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**A micro-parametric survey on typological covariation  
related to focus marking strategies,  
based on the Bantu Morphosyntactic Variation database**

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**ABSTRACT**

This paper discusses typological tendencies of focus marking strategies from a cross-Bantu perspective based on the Bantu Morphosyntactic Variation (BMV) database, a large-scale database of morphosyntactic variation of Bantu languages built around 142 parameters covering an entire range of the major morphosyntactic components. Our main concern in this study is the inter-parametric correlation of three major focus marking strategies — the use of a morphological focus marker (MFM), conjoint/disjoint (CJ/DJ) alternation, and verb doubling — in relation to logically independent parameters pertaining to negation, syntactic object symmetry, and inversion constructions. One of the clear tendencies observed in the database is that languages employing verb-external marking rather than verb-internal morphology tend to have an MFM, whereas languages with CJ/DJ alternation tend to adopt verbal morphology for main clause negation. Another typological correlation shows that patient inversion strongly tends to be restricted in languages with marked focus marking strategies such as MFM and CJ/DJ. Based on such inter-parametric correlation observed in BMV, we discuss a developmental process of different negation strategies in relation to the types of focus marking strategies. We also propose possible generalisations about the interrelation between focus marking strategies and the syntactic object symmetry on the one hand, and the different inversion constructions on the other.

**KEYWORDS**

Bantu languages, focus, information structure, morphosyntax, typological correlation

**RÉSUMÉ**

Dans cet article, nous traitons de la typologie des stratégies morphosyntaxiques marquant la focalisation à travers les langues bantoues. Notre analyse s'appuie sur des données de la Bantu Morphosyntactic Variation (BMV), base de données à grande échelle développée autour de 142 paramètres couvrant les principales composantes morphosyntaxiques de ce phylum linguistique. Notre étude se focalise tout particulièrement sur les corrélations inter-paramétriques entre trois principales stratégies marquant la focalisation – l'utilisation d'un marqueur de focalisation morphologique (morphological focus marker, MFM), l'alternance conjoint/disjoint (CJ/DJ) et le doublement de verbe – et d'autres paramètres logiquement indépendants liés à la négation, à la symétrie d'objet syntaxique et aux constructions d'inversion. Parmi les tendances qui ressortent clairement de notre étude, la présence d'un MFM

dans les langues qui privilégient le marquage externe du verbe à la morphologie verbale, et l'adoption de cette dernière par les langues se servant de l'alternance CJ/DJ pour marquer la négation dans une proposition principale. Une autre corrélation typologique montre que l'inversion du patient a fortement tendance à être restreinte dans les langues avec des stratégies formelles marquant la focalisation telles que le MFM ou l'alternance CJ/DJ. À partir de ces corrélations inter-paramétriques, nous présentons un processus de développement de différentes stratégies marquant la négation en relation avec les types de stratégies marquant la focalisation. Enfin, nous proposons de tirer certaines généralisations qui pourraient expliquer les relations entre les stratégies marquant la focalisation et la symétrie d'objet syntaxique d'une part, et les différentes constructions d'inversion d'autre part.

## MOTS CLÉS

corrélation typologique, focalisation, langues bantoues, morphosyntaxe, structure de l'information

## 1. INTRODUCTION

This paper aims to discuss micro-typological covariation between selected strategies for focus expressions and other logically independent grammatical features in the Bantu languages based on the Bantu Morphosyntactic Variation (BMV) database (Marten *et al.* 2018), which compiles data from 140 languages collected through a set of 142 parameters, covering an entire range of morphosyntax components of Bantu languages (Guérois *et al.* 2017).

Focus-related phenomena have long been investigated in the field of comparative Bantu grammar. In their seminal paper, Hyman & Watters (1984) present various phenomena pertaining to the interplay between focus and other grammatical categories, such as tense, aspect, polarity, mood, etc. attested in several Bantu languages and point out that inherently marked categories, termed as “auxiliary focus”, tend not to cooccur with focus marking elements. Güldemann (2003) establishes the grammaticalisation path that unidirectionally leads predication focus markers into progressive aspect markers. More recently, the chapters in Van der Wal & Hyman (2017) provide a cross-Bantu typological overview of the conjoint/disjoint (CJ/DJ) alternation as a focus-related verbal inflection that is structurally expressed by tonal, morphological, and syntactic operations.

On the other hand, Shinagawa & Marten (2021) shed new light on some typological tendencies between morphological focus markers (MFM) and strategies for main clause negation through investigation of statistic covariation between mutually independent morphosyntactic parameters based on BMV. The current paper aims to expand the scope of the investigation discussed in Shinagawa & Marten (2021). We intend to provide a broader picture of the inter-parametric covariation between parameters related to focus marking strategies, including MFM, CJ/DJ, and verb doubling (VD) on the one hand, and a wider set of logically independent parameters related to functionally relevant features, including not only negation but also syntactic object (a)symmetry and inversion constructions. As we will show in the following discussion, our initial survey suggests several hypotheses about typological generalisations such as i) preference of verb-external negation in MFM languages vs. verb-internal negation in CJ/DJ languages, ii) presence of CJ/DJ does not necessarily imply the syntactic symmetry of post-verbal multiple objects, and iii) presence of marked devices of focus marking, especially MFM and CJ/DJ, shows high correlation with incompatibility of patient inversion construction (but not of locative inversion).

The organisation of this paper is as follows. In Section 2, an overview of the geographical distribution of major focus marking strategies is presented. In Section 3, we provide observations on inter-parametric covariation between parameters related to focus marking and those pertaining to logically independent morphosyntactic operations, namely negation marking, morphosyntactic status of objects, and inversion constructions. Based on the observations and analysis, we will discuss background motivations and typological principles behind the attested covariation in Section 4. Section 5 concludes the paper by summarising possible generalisations suggested by this survey and remaining issues for further investigation.

## 2. GEOGRAPHICAL DISTRIBUTION OF MAJOR FOCUS MARKING STRATEGIES FROM A CROSS-BANTU PERSPECTIVE

It is widely recognised in the literature that focus can be variously coded in the grammar of the Bantu languages. According to a general overview presented by Nurse (2005), it may be expressed through purely syntactic operation including clefting or movement of a focused constituent to a specific syntactic position (most typically to the “immediately after the verb” position), morphological operations including the use of focus marking particles or affixes, and tonological operations like metatony (cf. Hyman 2017). Focus is also expressed through a combination of different strategies ranging from syntax to tonology, as in the case of the CJ/DJ alternation.

The list of 142 morphosyntactic parameters developed by Guérois *et al.* (2017), on which the data compiled in BMV are based, includes the following parameters concerning focus marking strategies.

### (1) Focus-related parameters in BMV

- MFM: Can a focused term be marked by an MFM? (P140)
- VD constructions: Are there VD constructions, where a non-finite verb form (e.g. infinitive, verbal base) appears before an inflected form of the same verb? (P107)
- CJ/DJ: Does the language have a CJ/DJ alternation? (P074)
- Focus position: In simple main clauses, is there a specific syntactic focus position? (P118)

In the following, we provide a brief overview of the relevant strategies and their geographical distribution, namely MFM (Section 2.1), VD (Section 2.2), CJ/DJ (Section 2.3), and syntactic focus position (Section 2.4).

### 2.1 MFM

The use of an MFM is one of the most frequent and straightforward coding strategies of focus. The most typical form of the MFM is the one derived from a copula used in the cleft construction, as in (2a), which is further grammaticalised as a verbal clitic, as illustrated in (2b). This type of MFM is frequently observed in north-eastern languages such as those in zone E and in the interlacustrine zone J.

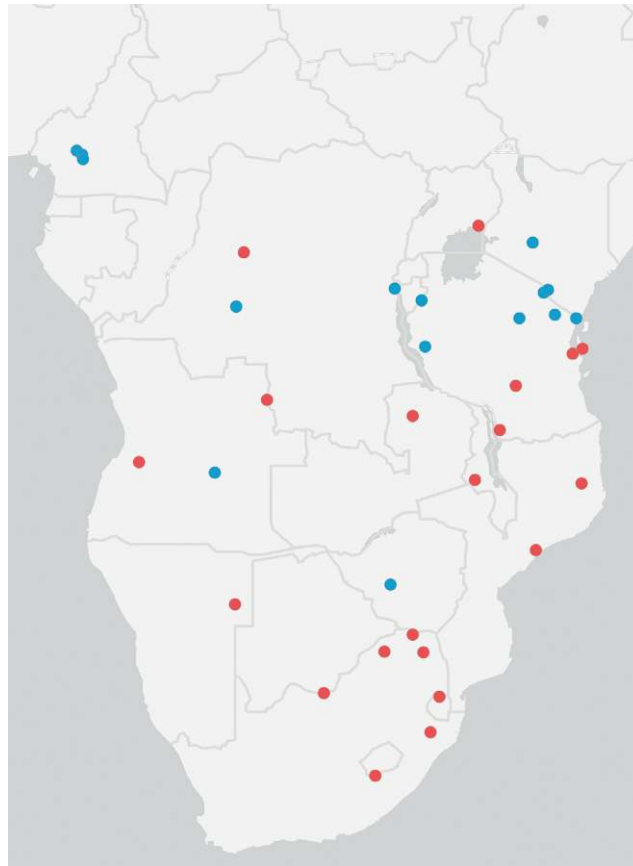
### (2) Chaga-Mochi [E622A] (Philippson & Montlahuc 2003: 490-491)

- a. *ɲi m-soro a-le-won-a*  
 COP 1-man SM<sub>1</sub>-PST<sub>2</sub>-see-FV  
 ‘It’s **a man** he saw (not a woman).’
- b. *ɲǎlèwónà m̀sòrõ*  
 ɲi=a-le-won-a m-soro  
 FOC=SM<sub>1</sub>-PST<sub>2</sub>-see-FV 1-man  
 ‘He **saw** a man (that’s what he did).’

MFM is also attested in north-western languages such as A50, A60, and A70, as illustrated in (3) from Bafia.

### (3) Kpã? (Bafia) [A53] (Guarisma 2003: 333-334)

- a. *c-ó? k-é' é-rì* b. *kì-pén k-éê kí, à-á-díí*  
 7-forest 7-FOC-be 7-fufu 7-FOC 7 1-IMM-eat.PFV  
 ‘It is **a forest**.’ ‘It is **fufu** that he ate.’



Source: Esri, Garmin, FAO, NOAA, USGS  
 Red: absence  
 Blue: existence

Map 1 — Geographical distribution of morphological focus markers

According to the database, MFM is thus distributed in the north-western languages including part of zone A, and in a wide area of north-eastern languages including zones E, F, and J (Map 1).

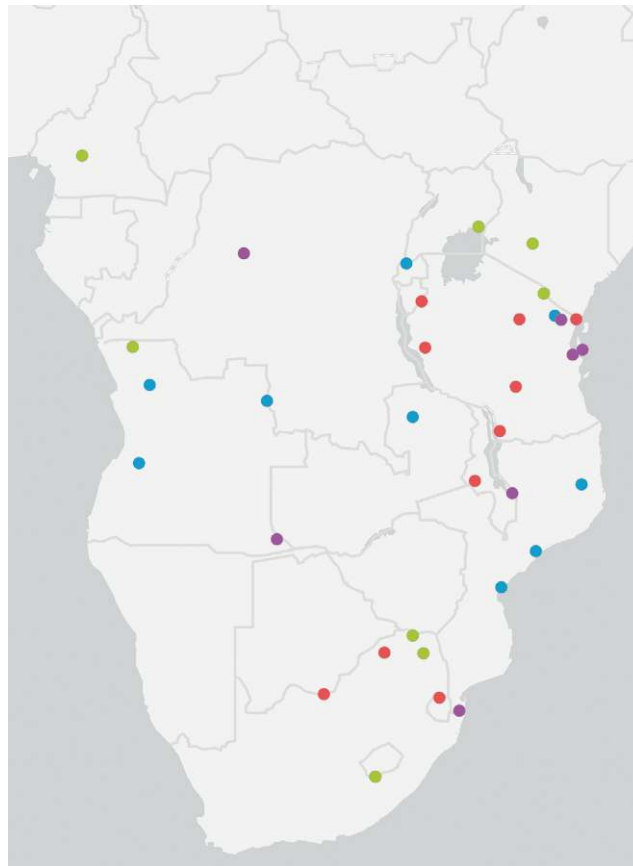
## 2.2 VD

While in languages with an MFM, the marker can be attached to nominal arguments (2a) and/or verbal predicates (2b), VD is a strategy which expresses the information structure status of the verb. In other words, it is basically a strategy for marking predicate focus and not term focus. Structurally, it consists of an infinitive verb preceding a finite form of the same predicate, as in (4).<sup>1</sup>

(4) Suundi [H13b] (Hadermann 1996: 161, cited in Güldemann 2003)

- |    |                             |    |                                      |
|----|-----------------------------|----|--------------------------------------|
| a. | <i>ndyèká-tá:ngà</i>        | b. | <i>kù-tá:ngà ndyèká-tá:ngà</i>       |
|    | SM <sub>1</sub> SG.FUT-read |    | INF-read SM <sub>1</sub> SG.FUT-read |
|    | ‘Je vais lire.’             |    | ‘Je vais <b>lire</b> .’              |

1. While the typical structure of VD is “an infinitive followed by a finite verb”, as in (4b), there is also a structural sub-variation, e.g. in Bukusu [JE31c], the inverted order, i.e., “a finite verb followed by an infinitive” is used for predicate focus marking. A comprehensive survey of the possible range of structural as well as functional variation/variability of VD is needed for more reliable generalisation.



Source: Esri, Garmin, FAO, NOAA, USGS

Orange: absence

Green: verb focus

Violet: topicalisation

Blue: both verb focus and topicalisation

Map 2 — *Geographical distribution of verb doubling*

As for the distribution, it has been argued that VD is in complementary distribution with CJ/DJ. For example, Morimoto (2017: 171) points out that “the verb doubling construction is attested in languages lacking CJ/DJ alternation such as languages of zones A, B, E, F, H, and K” (Map 2).

However, based on the database, the generalisation needs to be modified. Not only does there seem to be no clear overlap with the languages that Morimoto (2017: 171) identifies as lacking the CJ/DJ alternation, but the two strategies do coexist in a wide range of CJ/DJ languages such as Rwanda [JD61], Bemba [M42], Makuwa [P31], Cuwabo [P34], Venda [S21], Sesotho [S33], and Tsonga [S53]. Unlike the functional overlap between CJ/DJ and MFM, VD can be accommodated in a CJ/DJ language where their functional coverages are reasonably differentiated.

### 2.3 CJ/DJ

As mentioned earlier, the CJ/DJ alternation has been one of the most vigorously debated issues in the recent studies of Bantu syntax. As exemplified in the chapters in Van der Wal & Hyman (2017), there is quite diverse typological variation in CJ/DJ across Bantu languages, where the definitive feature can be summarised as follows: i) the CJ/DJ alternation exists only in affirmative main clauses, ii) CJ is not used clause finally, and iii) DJ is typically, but not necessarily, used as a form of predicate focus (cf. Van der Wal 2017: 15). In most typical cases, the alternation is structurally expressed as a combination of morphological and prosodic means, as in (5) from Bemba (underlining indicates underlying, lexical H tone).

- (5) Bemba [M42] (Kula 2017: 271)
- a. CJ: *bá-lóóndólól-à* *lyòònsè*  
 SM<sub>2</sub>-explain-FV all\_the\_time  
 ‘They explain **all the time.**’
- b. DJ: *bá-lá-lóóndólól-á*  
 SM<sub>2</sub>-PFV.DJ-explain-FV  
 ‘They explain.’

However, the alternation may also be expressed (at least at the surface level) solely by tone. Hyman (2017) explains that some of the prosody-based marking types can be regarded as triggered by the (loss of) H tone associated with the augment of the following noun, as illustrated by the data from Tonga in (6).

- (6) Tonga [M64] (Hyman 2017: 107)
- a. CJ = [+ H]: *ndà-ká-<sup>↑</sup>tól-á* *<sub>H</sub>nyàmà*  
 ‘I took **meat.**’
- b. DJ = [H→Ø]: *ndà-ká-tòl-à* | *<sub>H→Ø</sub>nyàmà*  
 ‘I **took** meat.’

In (6a), CJ is marked by the high tone historically associated with the augment of the following noun, while in the DJ form, the high tone of the augment is absent.

In terms of its geographical distribution, CJ/DJ is exclusively spread in the interlacustrine JD languages and the south-eastern zones M, N, P, and S (Map 3; see also the summary of the geographical distribution in Van der Wal 2017: 17).

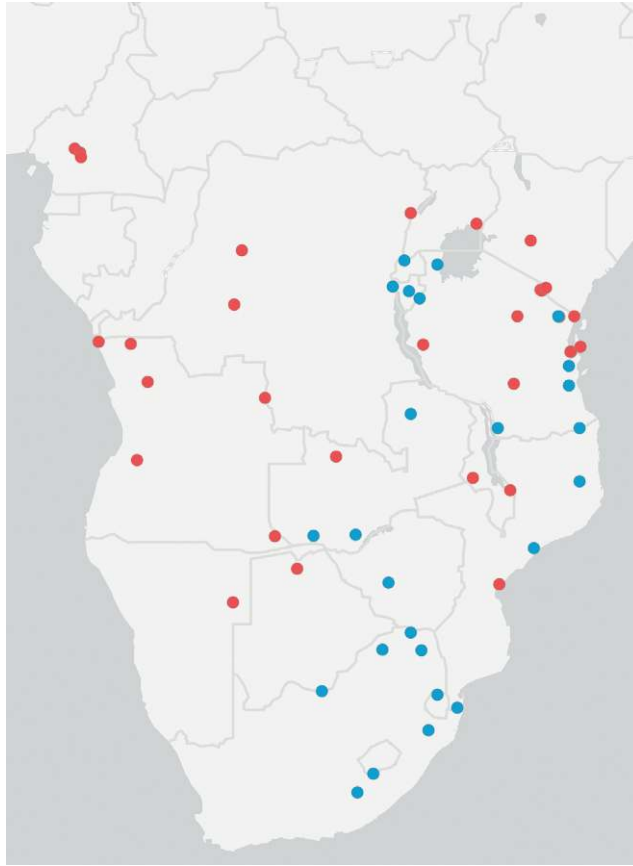
It should be noted here that, in principle, CJ/DJ and MFM are largely in complementary distribution. Based on the database, there are only 3 out of 25 languages with CJ/DJ alternation that also have an MFM (Table 1).<sup>2</sup>

*Table 1 — The presence and absence of conjoint/disjoint and morphological focus marker in the sample languages in the Bantu Morphosyntactic Variation database*

	+ CJ/DJ (25)	– CJ/DJ (34)
+ MFM (15)	3 languages: .250/.214 Kifuliiru [JD63], Ha [JD66], SiNdebele [S44]	9 languages: .750/.500 A50, A601, A71, B865, E622d, E623, E73, F12, F33
– MFM (20)	11 languages: .550/.786 M42, N13, P31, P34, S21, S31, S32, S33, S42, S43, S53	9 languages: .450/.500 C61, G42, G43c, G52, JE15, K11, N31, R11, R31

However, further examination of the original sources seems to suggest that morphological means relevant to focus marking in some of the languages in the sample cannot be seen at least as a typical MFM. For example, in Kifuliiru [JD63], what is interpreted as an MFM, as suggested by the term “focus copula” labelling the form in question, seems to be rather regarded as part of cleft construction (Van Otterloo 2011: 345).

2. Though it is not included in the database, Van der Wal & Asimwe (2020) report that the interlacustrine language Kiga [JE14], where the MFM *ni-* has also developed, shows a formal alternation of CJ/DJ, which is however only tonally expressed. If this means that Kiga is in the process of losing the CJ/DJ alternation, it seems to support our tentative generalisation discussed here.



Source: Esri, Garmin, FAO, NOAA, USGS  
 Red: absence  
 Blue: existence

Map 3 — Geographical distribution of conjoint/disjoint

- (7) Kifuliiru [JD63] (Van Otterloo 2011: 345)  
*yà-bá bá-géni* || *b-ó=bà-gír-á yì-bì*  
 these-2 2-guests || 2-FOC=SM<sub>2</sub>-do-FV this-8  
 ‘These guests || **they** are the ones who did these things.’

This kind of structural ambiguity would be observed in many languages, especially in languages where the identificational copula historically derived from the affirmative predicate index \**ní* ‘it is’ (Meeussen 1967: 115) has developed into a grammaticalised MFM, including the case in South Ndebele (Masilela *et al.* 2021). On the other hand, according to the description by Harjula (2004: 98), the case in Ha [JD66] is clearly analysable as part of a morphological operation pertaining to the CJ/DJ alternation. Excluding these borderline cases, it may be assumed that CJ/DJ and MFM are principally distributed complementarily, reflecting the tendency that they functionally overlap in that both can play a role of assigning both term focus and predicate focus unlike the difference between CJ/DJ and VD discussed in 2.2.

#### 2.4 Syntactic focus position

Specific syntactic positions are also frequently utilised as a focus marking strategy. The most typical syntactic position for term focus in Bantu is the IAV (immediately after the verb) position (Gibson



*et al.* 2017: 86), as illustrated in (8) from Makonde [P23], while (9) is one of the oft-cited examples of IAV as a syntactic focus position from Aghem, a Grassfields language<sup>3</sup> (cf. Watters 1979).

(8) Makonde [P23] (Manus 2017: 246, 249)

CJ: <i>á-Ø-tótá</i>	vs.	DJ: <i>a-nku-tóóta</i>
SM <sub>1</sub> -PRS-sew		SM <sub>1</sub> -PRS-sew
7-hat		
‘She is sewing (the) <b>hat</b> .’		‘She is sewing.’

(9) Aghem [Grassfields, Ring Group] (Hyman 2010: 96-98)

- a. *tí-bvú* *tì-bìghà* *mô* *zì* *kí-bé* *†né*  
 10-dog 10-two PST<sub>1</sub> eat 7-fufu today  
 ‘The two dogs ate fufu today.’
- b. *tí-bvú* *tì-bìghà* *mô* *zì* *né* *†bé* *†kó*  
 10-dog 10-two PST<sub>1</sub> eat today fufu 7.DET  
 ‘The two dogs ate fufu **today**.’
- c. *à* *mò* *zì* *tí-bvú* *tì-bìghà* *bé* *†kó* *né*  
 EXPL.SM PST<sub>1</sub> eat 10-dog 10-two fufu 7.DET today  
 ‘The **two dogs** ate fufu today.’

There is interesting interaction between the use of a syntactic focus position, in particular the IAV position, and the CJ/DJ alternation, since CJ verb forms can often be used to mark term focus on an immediately following constituent, which would then be in the IAV position, as illustrated in (8). Another example is provided in (10) from Shangaji, a variety of Makhuwa, which cannot be regarded at least as a typical CJ/DJ language in that CJ-like forms can occur clause-finally (Devos 2017: 122), and where the position can be used for marking contrastive term focus with tonal modification of the focused argument (\* marks focus tone lowering in the example).

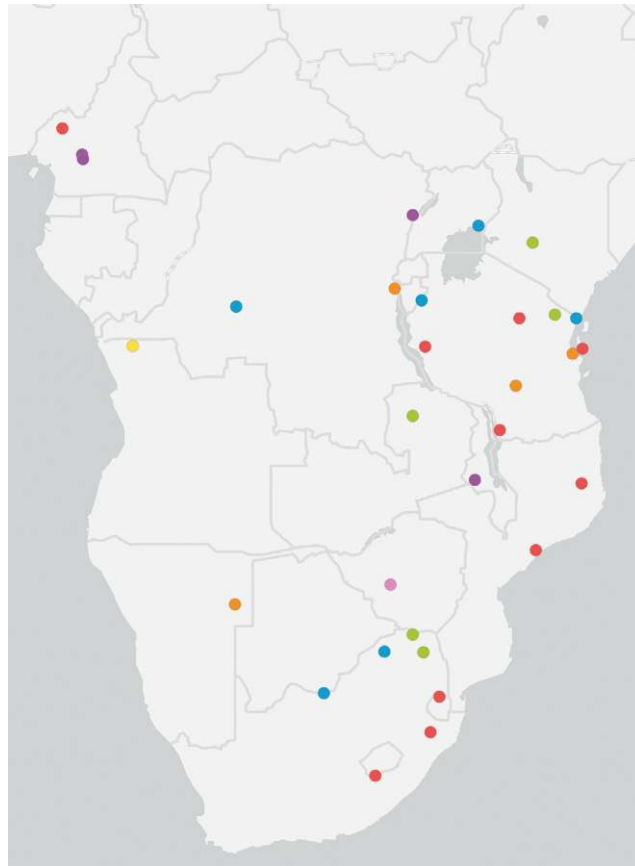
(10) Shangaji [P312] (Devos 2017: 125)

*kí-tti-vénk-á* *n-zuruukhu\**  
 SM<sub>1</sub>SG-PRS-beg-FV 3-money  
 ‘I am begging for **money** (not something else).’

In our database, though the number of sample languages are quite limited, approximately half of the 21 languages which use a syntactic position for focus marking utilise the IAV position as a designated slot for a term focused element.

However, it should also be noted that there is a considerable range of variation observed in terms of syntactic focus marking across Bantu languages. Besides the most typical IAV position, the following are also attested as a locus of a constituent focus, namely the immediately before the verb (IBV) position, as illustrated in (11), the clause-initial position in (12), and the clause-final position in (13) (see also Gibson *et al.* 2017 for a typological overview of syntactic focus position in Bantu). Their geographical distribution is plotted on Map 4.

3. An anonymous reviewer points out that forms with the PST<sub>1</sub> *mò* show typical features of CJ, which contrasts with a corresponding DJ form *máà*, and the similar system with binary contrast is quite widespread in neighbouring Grassfields and other non-Bantu Bantoid languages. While we do not go into this further (as the focus of this paper is limited to narrow Bantu languages), we understand that these languages would be a significant testing ground for our hypothetical generalisation discussed in this paper. We are grateful to the reviewer for noticing the point.



Source: Esri, Garmin, FAO, NOAA, USGS  
 Red: IAV [10 languages]  
 Yellow: IBV [1]  
 Orange: clause-final [4]  
 Purple: clause-initial [2]  
 Green: two of the above [4]  
 Blue: no clear relevance for focus marking [6]

Map 4 — Geographical distribution of languages utilising syntactic positions for focus marking

- (11) IBV: Kisikongo [H16a-1] (Mfuwa 1995: 93-96, cited in De Kind 2014: 96)

a. *Ósè nàni kánètè?*

o-Ø-se [nani]<sup>FOC</sup> ka-nat-idi  
 AUG<sub>1</sub>-5-father who SM<sub>1</sub>-carry-PRF  
 ‘**Whom** did father carry?’

b. *Ósè mwàná kánètè*

o-Ø-se [mu-ana]<sup>FOC</sup> ka-nat-idi  
 AUG<sub>1</sub>-5-father 1-child SM<sub>1</sub>-carry-PRF  
 ‘Father carried **a child**.’

- (12) Clause-initial: Eton [A71] (Van de Velde 2008: 324)

*bèkwónòitè vóbéngáyòlò mí<sup>+</sup>ná*

bèkóná ì-tè vó bə-ŋgá-jòlà mínă

Bekono I-ANA then II-PST.R-name 2PL.FPPR

‘It’s this **Bekono** after whom they called you guys.’

## (13) Clause-final: Rundi [JD42] (Shinagawa 2022: 48-49; not included in the database)

a. *mariko jagurije ijama abáana*

mariko ju-a-gur-i-je i-N-ama a-ba-ana  
 Mariko SM<sub>1</sub>-PST.N-buy-APPL-PRF AUG-9-meat AUG-2-child  
 ‘Mariko bought meat **for children.**’

b. *mariko jagurije abáana ijama*

mariko ju-a-gur-i-je a-ba-ana i-N-ama  
 Mariko SM<sub>1</sub>-PST.N-buy-APPL-PRF AUG-2-child AUG-9-meat  
 ‘Mariko bought **meat** for children.’

## 3. MICRO-TYPOLOGICAL CORRELATION PERTAINING TO FOCUS-RELATED PARAMETERS

While the geographical distribution of different strategies suggests functional variability as well as possible processes of historical development of each focus marking strategy, inter-parametric covariation may tell us about how different grammatical components can be intertwined in a single linguistic system. In other words, it suggests a set of typological principles that explain the possible range of morphosyntactic diversity observed throughout Bantu languages.

In this survey, we picked up three different morphosyntactic components or operations that are logically independent from, but either functionally or structurally related to focus marking, namely negation, object-order symmetry, and inversion constructions. Concerning negation, we particularly focus on the use of a verb-external negative particle for main clause negation, as illustrated in (14a), which is structurally contrastive to the verb-internal negation (14b) that is typologically a more unmarked strategy for main-clause negation across Bantu languages. Object-order symmetry is part of the three criteria of objecthood in Bantu proposed by Hyman & Duranti (1982: 221), with two other criteria being availability of object marking in the verb (i.e., cliticisation) and possibility of a noun phrase being the subject through passivisation. Inversion constructions, along with the CJ/DJ alternation, are one of the well-investigated syntactic phenomena in the context of the syntax-information structure interface (cf. Marten & Van der Wal 2014). In this survey, our focus is on the compatibility of major focus marking strategies and the availability of the locative inversion on the one hand and patient inversion on the other.

## (14) Main clause negation

## a. Verb-external marking with a clause-final particle in Uru [E622D] (Shinagawa 2019: 127)

*ndziléurá kitapû: pfo*  
 ndzi-le-ur-a ki-tapu pfo  
 SM<sub>1</sub>SG-PST<sub>1</sub>-buy-FV 7-book NEG  
 ‘I didn’t buy a book.’

## b. Verb-internal marking with a pre-initial prefix in Bende [F12] (Abe 2019: 203)

*te-tw-a-tend-âng-a n-sy-a-tend-âng-a*  
 NEG-SM<sub>1</sub>PL-PST-say-ITS-FV SM<sub>1</sub>SG-NEG-PST-say-ITS-FV  
 ‘We didn’t say I didn’t say.’

(15) Object-order symmetry: Swati [S43] (Nkuna *et al.* 2021: 245; gloss added by the authors)

## a. Normal, neutral, unmarked order

*Nga-phek-el-a u-m-tfwana ku-dla*  
 SM<sub>1</sub>SG-PST-cook-APPL-FV AUG-1-child 15-food  
 ‘I cooked food for the child.’

- b. Marked order  
*Nga-phek-el-a ku-dla u-m-tfwana*  
 SM<sub>1</sub>SG PST-cook-APPL-FV 15-food AUG-1-child  
 ‘I cooked the child food.’
- (16) Locative inversion: Rundi [JD62] (Shinagawa 2022: 21-22)
- a. Basic word order  
*intámbwe irjama mwifámba*  
 i-N-tambwe i-Ø-rjam-a mu-i-famba  
 AUG-9-lion SM<sub>9</sub>-PRS-sleep-FV 18-5-field  
 ‘A lion sleeps in the forest.’
- b. Locative inversion  
*mwifamba harjama intámbwe*  
 mu-i-famba ha-Ø-rjam-a i-N-tambwe  
 18-5-field SMLOC-PRS-sleep-FV AUG-9-lion  
 ‘In the forest sleeps a lion.’
- (17) Patient inversion: Rundi [JD62] (Shinagawa 2022: 41)
- a. Basic word order  
*joháni jaamaze gusomá igitábo*  
 johani ju-a-mar-je ku-soma i-ki-tabo  
 Yohani SM<sub>1</sub>-PST.N-finish-PRF 15-read AUG-7-book  
 ‘Yohani has read **a book**/finished to read **a book**.’
- b. Patient inversion  
*igitábo tfaamaze gusoma joháni*  
 igitabo ki-a-mar-je ku-soma johani  
 AUG-7-book SM<sub>7</sub>-PST.N-finish-PRF 15-read Yohani  
 ‘**Yohani** has read a book/finished to read a book.’

The general observation about the covariation between these and different focus marking strategies are as follows; i) negation-related parameters show a strong correlation with the CJ/DJ alternation and the MFM; ii) object symmetry seems to be relevant to VD and CJ/DJ; and iii) as for inversion constructions, only patient inversion tends to be highly restricted within the languages where any formal means of focus marking is available. Before discussing each pair of parameters in detail, we will first examine a set of statistical data on the correlation between the relevant parameters based on the BMV database.

### 3.1 Correlation relevant to the CJ/DJ alternation

Table 2 shows the inter-parametric correlation between Parameter P074, which is about the CJ/DJ alternation, and the above-mentioned logically independent parameters of our concern. As shown in the table, three pairs of parameters show significantly salient ratios, suggestive of typologically significant correlations, as summarised in (18).

Table 2 — Inter-parametric correlation pertaining to P074 (conjoint/disjoint)

	Negative particles		Object-order symmetry	Locative inversion				Patient inversion	
	P056 = no	P056 = yes	P117 = yes	P122 = 1	P122 = 2	P122 = 3	P122 = no	P123 = yes	P123 = no
Number of languages	35	8	14	36	5	9	13	15	37
Average	0.547	0.125	0.424	0.571	0.079	0.143	0.206	0.288	0.712
P074 = yes (25)	<b>0.938</b>	0.063	<b>0.214</b>	0.412	0.176	0.118	0.235	0.059	<b>0.941</b>
P074 = no (34)	0.533	0.167	0.529	0.652	0.043	0.261	0.261	0.348	0.652

- (18) If a language shows the CJ/DJ alternation,
- negative particles tend not to be present (93.8%)
  - object-order symmetry is relatively restricted (21.4%)
  - patient inversion tends not to be allowed (94.1%)

### 3.1.1 CJ/DJ and main clause negation

In relation to negation, a quite high number of languages with CJ/DJ, 15 out of 16 languages in our database, show that they do not have a verb-external negative particle. This practically means that most probably the CJ/DJ languages use verb-internal modification, typically with a negation prefix slotted in the pre-initial position, to express main clause negation (Table 3).

Table 3 — Salient combination between the presence of conjoint/disjoint and the absence of negative particles

	[+ CJ/DJ, – negative particles]	[+ CJ/DJ, + negative particles]
Ratio	0.938 = 15/16	0.063 = 1/16
Languages attested in	Kinyarwanda [JD61], Kifuliiru [JD63] Ha [JD66], Bemba [M42], Matengo [N13], Makhwua [P31], Cuwabo [P34], Venda [S21], Tswana [S31], Northern Sotho [S32], Sesotho [S33], Zulu [S42], Swati [S43], South SiNdebele [S44], Tsonga [S53], Rhonga [S54]	Matengo [N13]

The only exceptional pattern in our database is attested in Matengo [N13], where main clause negation is expressed through a pre-verbal particle, as illustrated in (19). It is, however, worth mentioning that, unlike post-verbal particles, pre-verbal particles are grouped into the same category called “pre-initial complex” with verb-internal pre-initial negation in the structural classification by Gülde-mann (1999), suggesting the structural continuity between the two negation strategies.

- (19) Negative particles: Matengo [N13] (Yoneda 2019: 426)

*ŋgasé dʒu-gú-butuk-il-iti*

NEG SM<sub>1</sub>-OM<sub>2</sub>SG-RUN-APPL-PRF

‘S/he did not run after you.’

### 3.1.2 CJ/DJ and object-order symmetry

It should be pointed out that in 11 out of 14 CJ/DJ languages, symmetric word order of multiple object NPs is structurally restricted, suggesting that CJ/DJ languages tend to be asymmetric in terms of object word order, as in the case of South Ndebele [S407] illustrated in (20) (Table 4). However, it should also be noted that a few languages in our sample are attested to allow symmetric order of multiple objects, as illustrated in (21).

Table 4 — Salient combination between the presence of conjoint/disjunct and object-order asymmetry

	[+ CJ/DJ, – Object-order symmetric]	[+ CJ/DJ, + Object-order symmetric]
Ratio	0.786 = 11/14	0.214 = 3/14
Languages attested in BMV	Kifuliiru [JD63], Bemba [M42], Matengo [N13], Cuwabo [P34], Venda [S21], Tswana [S31], Northern Sotho [S32], Zulu [S42], South Ndebele [S44], Tsonga [S53], Rhonga [S54]	Kinyarwanda [JD61], Sesotho [S33], Swati [S43]

(20) Object-order asymmetry in South Ndebele [S407] (Masilela *et al.* 2021: 319)

- a. *unikele ubafana umadoro*  
 u-nik-el-e                  u-Ø-bafana                  u-Ø-madoro  
 SM<sub>1</sub>-give-APPL-PST    AUG-1a-Bafana            AUG-14-car  
 ‘S/he gave Bafana a car.’
- b. \**unikele umadoro ubafana*

(21) Object-order symmetry in Sesotho [S33] (Mokoaleli *et al.* 2021: 420)

- a. *Ke-beh-a    buka    tafoleng.*  
 SM<sub>1</sub>SG-put-FV    9.book            9.table.LOC  
 ‘I put the book on the table.’
- b. *Ke-beh-a    tafoleng    buka.*  
 SM<sub>1</sub>SG-put-FV    9.table.LOC    9.book  
 ‘I put on the table the book.’

### 3.1.3 CJ/DJ and inversion constructions

The last relevant correlation relates to the structural possibility of inversion constructions. While no significant correlation is attested in relation to locative inversion (41.2% of CJ/DJ languages allow formal locative inversion, while 65.2% of non-CJ/DJ languages do so), it is quite salient that patient inversion is structurally disallowed in 16 out of 17 sample languages with the CJ/DJ alternation (Table 5). (22) illustrates the typical incompatibility of patient inversion in CJ/DJ languages, whereas (23) shows that the restriction is not applicable to Rundi [JD62].

(22) Impossibility of patient inversion in South Ndebele (Masilela *et al.* 2021: 321)

- a. *ubafana ufunda incwadi*  
 u-Ø-bafana                  u-fund-a                  i-N-cwadi  
 AUG-1a-Bafana    SM<sub>1</sub>-PROG-read-FV    AUG-9-book  
 ‘Bafana is reading a book.’
- b. \**incwadi ifunda ubafana*

(23) Patient inversion: Rundi [JD62] (Shinagawa 2022: 41) = (17)

a. Basic word order

*joháni jaamaze gusomá igitábo*

johani ju-a-mar-je ku-soma i-ki-tabo

Yohani SM<sub>1</sub>-PST.N-finish-PRF 15-read AUG-7-book

‘Yohani has read **a book**/finished to read **a book**.’

b. Patient inversion

*igitábo tfaamaze gusoma joháni*

igitabo ki-a-mar-je ku-soma johani

AUG-7-book SM<sub>7</sub>-PST.N-finish-PRF 15-read Yohani

‘**Yohani** has read a book/finished to read a book.’

Table 5 — Salient combination between the presence of conjoint/disjoint and lack of patient inversion

	[+ CJ/DJ, – Patient inversion]	[+ CJ/DJ, + Patient inversion]
Ratio	0.941 = 16/17	0.059 = 1/17
Languages attested in BMV	Kinyarwanda [JD61]?, Kifuliiru [JD63], Bemba [M42], Matengo [N13], Matuumbi [P13], Makhuwa [P31], Cuwabo [P34], Venda [S21], Tswana [S31], Northern Sotho [S32], Sesotho [S33], Zulu [S42], Swati [S43], SiNdebele [S44], Tsonga [S53], Rhonga [S54]	Kirundi [JD62]

The interrelation between focus marking strategies and patient inversion, and the typological implication suggested from the correlation, along with exceptional patterns observed in JD60, will be further discussed in Section 4.3.

### 3.2 Correlation relevant to VD

As shown in Table 6, Parameter P107 is about VD constructions and their function. We distinguish between languages in which VD encodes focus, languages in which VD encodes topic, and languages in which VD encodes both topic and focus. Table 6 shows, when VD is used to exclusively encode focus, the absolute matching ratio with the parameters pertaining to patient inversion construction (P123 = no), although this is, as throughout our study, based on a comparatively small number of languages. Languages in which VD encodes both topic and focus also show an absolute correlation with the absence of the patient inversion.

Table 6 — *Inter-parametric correlation pertaining to P107 (verb doubling)*

	Negative particles		Object-order symmetry	Locative inversion				Patient inversion	
	P056 = no	P056 = yes		P117 = yes	P122 = 1	P122 = 2	P122 = 3	P122 = no	P123 = yes
Number of languages	35	8	14	36	5	9	13	15	37
Average	0.547	0.125	0.424	0.571	0.079	0.143	0.206	0.288	0.712
P107 = FOC (8)	0.750	0.125	0.571	0.333	0.000	0.167	0.667	0.000	1.000
P107 = TOP (8)	0.750	0.000	0.400	0.714	0.143	0.286	0.000	0.429	0.571
P107 = both (9)	0.778	0.000	0.600	0.556	0.000	0.111	0.333	0.000	1.000
P107 = no (10)	0.700	0.200	0.286	0.556	0.111	0.222	0.111	0.111	0.889

(24) If a language uses VD for focus marking, it does not allow patient inversion (100%)

As for (24), we cannot deduce meaningful implications due to the scarcity of sample languages with a specific value for all the relevant parameters. On the other hand, it is striking that all the languages utilising VD for focus marking in the database, which are 15 languages in number and widely distributed across different zones, do not allow patient inversion, as shown in Table 7. There seems to be no significant correlation with locative inversion (formal locative inversion is attested in 33.3% of languages with focus marking VD, 71.4% of those with topic marking VD, and 55.6% in other cases).

Table 7 — *Salient combination between verb doubling for FOC and lack of patient inversion*

	[+ VD = FOC+ both, - Patient inversion]
Ratio	1.000 = 15/15
Languages attested in BMV	Tuki [A601], Gikuyu [E51], Uru [E622d], Chasu [G22], Kimbundu [H21], Kinyarwanda [JD61], Cokwe [K11], Bemba [M42], Sena [N44], Makhuwa [P31], Cuwabo [P34], Umbundu [R11], Venda [S21], Sesotho [S33], Tsonga [S53]

### 3.3 Correlation relevant with MFM

As for the inter-parametric correlation with Parameter P140 pertaining to MFM, the following two features should be pointed out: one is high percentage of absence of negative particles, and the other is, like for the other two strategies, incompatibility with patient inversion (Table 8).



Table 8 — Inter-parametric correlation pertaining to P140 (morphological focus marker)

	Negative particles		Object order symmetry	Locative inversion				Patient inversion	
	P056 = no	P056 = yes	P117 = yes	P122 = 1	P122 = 2	P122 = 3	P122 = no	P123 = yes	P123 = no
Number of languages	35	8	14	36	5	9	13	15	37
Average	0.547	0.125	0.424	0.571	0.079	0.143	0.206	0.288	0.712
P140 = yes (15)	0.533	0.267	0.333	0.273	0.000	0.273	0.455	0.091	<b>0.909</b>
P140 = no (20)	<b>0.800</b>	0.050	0.400	0.579	0.158	0.158	0.105	0.211	0.789

(25) If a language lacks an MFM

- a. negative particles tend to be avoided for main clause negation (80%)
- b. patient inversion highly tends to be restricted (90.9%)

As shown in Table 8, 80% of languages without an MFM also lack negative particles. While the significance of the percentage may be debatable, it still can be regarded as a high number of languages if compared with the total number of languages without a negative particle, which is 55% (0.547).<sup>4</sup> Table 9 shows more detailed information about the relationship between the lack of MFM and negative particles in the sample languages.

Table 9 — Salient combination between the absence of morphological focus markers and the absence of negative particles

	[- MFM, - negative particles]	[- MFM, + negative particle (1, 3, 4)]
Ratio	0.800 = 16/20	0.200 = 4/20
Languages attested in BMV	Mongo [C61], Swahili [G42], Ganda [JE15], Bemba [M42], Cewa [N31], Makhuwa [P31], Cuwabo [P34], Umbundu [R11], Herero [R31], Venda [S21], Tswana [S31], Northern Sotho [S32], Sesotho [S33], Zulu [S42], Swati [S43], Tsonga [S53]	(obligatory): Chindamba [G52], Matengo [N13] (depending on tense): Cokwe [K11], Makunduchi [G43c]

On the other hand, the same tendency about the incompatibility with patient inversion is also clearly attested in MFM languages, as shown in Table 10.

4. One reviewer rightly points out a possible tendency that if a language has an MFM that is historically traced back to the “affirmative predicate index” \**ni* (Meeussen 1967: 115), then its negative counterpart \**ti* may also be retained and recruited as a verb-internal negative form (most probably encliticised to a verb).

Table 10 — Salient combination between the presence of morphological focus marker and the lack of patient inversion

	[+ MFM, – Patient inversion]	[+ MFM, + Patient inversion]
Ratio	0.909 = 10/11	0.091 = 1/11
Languages attested in BMV	Tuki [A601], Gikuyu [E51], Uru [E622d], Rombo [E623], Digo [E73], Bende [F12], Rangi [F33], Chasu [G22], Kifuliiru [JD63], South SiNdebele [S44]	Nzadi [B865]

To summarise, the following can be picked up as typologically significant features to provide typological principles that explain the cross-Bantu variation and universal tendencies pertaining to focus marking strategies.

- (26) Summary of correlation relevant to three major focus marking types in our sample:
- Negation: negative post-verbal particles tend to be avoided in CJ/DJ languages, while they are frequently attested in MFM languages
  - Object symmetry: Syntactic object symmetry is significantly low in languages with an MFM
  - Inversion: Patient inversion is highly restricted in all cases of languages with major focus marking strategies

In the next section, we will further discuss these correlations by referring to relevant data and previous studies to clarify possible typological principles that explain these typological tendencies.

#### 4. POSSIBLE BACKGROUND PRINCIPLES EXPLAINING THE OBSERVED TYPOLOGICAL TENDENCIES

##### 4.1 Interplay between focus and negation

The typological tendency that non-MFM languages tend to avoid negative particles has been pointed out in Shinagawa & Marten (2021). In the paper, we argue that MFM languages tend to develop verb-external negation, reflecting the general tendency, as discussed in Devos & Van der Auwera (2013), that verb-external negative particles are themselves focal elements or they provide focality to syntactically adjacent constituents, as illustrated in (27), i.e., there is a strong link of grammaticalisation between morphological focus marking and the development of negative particles.

- (27) Grammaticalised clause 17 POSS.PRON as a negative particle and a focus enforcer
- Kwezo [L13] (Forges 1983: 330, cited in Devos & Van der Auwera 2013: 250)
 

*lo gwâmi nga-swěg-á*  
 NEG (17.POSS.1SG>)NEG SM<sub>1</sub>SG-hide-PRF  
 ‘I have not hidden.’
  - Bembe [H11] (Nsayi 1984: 224, cited in Devos & Van der Auwera 2013: 251)
 

*me mua-măn-a kuámi*  
 I SM<sub>1</sub>SG.PROX-finish-FV 17.POSS.1SG  
 ‘As for me, I am finished.’ (i.e., the others haven’t finished yet)

On the other hand, CJ/DJ languages show that they tend to avoid negative particles and take pre-initial negation instead. This may be explained by the fact that the CJ/DJ alternation is usually neutralised in the context of negation, and in such cases, a focused form tends to be selected as a negative form

(Van der Wal 2017: 34-35).<sup>5</sup> This is well observed in many languages where a structural notion of “Auxiliary focus” (Hyman & Watters 1984) comes into play, i.e., the structural distinction between focused and non-focused forms is neutralised when expressing inherently focused elements such as negation as a marked polarity, progressive as a marked aspect, imperative and subjunctive as a marked mood, etc.

Moreover, this focused negation shows historical and functional affinity to pre-initial marking of negation. As Güldemann (1999) argues, pre-initial negatives can be seen as functionally motivated by pragmatically focused negation (in contrast with post-initial negation, which is more associated with semantic negation). This linkage in turn explains why the negation in CJ/DJ languages is preferred to be expressed through the pre-initial negation and, as a result, negative particles do not tend to develop in such languages.

#### 4.2 Interplay between focus and object symmetry

The second point of discussion is about the interrelation between focus and object-order symmetry. As we have seen in Section 3.1.2, our database shows that in CJ/DJ languages object-order symmetry in ditransitive constructions is relatively restricted. This is in contrast with the generalisation proposed by Zeller & Ngoboka (2015: 228).

- (28) Zeller & Ngoboka’s (2015: 228) generalisation about syntactic object symmetry and the CJ/DJ alternation

“If a Bantu language has symmetrical word order in double object constructions, then it has a (tonal) distinction between conjoint and disjoint verb forms.”

Zeller & Ngoboka’s (2015) work is based on similar assumptions as we are making here, and also adopts a surface parametric approach. However, the database underlying Zeller & Ngoboka’s (2015) generalisation is smaller than the BMV database (which is to some extent a development of the former), and the generalisation rests on three languages with symmetrical word order — Ha, Tswana and Kinyarwanda. In BMV, 11 languages have symmetric object order, and not all of them have a CJ/DJ alternation. For example, Rombo [E623], which is not a CJ/DJ language, allows high degree of object-order symmetry, as illustrated in (29a-b), where the semantic role of the applied object is beneficiary and locative, respectively.

- (29) Chaga-Rombo [E623] (from DS’s fieldnotes)

a.	<i>ksali élemkorja</i>	<i>mwaná</i>	<i>klálo/klaló mwána</i>
	ksali e-le-m-kor-i-a	m-ana	ki-lalo
	Kisali SM <sub>1</sub> -PST <sub>1</sub> -OM <sub>1</sub> -COOK-APPL-FV	1-child	7-food
	‘Kisali cooked food for the child.’		
b.	<i>ksali élekufúlja</i>	<i>mtoni</i>	<i>samáki/samáki mtoni</i>
	ksali e-le-ku-ful-i-a	m-to-ni	samaki
	Kisali SM <sub>1</sub> -PST <sub>1</sub> -OM <sub>17</sub> -FISH-APPL-FV	3-river-LOC	9.fish
	‘Kisali fished (caught fish) at the river.’		
c.	<i>ksali éledumbulja</i>	<i>namá</i>	<i>kfu/*kfú nama</i>
	ksali é-le-dumbul-i-a	n-ámá	ki-fu
	Kisali SM <sub>1</sub> -PST <sub>1</sub> -cut-APPL-FV	9.meat	7-knife
	‘Kisali cut meat with a knife.’		

5. For example, Van der Wal (2017: 35) explains that in Makhuwa [P31] among the two paradigms of negation that correspond to the CJ and DJ forms, “the CJ form is not used often — the DJ form is the regular negative form”.

However, the symmetric relation can be affected by several factors other than those relevant to information structure such as animacy and semantic roles of the object arguments. In Rombo, symmetrical order of post-verbal objects is restricted especially in the instrumental applicative, as shown in (29c). This clearly points to the fact that object symmetry is not solely determined by information structure, and thus the generalisation should be refined with more data from different types of languages.

### 4.3 Interplay between focus and inversion constructions

As shown in Section 3, the most salient correlation applicable to all the marked focus marking strategies investigated in this paper is incompatibility with the patient inversion constructions (PI), i.e., 94.1% of CJ/DJ languages (see (18c) in Section 3.1.3), all languages utilising VD exclusively for focus marking (see (24) in Section 3.2), and 90.9% of MFM languages (see (25b) in Section 3.3) in our database do not allow PI. It is particularly striking that, in contrast, there seems no meaningful covariation in relation to locative inversion constructions (LI). This contrastive distribution with respect to the CJ/DJ alternation is statistically confirmed by Fisher's exact test, as shown in Table 11.

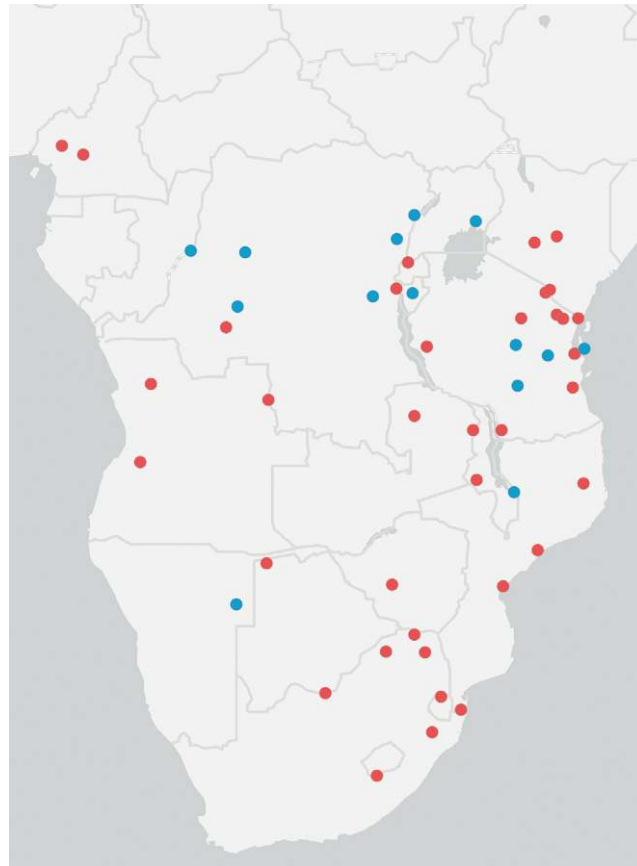
*Table 11 — Number of languages of each inter-parametric combination between P074 and P122/123*

	(a) CJ/DJ vs. LI-1		(b) CJ/DJ vs. LI-2		(c) CJ/DJ vs. PI	
	P122 = 1 or 2 or 3	P122 = no	P122 = 1 or 3	P122 = no	P123 = yes	P123 = no
P074 = yes	13	4	9	4	1	16
P074 = no	22	6	21	6	9	15
p-value	1.0000		0.7004		<b>0.0281</b>	

Column (a) in Table 11 shows that in BMV, there are 13 CJ/DJ languages for which either formal LI (P122 = 1), semantic LI (P122 = 2), or both types of LI (P122 = 3) is attested, while 4 CJ/DJ languages do not allow any type of LI. As for non-CJ/DJ languages, 22 of them allow any type of LI, while 6 of them do not. This numerical distribution of inter-parametric combination shows no statistical significance, i.e., no implicational relation is statistically suggested between CJ/DJ and LI, which is confirmed through the application of Fisher's exact test ( $p = 1.0000$ ). The statistic insignificance remains substantially unchanged even if semantic LI is excluded ( $p = 0.7004$ ), as shown in column (b). However, as shown in column (c), the combination between CJ/DJ and PI is statistically significant ( $p = 0.0281$ ), i.e., it is statistically suggested that if a language has a systematic distinction of CJ/DJ, then the language is expected to disallow PI.

One of the possible generalisations suggested by this inter-parametric correlation, or complementary distribution between the existence of marked focus strategies and the absence of PI would be the homo-functionality of both operations, i.e., CJ/DJ and PI are not accommodated in a single linguistic system as they essentially serve the same grammatical function. In other words, unlike LI, or what is interpreted as a general feature of inversion constructions, the core function of PI is not topicalisation of the inverted elements but rather focus marking of the logical subject. This inverted view of the function of PI is also argued by Van der Wal's (2022) analysis of PI in Rundi [JD62] and other JD 60 languages (see also Ndayiragije 1999). Possible combination patterns of focus marking strategies and inversion constructions in relation to different discourse-related functions are also discussed in Morimoto (2016), who suggests that there may be a typologically meaningful relation between cleft/cleft-like structures as a means of focus expression and inversion/VS order. Our findings about the interrelation between marked focus marking strategies and PI support their discussions (Map 5).

On the other hand, it should also be noted that there are apparent exceptions to the above generalisation. One of the clearest instances includes JD60 languages including Rwanda [JD61] and Rundi [JD62]. They are identified as CJ/DJ languages on the one hand, while they do allow PI on the other, as



Source: Esri, Garmin, FAO, NOAA, USGS  
 Red: absence  
 Blue: existence

Map 5 — Geographical distribution of languages that allow patient inversion

shown in (23) in Section 3.1.3. This apparent exception, however, might be related to another morpho-syntactic property of the languages involved. As noted above, languages with a CJ/DJ system typically utilise focus-sensitive IAV positions, where the morphological marking of the CJ verb form as relating to the post-verbal position and the syntactic IAV position are consistent. In contrast, in Rwanda and Rundi, the syntactic position associated with focus is the clause-final position (cf. Ndayiragije 1999; Ngoboka 2016; Gibson *et al.* 2017). The apparently exceptional compatibility with PI may be relevant to this kind of subcategorisation. Also, it should be noted that as Nshemezimana & Bostoen (2017) point out, the CJ/DJ in Rundi seems to be in the process of disappearing. In this sense, further investigation of the subcategorisation of CJ/DJ (or PI constructions) from a cross-Bantu perspective will definitely be needed, as there is a possibility that such non-typical nature of CJ/DJ in those languages may be the key to solve the apparent exceptions of the above-mentioned generalisations as working hypotheses.

## 5. CONCLUSION AND PERSPECTIVES FOR FUTURE INVESTIGATION

This paper has discussed some of the typologically salient correlations between focus-related parameters and negation marking, object symmetry, and inversion constructions, all of which can be functionally and/or structurally relevant to focus marking strategies.

As for the covariation in relation to negation, while both CJ/DJ and MFM cover predicate and term focus marking, and while they are largely in complementary distribution probably due to the overlap of the functional coverage, they behave differently in negative marking. While languages with MFM show a strong preference for verb-external negation, languages with CJ/DJ tend to take verb-internal pre-initial negation, which is functionally more strongly associated with pragmatic/focused negation.

In relation to object-order symmetry, our database shows no clear correlation with (tonal marking of) CJ/DJ, such as proposed by Zeller & Ngoboka (2015). Rather, at least as regards word order, object symmetry seems to be restricted in CJ/DJ. Considering that the word order symmetry of post-verbal object NPs is often influenced by various factors not directly relevant to information structure, more investigation would be needed to clarify what kind of features are relevant to the syntactic symmetry and how focus marking strategies, especially CJ/DJ, interact with such factors in the course of syntactic operations.

Finally, with respect to inversion constructions, there is a clear tendency that the languages with specific formal strategies of focus marking do not tend to allow patient inversion constructions. This suggests a functional overlap between patient inversion and other focus marking strategies, which means that patient inversion can be regarded as a genuine syntactic means of focus marking, unlike locative inversion, which does not show clear typological interaction with other focus marking strategies.

Overall, the different analyses presented here demonstrate the value of detailed, large-scale comparison of different grammatical construction types across a wide range of languages. This approach has shown a number of correlations between logically independent parameters, and for many of these we have suggested specific functional or structural explanations. Our results help to better understand the expression of negation and focus in Bantu, and how this relates to the different construction types investigated. Through this we have shown the complex interaction between grammatical structures and the functional roles they play, in particular in the expression of information structure. A particular finding was the difference between locative inversion and patient inversion, which behave very differently with respect to other focus-related constructions. Further detailed work is needed to better understand the underlying reason behind this difference.

Our results have also shown the value of using a large database — large, that is, in the context of the study of Bantu languages. Our findings have helped to modify previous hypotheses, e.g. Zeller & Ngoboka's (2015) generalisation about syntactic object symmetry and the CJ/DJ alternation, which we revised in the light of further data. Without doubt many of the correlations we have presented in this paper will similarly need to be revised in the future in the light of a larger and more comprehensive data set and more sophisticated methods of analysis. The quantitative study of morphosyntactic variation in Bantu languages is only at the beginning, but we hope to have shown that it is a promising avenue for a better understanding of this area.

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#### ABBREVIATIONS

We follow the convention of the Leipzig Glossing Rules (2015) except for the following abbreviations:

1, 2, 3, etc.	noun class numbers
I, II	types of agreement patterns
1SG, 2PL, etc.	person and number
ANA	anaphoric modifier

APPL	applicative
AUG <sub>(n)</sub>	augment (nominal pre-prefix)
CJ	conjoint
COP	copula
DET	determiner
DJ	disjoint
EXPL	expletive
FOC	focus
FPPR	final form of the personal pronominal
FUT	future
FV	final vowel (default verbal inflectional suffix)
IMM	immediate past;
INF	infinitive
ITS	intensifier
LOC	locative
MFM	morphological focus marker
NEG	negative
OM	object marker
PFV	perfective
POSS	possessive
PRF	perfect
PROG	progressive
PRON	pronoun
PROX	proximal
PRS	present
PST	past
PST.N/PST <sub>n</sub> (PST <sub>1</sub> etc.)	near past (subcategorisation of the past tense forms)
PST.R	remote past
OM <sub>n</sub>	object marker (with a subscript <sub>n</sub> showing agreement properties)
SM <sub>n</sub>	subject marker (with a subscript <sub>n</sub> showing agreement properties)

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