INSTR
niebezpieczną a bolesną
 dangerous:INSTR CONJ painful:INSTR
- ‘I went instead of him, on this other road, stony, muddy, and Polish. Dangerous and painful’ (Sources)

The same conjunction codes an unexpected proposition and a number of related functions (Frajzyngier 1986, 1987):

- (6) *kto jest ślepy a kto widzący gwiazdniku*
 who be blind CONJ who see:PART stargazer:VOC
 “‘Who is blind and who can see? Tell me, stargazer’” (Sources)

Typically, the conjunction *a* occurs between two nouns when the nouns are preceded by the preposition *między* ‘between’, an inherent two set divider:

- (7) *musiałbym się przecisnąć między*
 must:PAST:M:HYP:1SG REFL squeeze between
nim a filarami
 3M CONJ column:PL:INSTR
- ‘I would have to squeeze by between him and the columns’ (Sources)
- (8) *coraz bardziej zaciera się*
 each time more erase REFL
granica między snem a jawą.
 border between dream:INSTR CONJ reality:INSTR
- ‘More and more, the distinction between the dream and reality gets erased’ (Sources)

- (9) *między kobietą a mężczyzną.*
 between woman:INSTR CONJ man:INSTR
 ‘between a woman and a man’ (Sources)

- (10) *między nią a słupem latarni*
 between her CONJ column lantern:GEN
 ‘between her and the light post’ (Sources)

Thus, form *i* indicates that the speaker considers the two members of a conjunction to be members of the same set in the extra-linguistic world, and the form *a* indicates that the speaker considers the two members of a conjunction to belong to different sets in the real world.

3 Nominal conjunctions in Gidar

Gidar also has more than one means of forming a set whose members have the same grammatical function within a higher construction. One is the conjunction *gàm*, glossed here as CONJ, and the other is *dà*, which is otherwise the associative marker and is glossed as ASSC. The present discussion focuses, however, on the non-associative function of *dà*.

The conjunction *gàm* indicates that the syntactic set also represents a set in some extra-linguistic world. The conjunction *dà* indicates that the syntactic set does not constitute a set in the extra-linguistic world. First, the evidence for the proposed functions of the two conjunctions.

3.1 Coding a syntactic set that is also a semantic set

Nouns conjoined by *gàm* have the same grammatical role, i.e., they both function together as subjects, objects, or adjuncts. All elements of the set created by the conjunction *gàm* also act as one set in extra-linguistic reality. When the conjoined elements function as subjects, the verb has to have plural subject coding:

- (11) *áfú-t wánk gàm dīi ná*
 father-3F girl CONJ people GEN
mékgé à-náhá-ŋ-k ná glùk
 neighborhood 3M-say-PL-PRF COMP woman
ná tímé tð glùk ná tímé tð
 GEN sheep COP.F woman GEN sheep COP.F

‘The father of the girl and the neighbors said, “The woman belongs to Sheep.”’

- (12) *tà-y* *ǎzɓàŋ* *glá* *tíl-tí* *dà-úulà* *gàbá* *ǎndàyná*
 PROG-3M follow trace foot-3PL ASSC-look pod chickpea
gàm *mòŋló* *án* *màz* *dà-dà-yò* *sá* *dáf* *gàbàl*
 CONJ ashes REL REL 3M-D.PROG-fall PREP interior bag

‘He followed their traces by looking at the chickpea pods and ashes that had fallen from inside the bag’

If there are more than two conjuncts, the conjunction *gàm* is used only before the last conjunct. In this respect, it behaves like a coordinating conjunction in many Indo-European languages:

- (13) *mámɓà* *ná* *krà* *dàrlíŋè* *tíme* ***gàm*** *hǎw-kà*
 story GEN dog hyena sheep CONJ goat-F
 ‘A story of Dog, Hyena, Sheep, and Goat’
- (14) *à-kàí-k* *gàbál* *mòŋló* ***gàm*** *gàbá* *ǎndàyná*
 3M-search-PRF bag ashes CONJ pod chickpea
 ‘He searched for a bag, ashes, and chickpea pods.’

The conjoined phrase may be the object of a preposition. The dative preposition *sá* (which acquires high tone from the following pronoun in phrase internal position, and becomes *sá*) codes the gender and number of the first noun, if this noun is third-person masculine or feminine singular:

- (15) *nà-lbàhà-k* *wàfi* *sá-n* *tízi* ***gàm*** *kàzá*
 I SG-buy-PRF cow DAT-3M Tizi CONJ Kiza
 ‘I bought a cow for Tizi and Kiza’
- (16) *nà-lbàhà-k* *wàfi* *sá-t* *kàzá* ***gàm*** *tízi*
 I SG-buy-PRF cow DAT-3F Kiza CONJ Tizi
 ‘I bought a cow for Kiza and Tizi’

The coding of each noun by its own dative preposition indicates that each of the members of the conjoined noun phrase is the beneficiary of a separate object:

- (17) *nà-lbàhà-k* *wàfi* *sá-t* *kàzá* ***gàm*** *sá-n* *tízi*
 I SG-buy-PRF cow DAT-3F Kiza CONJ DAT-3M Tizi
 ‘I bought one cow for Kiza and one for Tizi’

3.2 Coding a syntactic set that is not a set in the extra-linguistic world

The associative preposition in Gidar is *d̂*. This preposition, unlike the coordinating conjunction *ĝm*, is followed by a pronoun coding the gender and number of the following noun. The masculine singular is unmarked. The associative preposition can occur between two nouns:

- (18) *t̂l̂im d̂ m̂ǎliy ná ŵalángl̂à*
 T̂l̂im ASSC chief GEN village
 ‘T̂l̂im and the chief of the village’

Unlike the nominal coordinating conjunction *ĝm*, the associative preposition *d̂* cannot occur in constructions consisting of more than two nouns. This fact indicates that the function of the form *d̂* is not merely to conjoin nouns. In fact, the inability of the form *d̂* to occur in constructions with more than two nouns is consistent with its function of indicating that the speaker indicates that the two nouns do not form a set in the extra-linguistic world.

The construction noun-associative phrase can occur in the object position after the verb. However, the first noun after the verb functions as object, while the noun following the associative marker is an adjunct that just happens to occur after the object noun phrase:

- (19) *p̂áy t̂ákà k̂án ná m̂ǎliy ná ŵalángl̂á*
 day one then TOP chief GEN village
à-k̂íy-í-k ŵàfi m̂ížil̂ín ŝá-n áf̂à-n ŋgl̂á
 3M-bring-3M-PRF cow male DAT-3M father-3M house
d̂á-md̂àĝàng-án ŵàfi v̂án d̂ ŵútá-nì
 3M:SUBJ-bring back-3M cow DEF ASSC child-3M

‘One day, the chief of the village brought a bull to a father of the family, so that he would bring this cow back together with its calf’.

Nouns conjoined by the form *d̂* can have the same function within a higher linguistic construction. The conjoined nouns are also subjects of the clause, as evidenced by the third-person plural subject coding on the verb:

- (20) *páy tákà dák dǎ-t mbàdá-t*
 day one woman ASSC-F in-law-3F
à-ddó-ηgú-k ákày sàsémé
 3M-go:TOT-PL-PRF find wood

‘One day, a woman with her co-wife went to find firewood’

The same two nouns may be joined on one occasion by the conjunction *gəm* and on another occasion by the associative preposition. In the following examples, taken from a narrative, the protagonists act as one set early in the story and so are conjoined by *gəm*. Note that for both conjunctions the verb has the third person plural subject coding:

- (21) *krà gəm dǎrlíjé né-t dǎ-káy-án zəgáa*
 dog CONJ hyena GEN-3PL 3M-search-PL thing
á mángávà lù ná úzóm tívè tívè b̀à
 PREP beside meat GEN eat road road NEG

‘As for Dog and Hyena, they were not looking for something other than meat to eat on the road’

Later in the narrative, when the protagonists have become adversaries, the fact that they no longer form a semantic set is coded by the associative preposition *d̀à*.

- (22) *dǎrlíjé d̀à krà ndè né-t dǎ-káyá-η zəgá*
 hyena ASSC dog since GEN-3PL 3M-search-PL thing
á zà lù ná-t b̀à tà-y ázóm-áj
 PREP side meat GEN-3F NEG PROG-3M eat-PL
lù s̀ó zà ánná-ká
 meat PREP side ANAPH-DEM

‘Hyena and Dog, since they did not search for anything to eat other than meat, ate the meat from that part.’

3.3 Grammaticalization of the two conjunctions in Gidar

The nominal coordinating conjunction *gəm* probably was grammaticalized directly from the verb *gəm* ‘take’. The tone of this verb varies with the type of object. If the object is indefinite, the verb has high tone and its perfective suffix is low-tone schwa:

- (23a) *à-gəmà-k* *gòrdú* *à-kpà-à-k* *á* *màkrá-ni*
 3M-take-PRF knife 3M-plunge-3M-PRF PREP heart-3M
mày *à-mtà-kà*
 ASSC.PL 3M-die-PRF

‘He took a knife, plunged it into his heart, and died.’

- (23b) *mà-gám-n-yí* *fi* *ná* *tímè* *káná*
 NOM-take-3M-COP meat GEN sheep then
mà-dí-n-yí *á* *ká* *gènzèk*
 NOM-put-3M-COP PREP on shed

‘The meat of Sheep was taken then and put on the shed.’

If the object is masculine definite, the verb has low tone and the perfective suffix is high-tone schwa:

- (24) *mǎliy* *à-gəmá-k* *pális* *ná-nì,* *à-tén-k*
 chief 3M-take-PRF horse GEN-3M 3M-mount-PRF
á *ká-nì* *mày* *tà-y* *ádd-ò-η*
 PREP ON-3M ASSC.PL PROG-3M GO-TOT-PL
dà *sómbò* *mátàk* *á* *wrá* *vàní*
 ASSC Sombo together PREP bush DEF

‘The chief took his horse, mounted it, and went together with Sombo to the bush’

- (25) *áfù-t* *ván* *à-m* *ná* *dǎf* *á-n* *ná*
 father-3F DEF 3M-say COMP man REL-M COMP
gəmà-t *wátú-w* *ká* *glúk* *ná-n* *ná*
 take-3F daughter-1SG as wife GEN-3M COMP

<i>sí</i>	<i>à-nà</i>	<i>kí-i</i>	<i>sà-w-ák</i>	<i>lù</i>		
necessary	3M-necessary	bring-VENT	DAF-1SG-PRF	meat		
<i>háa</i>	<i>gàp</i>	<i>ógákdák</i>	<i>ná-n</i>	<i>dà-bí-ú</i>	<i>gón</i>	<i>gènzèk</i>
until	reach	weight	GEN-3M	3M-fall-TOT	SUBJ	shed
<i>ná-wà</i>	<i>nká</i>					
GEN-1SG	DEM					

‘Her father said, “The man who would take my daughter as his wife should bring enough meat for its weight to make my shed here fall down”’

The development of the verb ‘take’ into a preposition used in forming a set is well attested in other languages (cf. Heine & Kuteva 2002).

As mentioned earlier, the conjunction indicating that two elements belong to different semantic sets is identical with the associative preposition *dà*. The form *dà* has a variety of functions in contemporary Gidar, all of which involve adding an additional noun phrase to a clause:

(26)	<i>kìrù-n</i>	<i>mǎli</i>	<i>à-ḡà-n</i>	<i>pák</i>	<i>dà</i>	<i>bín</i>	<i>vàni</i>
	children-3M	chief	3M-burn-PL	all	ASSC	roof	DEF

‘The children of the chief all burned together with the roof’

The associative preposition may code an adverb of time:

(27)	<i>dàsá-k</i>	<i>gó-n</i>	<i>tà-plá-nà-k</i>	<i>màdíyà</i>
	DEM-DEM	wife-3M	3F-leave-3M-PRF	ladle
	<i>ná-tà</i>	<i>tà-mǎhó-k</i>	<i>àkkáyà-ní</i>	
	GEN-3F	3F-return-PRF	search-3M	

‘Earlier, his wife had left her ladle, [and] she returned to look for it.’

(28)	<i>krà</i>	<i>mǎ-bá-n</i>	<i>dà</i>	<i>ḡù</i>	<i>ná</i>	<i>dàrḡíjé</i>	<i>à-mpàr</i>
	dog	NOM-sate-3M	ASSC	meat	GEN	hyena	3M-eat
	<i>tivé</i>	<i>tivé</i>	<i>à-mḡáh-àk</i>	<i>á</i>	<i>mǎlpá</i>	<i>àsà</i>	<i>ànkílè</i>
	road	road	3M-turned toward-PRF	PREP	river	drink	water

‘Dog having been sated with the meat of Hyena that he ate on the road, stopped over at a river to drink water.’

Whether the conjoining function developed from the associative function, as has often been reported in the literature (cf. Mithun 1988), is not at all clear. Given the fact that *d̂* as a conjunction indicates that two elements belong to different sets in the extra-linguistic world, it is conceivable that the marker developed in the opposite direction, from the marker of coding things apart to the associative conjunction. This direction of grammaticalization is attested elsewhere: Watkins 1976 derives the English associative preposition 'with' from Old English 'wither', meaning 'against', which is related to Proto-Indo-European **wi* 'apart, in half'.

Since the preposition *d̂* takes feminine and plural object suffixes (the masculine is unmarked), it probably developed originally from a verb. However, which verb it was cannot be determined as yet.

4 Grammaticalization of sequential markers in Chadic

4.1 Introduction

The symbol '&' in symbolic logic is used to represent the presumed universal function of conjoining two propositions. However, many Chadic languages have grammaticalized two subdomains of conjoining propositions, both of which would be represented symbolically by '&'.

The first subdomain, usually marked by asyndetic conjoining, codes an unspecified relationship between the two propositions. The second, usually marked by a sequential clause marker, codes a temporal and/or causal relationship whereby the event described in the second clause is a temporal or causal consequence of the event described in the first clause (see Frajzyngier 1996). In Frajzyngier 1996, I propose several sources for the markers of a sequential clause. In the present paper, I would like to add one more source, viz. the verb of directional motion. For the sake of providing a common gloss across languages, this verb will be glossed as 'go'. Heine & Kuteva 2002 give examples of the grammaticalization of the verb 'come' into a consecutive clause marker. In the present section, I demonstrate that the sequential marker has been grammaticalized from the verbs 'to go' and 'to come' in Chadic languages. The fact that this phenomenon has been observed in several languages points to a probable areal influence, especially since the verbs involved have different phonological forms.

In Hdi, a Central Chadic language, there is a verb of directional movement *lá*. It appears that the unmarked meaning of this verb is 'go to a place lower than the place of departure'²:

- (33) *lá-là*
'He descended'

Various extensions add points of view of movement and also different spatial configurations:

- (34) *lá-ghú-lá*
go-D:PVS-go
'He left [the place where the speaker is]'

lá-ghà-là
go-D:PVG-go
'He arrived [at a place other than the one where the speaker is]'

- (35) *tà xúl-á tsá mántá kà lá-f-í dá mókólò*
PREP back-GEN DEF then SEQ go-UP-1SG PREP Mokolo
'Afterwards I went to Mokolo.'

- (36) *lá à ká ndá tà tsá wú*
go NEG 2SG toward PREP DEF NEG
'You did not go there?'

The verb *lá* has become a grammatical marker. The evidence for its grammaticalization is provided by clauses in which the verb *lá* occurs but any interpretation of directional movement is ruled out. In the following examples, the grammatical functions of the verb *lá* are bolded. Participants of the event in the second clause are in the same spatial location as in the first clause:

- (37) *tsghà-dá-f xáxàñ tá sàni lá-ghà-ní*
put up-ALL-UP 3PL OBJ one go-D:PVG-3SG
mbàd ká kù tsghà-dá-f-tá sàni zlíbí
then COMP SEQ send-ALL-UP-REF one bag
'They sent up one bag, then they sent another bag.'

The exact function of the marker *lá* remains to be explained. This marker indicates that an event follows another event in time. The subjects of the two events may be different or the same.

- (38) *mbàd' ká-á kà w-í-g-ín-tà kà*
 then COMP-3SG SEQ take.PL-AWAY-INN-3-REF SEQ
lá-ghw-í dǐfà-ná-tá zwàn-à-ní
 go-D:SO-REF hide-3-REF child:PL-GEN-3SG

'He took his children and hid them.'

- (39) *kà lá-ghá tsá tsəmǎk-xà-ní yá mbdá-p-tá*
 SEQ go-D:PVG DEF enemy-PL-3SG DEM replace-OUT-REF
tsá kdìx-á-nì yá ndá vívù'úkwá kdìx
 DEF donkey-GEN-3M DEM ASSC small donkey

'And his enemies replaced his donkey with a smaller one.'

4.2 The path of grammaticalization

4.2.1 Hdi

The grammaticalization of the verb 'go' into a sequential marker could be viewed as resulting from the inherent lexical properties of the verb and the inherent semantic properties of the sequence of events, such that the verb is construed as particularly appropriate for encoding the desired properties of the events. This type of reasoning lies behind most metaphor-based explanations of grammaticalization. A closer look at the grammatical uses of the verb *lá* in Hdi, however, points to a different process. In many examples, the verb *lá* in its grammatical function is preceded by a lexical use of the same verb in the same sentence or paragraph. Moreover, *lá* in its grammatical function takes the same extensions and the same subject coding as *lá* in its lexical function. It would appear, therefore, that the grammatical function represents a resumption, as it were, of the situation described in the preceding clause. Compare the lexical and grammatical functions in the following examples:

- (40) *lá-m-à-ní ndá tà zlàṅwádák ngá*
 go-IN-GEN-3SG ASSC PREP back entrance NORM
lá-m-à-ní hlà-ná-ghà-tà zà'ál-á-tàn
 go-IN-GEN-3SG find-DEM-D:PVG-REF:SUBJ husband-GEN-3HON

'Having entered through the back of the compound, she should find her husband.'

- (41) *lá-ghà pákáw ghúvì kày kà lá-b*
 go-D:PVG hyena thus SEQ go-OUT
díngá-f-tá tsá mbízà yà
 put on fire-UP-REF DEF bean dish DEM

'After Hyena₁ went, he₁ put the bean dish on the fire.'

- (42) *mbàd ká kri kà lá-b-ì*
 then COMP dog SEQ go-OUT-REF
 'Then Dog got out [from an enclosed space].'

- lá-ghà pákáw ghúvì kà mná-n-tá kri*
 go-D:PVG hyena SEQ tell-3-REF dog
yàgh-ká dá ñgh-ú dù sígà yá
 should not-2SG PURP look-SO PREP pot DEM
ká-'á mná-ná-tà
 COMP-3SG tell-DEM-REF

'And Hyena said to Dog, "Do not look inside this pot", he told him.'

It is very possible that, over time, the repeated form of the verb 'go' is first used with other sequential markers as in example (42) above, and that eventually it came to stand alone as the marker of sequential clause.

Another potential source of grammaticalization lies in clauses where movement is involved but where the verb *lá* with its extensions, if any, is followed by another verb. In this case, the verb *lá* functions as an auxiliary verb, which eventually is treated as a sequential marker:

ndà *dīyà* *í* *dī* *ḥámbáy* *wá* *ká* *nfádà* *tò* *dàp*
 go put 3PL put stick DEM PREP COURT GEN SO
 'and they put the stick in the court of the chief'

Different subjects:

(46) *hí* *ndà* *lù-á-ŋ* *mà* *ndà-hà*
 2PL go say-OBJ-3SG SUBJ go-D:SO
 'Go tell him to come here.'

ndà *yá* *í* *y-ù*
 go call 3PL call-3SG
 'and they called him'

Evidence for the grammaticalization of *ndà* as the sequential marker is provided by the fact that it can be used without any previous use of *ndà* in its lexical function, although it is preceded by another verb of movement. The movement interpretation for the form *ndà* is ruled out:

(47) *hós* *ndà* *déw* *kà*
 arrive go stay AFF
 'He arrived and stayed.'

The distinction between the use of the form *ndà* without extensions and the form with the distal extension provides another piece of evidence for the grammaticalization of the sequential marker from the verb 'go'. The sequential marker has the distal extension only when the event starts elsewhere and culminates at the deictic center. The unmarked form, i.e., the form without distal extension, is used when the sequential event has its culmination away from the deictic center:

(48) *zèb* *zèb* *á* *zèb-ù* *ndà* *dzáj* *wàl* *ngàn* *nákáhà*
 follow follow 3SG follow-3SG go find wife 3SG DEM
 'He followed [the footsteps] and found his wife' [at the place where the wife went]

- (49) *k̀̀ nd̀̀ z̀̀ f̀̀ nd̀̀ dzáŋ z̀̀v̀̀ŋ-ỳ̀ í m̀̀r r̀̀*
 INF go be all go find guinea fowl-PL 3PL graze D.HAB
 'Each time she went, she found guinea fowl grazing'
 [at the place where she went]

The unmarked form of the verb is also used when the event takes place entirely at a deictic center, without previous movement away from it:

- (50) *b̀̀t á b̀̀t k̀̀yyà hí m̀̀l k̀̀*
 start 3SG start INTERJ 2PL catch AFF
 'He started yikes! stop (PL) him'

séy nd̀̀ m̀̀l ẁ̀l ẁ̀ m̀̀l k̀̀
 so go catch woman DEM catch AFF
 'So the woman stopped it.'

The form with the distal extension is used when the sequential event starts elsewhere and culminates at the deictic center:

- (51) *dzáŋ á dzán-à m̀̀ t̀̀ gwídín náká ẁ̀hín*
 find 3SG find-D:SO REL. GEN single DEM DEM

nd-á náz á náz k̀̀ ǹ̀ l̀̀y t̀̀ŋ
 go-D:SO throw 3SG throw AFF PREP place DEM

'He found the one sesame seed of those [that were counted] and threw it into its place [in the bag].' [the place where the sesame seed was found is different from the place where the bag was]

The following example contains three instances of the sequential marker. In the first, the unmarked form is used, since the event takes place outside of the deictic center. In the second, the form with the distal marker is used, since the event culminates at the deictic center. The third instance is in the unmarked form because the event takes place entirely at the deictic center. The first sentence of the fragment provides the necessary background for understanding the subsequent two sentences:

- (52) *wàl wà á ndí tàl ngàn dàp á ndi*
 wife DEM 3SG HAB walk 3SG only 3SG HAB
tàl ngàn dàp á dàmù
 walk 3SG still PREP bush

'The wife would still take walks in the bush.'

- séy ndà dzá á dzáŋ-á kádɛm á dàmù*
 so go find 3SG find-D:SO calabash PREP bush
 'Then she found a calabash in the bush.'

- ndà déb á déb-ù ndà lw-á ngùl ngàn*
 go:D:SO bring 3SG bring-3SG go tell-OBJ husband 3SG
 'She brought it and told her husband'

There is yet another function of the sequential marker *ndà*, and that is the coding of the sequential event as realis, i.e., an event that actually takes place or has taken place:

- (53) *séy tíl á dàmù ndà záŋ cíŋ*
 so leave PREP bush go find father.3SG
à zá váy ndà wútà
 3SG COMP daddy go house

'Then he went into the bush, found his father and said: Daddy, return home!'

If the the second clause codes the purpose of the preceding clause, it is coded by the infinitive marker rather than the sequential marker:

- (54) *séy tíl á dàmù kà záŋ cíŋ*
 so leave PREP bush INF find father.3sg
 'When he went into the bush for the purpose of finding his father ...' (elicited)

The realis function and the sequential function are most likely related. In all gathered texts, the aspect of sequential clause is always completive, hence coding the realis nature of the event:

(55) *á tál-à á tál-à ndà*
 3SG walk-D:SO 3SG walk-D:SO go

dzán á dzán-á ʒámáy
 find 3SG find-OBJ stick

làkwíd làkwíd làkwíd làkwíd
 straight straight straight straight

‘She walked and walked and found a very straight stick.’

(56) *í nd-rá í nd-rá í nd-rá*
 3PL go-D.HAB 3PL go-D.HAB 3PL go-D.HAB

ndà dzán lákwàt m̀ nd-á-y zà
 go find river REL go-D:SO-STAT be

‘They were going, going, going, and they came across a river which filled up.’

5 Conclusions

It has been shown that, in the domain of propositional relators, instead of the simple category ‘nominal coordinating conjunction’, some languages have grammaticalized two functional domains. While both domains have to do with forming a set of items having the same function within a clause or a sentence, i.e., within the higher syntactic unit, only one form indicates that the members of the syntactic set are also members of a set in the extra-linguistic world. The other form indicates that the members of the syntactic set belong to two different sets in the real world. The two conjoining forms have different syntactic properties, as one of them can be used with more than two members of the set while the other can be used with only two members of the set. These syntactic constraints are consistent with the semantic functions of the forms.

The second part of the present study explored the little-studied process of the grammaticalization of the sequential marker from verbs of movement. It has been shown that grammaticalization occurred through a discourse formula, whereby the speaker resumes the discourse at the last verb of movement, either by repeating the same verb or by using another verb of movement. The new verb of movement becomes a departing point for the narration of the subsequent event.

The methodology proposed in the present study, that one must discover for each language the functional domains that it encodes, raises questions about the nature of typological research within the proposed approach. I propose that a typology should begin by exploring the functional domains coded by natural languages instead of assuming the existence of a domain and then trying to determine how it is coded. The next step is to discover the subdomains, if any, within the functional domain in question. If languages L1 and L2 both have a functional domain D, and if the subdomains of these domains comprise exactly the same functions, then L1 and L2 may be said to encode the same functional domain. This is quite different from assuming that L1 and L2 encode the same function because certain constructions are translated the same way into English or into the language of symbolic logic. A typological study whose point of departure consists of the categories actually coded in natural languages is more difficult than the one that assumes the prior existence of categories, but it has the considerable advantage of not obfuscating the categories existing in individual languages.

Notes

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² I cannot assert whether the inherent meaning of this verb is related to the fact that at present Hdi live at an elevation higher than any of the surrounding populations. Such an interpretation could be possible only under the assumption that 'going' meant going away from the community.

Abbreviations

1	First person	INF	Infinitive
2	Second person	INSTR	Instrumental
3	Third person	INTERJ	Interjection
ADDR	Addressee	LOC	Locative
ADJ	Adjective	M	Masculine
AFF	Affected	N	Noun
ALL	Allative	NEG	Negation
ANAPH	Anaphor	NOM	Nominalizer
ASSC	Associative	OBJ	Object
ATT	Attributive	OBL	Oblique
C	Consonant	OUT	Extension coding movement out
CAUS	Causative	PART	Partitive
COM	Comment marker	PAST	Past
COMP	Complementizer	PL	Plural
COND	Conditional	PO	Potential object
CONJ	Conjunction	POS	Point-of-view of subject
CONT	Continuant	POSS	Possessive
COP	Copula	PRED	Predicator
D.	Dependent	PRF	Perfective
DAT	Dative	PREP	Preposition
DEB	Debitive	PRO	Pronoun
DED	Deduced reference	PROG	Progressive
DEF	Definite	PURP	Purpose
DEM	Demonstrative	PVG	Point of view of the goal
DIMIN	Diminutive	PVS	Point of view of the subject
D:SO	Distal, Source orientation	Q	Question
DU	Dual	QUANT	Quantifier
DUB	Dubitative	REF	Referential
EE	End of event marker	REL	Relative marker
EP	Epenthetic	REM	Remote previous mention
EXCL	Exclusive	SEQ	Sequential
F	Feminine	SG	Singular
F. or FUL	Fula (Fulfulde)	SO	Source orientation
FOR	Preposition 'for'	SPEC	Spatial specifier
FREQ	Frequentative	SQ	Specific question marker
FUT	Future	STAT	Stative marker
GEN	Genitive marker	SUBJ	Subjunctive
GO	Goal orientation	TOP	Topic marker
II.	I Hausa	TOT	Totality
HAB	Habitual	TQ	Question about the truth
HON	Honorific	UNSP	Unspecified
HYP	Hypothetical	UP	Direction up
IMPER	Imperative	V	Verb
IN	Movement in	VENT	Ventive
INN	Inner space	VN	Verbal noun
INCL	Inclusive	VOC	Vocative
INDEF	Indefinite human subject		

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