Information Structure and the Left Periphery in Dghwede

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1. Introduction

In this article, we present some of the results of recent field research on the information structure of Dghwede, a VSO-language from the Chadic family, which is spoken in Northeast Nigeria.* We discuss a number of syntactic phenomena that result from the interaction with information structure in Dghwede. These phenomena include (i.) *wh*-question formation; (ii.) the fronting of information-structurally prominent constituents; and (iii.) the effects of fronting on the functional systems of the left periphery, in particular on the T(ense)- and C(omplementizer)-systems, which encode a clause's temporal and illocutionary properties.

As grammatical information on Dghwede is scarce, and given that data gathered in the field are – almost by necessity – incomplete, the discussion does not aim at an exhaustive analysis of Dghwede syntax and information structure. Rather, we pursue the more modest goal of introducing data from a hitherto largely undocumented VSO-language that may have a bearing on the theory of the left periphery in general, and of the left periphery in VSO languages in particular. In this connection, it is remarkable that Dghwede shows a number of surprising similarities to the much better studied VSO-languages from the Celtic family.

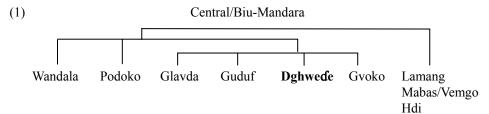
In section 2, we give some background information on Dghwede. In section 3, the main part of the paper, we discuss the effects of information structure on the syntax of Dghwede. Section 4 presents a first tentative analysis of the left periphery of Dghwede, which is – in part – inspired by a look at the Celtic languages. Section 5 concludes.

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Another reason for caution stems from two facts: First, we could consult only one Dghwede speaker, Malam Buba Adamu, who is about 50 years old, who no longer lives in a Dghwede-speaking environment. Second, the elicitation language was Hausa (leaving room for potential interferences and misunderstandings). Ideally, our results should therefore be checked again with other speakers of Dghwede, which is not without problems, given the socio-linguistic situation of this highly endangered language.

2. Background information on Dghwede

Dghwede is a highly endangered language in the mountainous border region of Northeast Nigeria and Cameroon.² It is an Afroasiatic language and belongs to the Mandara/Wandala subgroup of the Central or Biu-Mandara branch of the Chadic languages. Its closest relatives are the languages in (1), taken from Wolff (2004: 46), with family relations as indicated:



The only available grammatical information on Dghwede so far is found in a series of articles by Frick from the 1970s (cf. Frick 1977, 1978ab). The grammatical background information supplied in this section is taken from Frick (1978a). This background should facilitate the understanding of the empirical data in section 3.

The basic word order in neutral (= all-new) sentences in Dghwede is VSO – same as in Hdi (Frajzyngier 2002) and Lamang (Wolff 1983), two distant cousins. There are two real arguments, subject and object, which take no preposition, nor do they trigger extensions on the verb stem. In contrast, constituents that correspond to indirect objects semantically (in taking the semantic role of recipient or beneficient) usually trigger an extension on the verb and require the preposition n. We return to the syntax of Dghwede in section 3.

The morphological system of Dghwede is quite complex: the verb stem can carry a bewildering number of infixes and suffixes, which are employed to express both grammatical (e.g. argument structure), semantic (e.g. aspect), and directional distinctions.³ Aspectual distinctions, for instance, are coded by means of verbal affixes (Frick 1978a: 11-12): The non-affixed (often reduplicated) verbal stem expresses continuous aspect (2a), whereas verbs with the completive suffix $-\dot{a}y\dot{a}$ (or with any other suffix) are marked for completive aspect (2b).

It is worth pointing out that one and the same grammatical formative can have a morpho-syntactic effect in some contexts, and a semantic effect in others. For instance, the infix -n- functions as a transitivizer with intransitive verbs (3a), but denotes a partially completed action in connection with transitive verbs (3b) (Frick 1978a: 17).

(3) a.
$$\frac{\partial}{\partial x} k \frac{\partial x}{\partial y}$$
 'it broke' $\Rightarrow \frac{\partial}{\partial x} k \frac{\partial x}{\partial y}$ 'he broke (it)' (Frick 1978a: 14)

According to Frick (1978a: 5), there were about 16000 speakers in the 1970s. It can safely be assumed that the number of speakers has declined since then.

Frick (1978a: 41) isolates as many as nine different infixes with more than nine different functions (which can – for the most part – co-occur) and 22 suffixes (which are mutually exclusive).

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b.  \dot{a} v \partial y - \dot{a} y \dot{a}  'he caught (it)' \rightarrow \dot{a} v \partial y \partial - n - \dot{a} y \dot{a}  'he held (it)' (Frick 1978a: 16)
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The Dghwede phonetic inventory is special in that it has three underlying vowels (/a/, /i/, /u/), which are phonetically realised in a number of ways.⁴ In addition, consecutive consonants are often linked by vocoids, the phonetic realisation of which may oscillate between [i], [ə], and [u] depending on context. It follows that the phonetic vowel quality of lexical stems may vary considerably across phonetic contexts. In our data, vowels are therefore represented phonetically as they occur in actual speech.

Finally, Dghweɗe is a tone language with two phonemic tones, H(igh) and L(ow) (Frick 1978a: 9). Apart from coding lexical distinctions, tone in Dghweɗe is used for grammatical ends, e.g. for the coding of imperative mode and for marking the argument structure in VS- and VO-sequences (see section 3.1.1). Prosodically, Dghweɗe utterances are organised in hierarchical layers, the most important of these (for grammatical purposes) being the 'pause group' (Frick 1978a: 8): Within the pause group, word-final instances of e are generally omitted and the completive marker -aya is usually shortened to -i. The end of each pause group is marked by polar tone, i.e. a HL- or LH-sequence. However, since a comprehensive prosodic analysis of Dghweɗe is lacking so far, we indicate only surface tones as they occur in actual speech.⁵

3. Syntax and information structure in Dghwede

As mentioned, the basic word order of neutral declarative clauses in Dghwede is VSO(X). The following examples illustrate this for the continuous aspect (4a), the completive aspect (4b), and for sentences with future reference (4c):

```
(4) a. (kớnà) à zà Àdàmú àkwátì
now PRT carry Adamu box
'Adamus is carrying a box now.'
b. à v-ì Áudú plíshè
PRT catch-COMPL Audu horse
'Audu caught a horse.'
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c. də skwà Hàlímá klfə ft lúmà t fá
fut buy Halima fish at market tomorrow
'Halima will buy fish at the market tomorrow.'

Example (4c) shows that locative and temporal adjuncts follow the main arguments of the verb in neutral clauses. In addition, (4a-c) show that the initial element in affirmative VSO-declaratives is not the verb, but a sentence-initial particle immediately preceding the verb, so the correct basic word order should be $PRT\ VS\ O$. As a first approximation, these sentence-initial particles seem to have temporal and/or illocutionary force: The particle da/da in (4c) marks future reference. In contrast, the particle a is found

In addition, the following consonants may be unfamiliar to readers without phonetic or Africanist background: bilabial (β) and alveolar (d) implosives (which are common throughout the Chadic languages), and voiceless (f) and voiced (β) lateral fricatives.

⁵ In addition, we only indicate tone on recorded material.

both with the perfective and the progressive aspect. As the aspectual distinction is coded on the verb by means of suffigation (cf. 2ab), the function of a seems to be not so much to mark a specific tense or aspect. Rather, a marks the status of a clause as unembedded and affirmative. Frick (1978a: 5) calls a an 'indicative, non-future marker'. For reasons to emerge in section 4, we prefer to use the descriptive label 'a-marker' for the time being. We will return to the syntactic distribution and nature of these sentence-initial particles in 3.4.

In Dghwede, information structural requirements can trigger changes in word order. In section 3.1, we show that wh-arguments are fronted in wh-questions. Likewise, both focus and topic arguments can be fronted to the left periphery of the clause, as will be shown in sections 3.2 and 3.3. In 3.4, we look at the syntactic distribution of the sentence-initial particles da/da and a in more detail. In particular, we discuss the effects of fronting operations on the presence or absence of these particles.

3.1 Wh-question formation

3.1.1 Wh-arguments

The most striking fact about the formation of wh-questions in Dghwede is that they exhibit a clear-cut asymmetry between arguments and adjuncts. To begin with, wh-arguments must be fronted. This is shown for the subject wir 'who' in (5) and for the object $\dot{u}shir$ 'what' in (6):⁷

(5) subject wh-questions

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    a. <u>wìr</u> tôg fùwé?
    who cook meat
    'Who is cooking meat?'
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continuous

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(i) wir xáb tàb(a) bá?
who drink tobacco Q
'Who is smoking a cigarette?'
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The nature of $b\acute{a}$ as a question marker is witnessed by its final occurrence in selective Y/N-questions, as in (ii):

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(ii) Mùsá ná xáb yíwè né xáb sóbò hán dì bá?
Musa DEM/TOP drink water PRT drink sobo ? ? Q
'Is Musa drinking water or is he drinking sobo?'
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When $b\acute{a}$ is missing in wh-questions, its H-tone appears to be preserved and realised on the final syllable, giving the impression of a final H boundary tone in Dghwede wh-questions. Notice, however, that $b\acute{a}$ is also attested as a question-tag in Hausa. Its optional presence in Dghwede questions may therefore also arise under contact with Hausa, the dominant language in the region. The same may be true for the particle $n\acute{e}$, which is a focus-sensitive particle in Hausa, cf. Hartmann & Zimmermann (to appear-b).

Wolff (2003) analyses a similar preverbal *a*-marker in the closely related Guduf as a marker of predicate focus, i.e. focus on the verb or on the entire proposition. We do not believe that this is the correct analysis for the *a*-marker in Dghwede, though, the reason being that *a* regularly co-occurs with instances of narrow constituent focus, see in particular sections 3.2.2 and 3.2.3.

In addition to fronting, argument questions can be (optionally) marked by a high-toned question marker bá in final postion, cf. (6ab) for object-wh-questions and (i) for subject-wh-questions.

b. <u>wìr</u> v-í plís^hè? completive who catch-COMPL horse 'Who caught a horse?'
c. <u>wìr</u> <u>dà</u> tág gúské? future who FUT cook chicken 'Who will cook (the) chicken?'

(6) *object wh-questions*

a. <u>ùshír</u> t*ò*g Hàwwá (bá)? continuous what cook Hawwa Q
b. <u>ùshír</u> skw-ì Mùsá (bá)? completive

b. <u>ùshír</u> skw-ì Mùsá (bá)? completive what buy-COMPL Musa Q 'What did Musa buy?'

c. <u>ùshír</u> <u>dà</u> skwà Hàww(a) ft lúmà? future what FUT buy Hawwa at market 'What will Hawwa buy at the market?'

Please observe that the future tense marker da/da is preserved under wh-fronting (5c, 6c). In contrast, the a-marker disappears when a wh-argument is fronted to the left periphery of the clause (5ab, 6ab). Also observe that the tone on the final vowel of the verb changes depending on whether the following argument is its subject (L) or its object (H), see also Frick (1978a: 10). Finally observe that wh-fronting does not induce a change in the form of the verb, as is the case in many other Chadic languages including Hausa (Newman 2000) and Dghwede's cousin Hdi (Frajzyngier 2002). In Dghwede, the verbal form remains constant across declarative clauses and wh-questions.

Optionally, instances of fronted *wh*-objects can also be followed by the particle \check{c} , at least in the completive aspect, as illustrated in (7):8

(7) usher <u>čà</u> zì Àdàmú ndzàyá? what PRT carry Adamu last.year 'What did Adamu carry last year?'

Notice that the marker $\check{c}\partial$ resembles the marker $\check{c}a/\check{c}\partial$ in (completive) relative clauses:

(8) $k \partial \partial f e \ c \ c \ c \ x \partial \partial \partial a \ b \ a \ b \ a \ (Frick 1978a: 21, fish ? REL bring-from.across hyena <math>c = \check{c}$ in our representation) 'the fish which the hyena had brought across'

The same particle &ə seems to be employed in order to distinguish subject questions from object questions in clauses with two animate arguments (apart from tonal differences on the verb!). In the subject question (ia), &ə is absent. In contrast, the presence of &ə in (ib) indicates that the object is questioned.

(i) a. wir mbaki Musa? b. wir <u>E2</u> mbaki Musa? who help Musa who PRT help Musa 'Who helped Musa.' 'Who did Musa help?'

As interesting as these data may be, more research is necessary in order to determine whether the presence of \check{c} ϑ in (ib) is an absolute requirement, or only a preferred option.

An occurrence of \check{ca}/\check{ce} in both wh-object questions and in relativisation would not be too surprising, given that both kinds of movement operations are commonly analysed as instantiating A'-movement. In addition, it may hint at the historical development of wh-constructions from clefts, a diachronic process which has arguably taken place in many African languages.

3.1.2 Wh-adjuncts

Wh-adjunct questions differ from wh-argument questions in two important respects. First, adjunct wh-expressions are not fronted to the initial position, but occur immediately to the right of the verb. 10 This is illustrated for locative questions with mara 'where' in (9ab), and for temporal questions with dua 'when' in (10ab).

- (9) a. <u>à</u> skw á <u>márà</u> Hàw d àg à dálà? continuous a buy where Hawwa soup-things 'Where is Hawwa buying ingredients for the stew?'

 b. dà wizà márà Ábdi màrirà? future
 - b. <u>dà</u> <u>wúzà márà</u> Ábdù màrúrà? future FUT eat where Audu rice 'Where will Audu eat rice?'
- (10) a. <u>čà</u> xéní <u>dúà</u> Mùsà m` Bàuché? completive PAST sleep when Musa in Bauchi 'When did Musa sleep in Bauchi?'
 - b. <u>dò</u> sòri <u>dúà</u> Ábdù? future

 FUT come when Audu

 'When will Audu come?'
- (11) shows the same for wh-constituents with the semantic role of recipient or beneficient. In section 2, it was argued that such constituents have no proper argument status and that they are therefore realised as PPs (plus an extension on the verb). Same as in (9) and (10), the wh-adjunct occurs to the right of the verb:
- (11) *čð ngàr-àré* <u>n wír</u> Mùsá ráyà? completive PAST build-IO3SG for whom Musa house 'For whom did Musa build a house?'

The wh-adjuncts in (9), (10), and (11) occupy the position immediately to the right of the verb, thereby preceding all the verb's arguments (if present). Recall from the discussion of (4c), though, that the immediately post-verbal position in neutral clauses is reserved for arguments. At first sight, then, there seem to be two designated positions for wh-expressions in Dghwede: a preverbal one for wh-arguments, and a position immediately to the right of the verb for wh-adjuncts. Nonetheless, in sections 3.2 and 4 we will provide evidence to the effect that Dghwede has no designated position immediately to

⁹ A similar pattern is found in Gùrùntùm, where fronted focused objects are accompanied by the relative clause marker mài (see Haruna 2003: 121).

A comparable asymmetry between wh-arguments and wh-adjuncts has been observed for the closely related Guduf, see Wolff (2003) and references therein.

the right of the verb to which wh- and focused adjuncts must move, but that all focused non-subjects occur in their base position. On this analysis, the post-verbal position of the wh-adjuncts in (9) to (11) is the result of an 'evacuating' movement of all intervening material to the right.

The second important difference between wh-arguments and wh-adjuncts concerns the distribution of the sentence-initial particles. (9a) shows that not only the future marker da/da, but also the a-marker is preserved in wh-adjunct questions. This is unlike what was found with wh-argument questions in 3.1.1, where it was shown that a cannot co-occur with wh-arguments in clause-initial position. The presence of a in wh-adjunct questions shows that a cannot be a sentence-type marker for declaratives (nor a marker of predicate focus, see fn.6).

Finally, observe that the *a*-marker is regularly replaced by the past marker $\check{c}a/\check{c}\vartheta$ when the sentence has completive aspect and anterior reference. We will present more instances of the past marker $\check{c}a/\check{c}\vartheta$ in section 3.2.3. There it will emerge that its presence is contingent on the presence of a *wh*-expression in the clause.¹¹

Summing up, wh-argument questions and wh-adjunct questions behave differently in Dghwede. In argument questions, the wh-expression occupies a left-peripheral position and the a-marker disappears. In adjunct questions, the wh-expression occupies a position immediately to the right of the verb, and the a-marker precedes the verb.

3.2 Syntax and focus

Focus in Dghwede is realised differently on different syntactic constituents. The major split is between focused subjects on the one hand, and focus on other constituents on the other. We will discuss subject focus, object focus, adjunct focus and VP-focus in this order. We will argue (in this section and in section 4), that there is only one designated focus position, which is located in the left periphery and which typically serves as the landing site for focused subjects. In contrast, all other focus constituents can or must remain in their post-verbal base position.

¹¹ That ča/čə indeed functions as a past marker is indicated by the Hausa translation dâ 'formerly', 'just now', which was volunteered by our informant. Due to the fleeting surface quality of Dghwede vowels (see section 2), we cannot tell for sure whether this past marker ča/čə is identical to the marker če found with some instances of wh-object fronting and in relative clauses, cf. (7) and (8) above. The two expressions seem to occupy the same structural position, the one immediately preceding the verb, arguing for a unified analysis. On the other hand, we have seen that the slot immediately preceding the verb can be occupied by tense markers (future da/də) as well as by markers indicating sentence-mood and/or non-embedding (indicative a), so there may well be two phonologically similar, but semantically and functionally distinct items in this position. See also Frajzyngier's (2002: 403ff.) discussion of the imperfective marker tà (L-tone) and the marker on preposed focused subjects tá (H-tone) in Hdi. Etymologically, ča/če and tà/tá seem to have the same origin.

3.2.1 Focused subjects

Focused subjects in Dghwede predominantly occur in preverbal position, giving rise to an SVO order.¹² This holds both for new-information focus, as found in answers to *wh*questions, as in (12a), and for contrastive focus, as in (12b).

- (12) a. Q: *ùshír kd-í Ábdù*? A: <u>kúmdà</u> kd-í Ábdù. what kill-COMPL Audu crocodile kill-COMPL Audu 'What killed Audu?' 'A CROCODILE killed Audu.' b. <u>Músà</u> v-í plís^hè và, <u>Áudù</u> vì-áyà.
 - Musa catch-COMPL horse NEG Audu catch-COMPL 'MUSA didn't catch the horse. AUDU caught it.'

Notice – once again – that the preverbal a-marker is absent when a nominal constituent occupies the sentence-initial position. Interestingly, it is also absent in the negated first clause in (12b). The absence of the a-marker in negated clauses will be crucial for its eventual analysis to be put forward in section 4.

3.2.2 Focused objects

In contrast to focused subjects and to *wh*-objects, focused objects predominantly occur in their base position. This is shown for new-information focus in (13a-c).

- (13) a. Q: What did Audu catch? A: à v-ì Áudú <u>ŕdè</u>. a catch-COMPL Audu dog 'Audu caught a dog.'
 - b. Q: What did Audu catch?

 A: Áudú v-í <u>plíshè</u>.

 Audu catch-COMPL horse 'Audu caught a horse.'
 - c. Q: *ùshír skw-ì* Àudú ft lúmà? what buy-COMPL Audu at market 'What did Audu buy at the market?'
 - A: à skw-ùd-ì Áudù gúskè ft lúmà. a buy-?-COMPL Audu chicken at market 'Audu bought a chicken at the market

In (13a-c), a full subject NP is present in addition to the focused object: This subject NP can either occur in its base position, intervening between verb and object, and leading to the VSO order in (13a,c). Or else, the subject may move to the sentence-initial position, giving rise to the same SVO word order that is found with focused subjects, cf. (13b). Again, the preverbal a-marker is absent when the left-peripheral position is occupied by a - in this case discourse-old - NP. This observation is relevant, for it shows that the absence of the a-marker does not hinge on the focus (or wh-) status of the fronted constituent, but only on the initial position being filled by an NP. Finally, (13c) shows clearly that focused objects do not occur in a derived sentence-final position, but in their

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Although there are a few instances of VSO order with focused subjects in our corpus, the default word order with focused subjects seems to be SVO.

base position, following verb and subject, but preceding all adjuncts. From (13a) and (13c), we tentatively conclude that post-verbal focused objects do not move. Instead, they seem to occur in their base position at the right edge of the inner VP or 'core sentence', which is constituted by the verb and its arguments.

(14) shows that contrastively focused objects can be realised in their base position as well. Again, the subject intervenes between the verb and the focused object.

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(14) v-i Musa <u>bungwe</u> va, a v-i Musa <u>plis<sup>h</sup>e</u>.

catch-COMPL Musa lion NEG a catch-COMPL Musa horse
'Musa did not catch a lion. Musa caught a horse.'
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Under certain circumstances, focused objects can also be fronted to the sentence-initial position. This is shown for new-information focus in (15a), and for contrastive focus in (15b).

(15) a. Q: ùshír wùz-ù Hàlímà? A: ngré xpùd-ù-né. what eat-REFL Halima beans eat-REFL-? 'What did Halima eat?' 'She ate beans.' plishe. b. bung v-i va, a v-i lion catch-COMPL NEG a catch-COMPL horse 'He did not catch a lion, he caught a horse.'

Such fronting seems to take place in order to put an extra amount of stress or emphasis on the focused object. Again, the a-marker is absent after fronting (15a), and with negation (15b).

3.2.3 Focused adjuncts

Focused adjuncts behave like their *wh*-counterparts, at least when it comes to new-information focus. (16A) answers a temporal *when*-question, and the focused adjunct *txukwe* 'yesterday' occurs in an immediately post-verbal position, *preceding* subject and object.

- (16) Q: čə təg-i <u>dua</u> Hawwa ngre ba? na PAST cook-COMPL when Hawwa beans DEM Q 'When did Hawwa cook the beans?' A: a təg-i txukwe Hawwa ngre na. (focused TEMP-adjunct) yesterday Hawwa beans DEM a cook-COMPL 'Hawwa cooked the beans yesterday.'
- (17A) answers a locative *where*-question, and the focused adjunct *mb raya* 'in the house' occurs in an immediately post-verbal position, *preceding* subject and object.
- (17) Q: čə təg-i <u>mara</u> Hawwa ngre na ba?

 PAST cook-COMPL where Hawwa beans DEM Q

 'Where did Hawwa cook the beans?'
 - A: *a təg-i* <u>mb raya</u> Hawwa ngre na. (focused LOC-adjunct) a cook-COMPL in house Hawwa beans DEM 'Hawwa cooked the beans in the house.'

Compare the marked position of the focused adjuncts in (16A) and (17A) with the unmarked word order of the neutral counterparts (18a) and (18b) respectively.

```
(18) a. à tôgô Hàwwá ngrí txùkwé. neutral a cook Hawwa beans yesterday 'Yesterday, Hawwa cooked beans.'
b. à tôgô Hàwwá ngrí mb ràyá. neutral a cook Hawwa beans in house 'Hawwa cooked beans in the house.'
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Another important observation concerns the form of the clause-initial particle in (16) and (17). Notice that the particle $\check{c}a/\check{c}\vartheta$ only occurs in the wh-question, while it is replaced by a in the corresponding answer. This suggests that $\check{c}a/\check{c}\vartheta$ only occurs in completive wh-questions.

3.2.4 Focused VP-predicates

Let us finally look at the realisation of VP-focus as found in answers to VP-questions. From the limited data available, it seems that VP-focus is realised with VOS-order:

Since (19A) is introduced by the *a*-marker, predicate fronting to a sentence-initial position does not seem to be an option here. Interestingly, though, the subject appears to be post-posed to a clause-final position. As a result, the VP appears in sentence-initial position. It seems, then, that Dghwede has the option of post-posing discourse-old material to a clause-final position for the sake of focused material that ends up in a more prominent position this way. In section 4, we will make use of this observation in order to account for the distribution of focused objects and adjuncts.

Summing up so far, while focused subjects are predominantly moved to a clause-initial position, focused adjuncts, wh-adjuncts, and focused objects are realised in a post-verbal position. Occasionally, the latter can be fronted to the clause-initial position, too. Focused (including wh-) adjuncts follow directly on the verb and precede the latter's arguments (if present). In contrast, focused objects can be separated from the verb by an intervening subject and occur at the end of the 'core sentence', which is made up of the verb and its arguments. The distribution of focused elements is given schematically in (20):

In section 4, we will put forward some speculations as to a unified account for the postverbal occurrence of focused adjuncts and objects. A crucial component of this unified account will be that all focused non-subjects occur in their base position – despite appearances to the contrary.

3.3 Syntax and topics

In this section, we show that topics can be fronted to the left-periphery of the clause as well, where they are incompatible with the *a*-marker. We only consider discourse topics which provide old or given information, as well as (contrastive) aboutness topics. This kind of topic fronting seems to be restricted to arguments. Argument topics are shown to differ from adjunct topics, which also occur in the left periphery, but which co-occur with the *a*-marker.

3.3.1 Topic arguments

In our discussion of object focus, we have already encountered instances of old-information subjects that are regularly fronted to the left periphery, namely in answers to object questions with post-verbal object focus. In (13b) above, as well as in (21), the subject in the answer constitutes old information and is fronted to sentence-initial position. As with fronted focus constituents, the *a*-marker is absent with fronted topics:

While fronted subject topics abound, we have found no evidence for fronted object topics in our corpus, not even in answers to subject questions, which always have the word order SVO or VSO.¹³ However, old-information objects can occupy a right-peripheral position. This happens with adjunct focus, where the focused adjunct occupies the position right after the verb and precedes subject and object if present, cf. (16A) and (17A) above. (19) showed that such post-posing is an option for old-information subject topics, too.

Subject arguments can also be fronted to the left periphery when they function as (contrastive) aboutness topics. In (22A), the plural discourse topic consisting of Aishatu and Saratu is split up into its atomic parts, which are dealt with individually. Each of the answer sentences is about a different individual. In both sentences, the subject topic is fronted and the a-marker is absent.

We do not think that the absence of fronted object topics is due to structural reasons (since objects can front when focused or questioned). Instead, there may be an information-structural requirement that forbids object topics from preceding the subject, when the subject is focused and thus information-structurally more prominent. The resulting word orders are the attested SVO and VSO.

```
A: <u>Saratu</u> wa'a suuta. <u>Aishatu</u> təg kfe.
Saratu wash clothes Aishatu cook mush
'Saratu is washing clothes. Aishatu is cooking mush.'
```

3.3.2 Frame-setting adverbials

Adjuncts behave slightly different from arguments when they take on a topic-like function. This is the case with temporal or locative frame-setting adverbials, which locate the event or situation described by a clause in time and place. As (23) shows, frame-setting adverbials can optionally occur in a left-peripheral position as well. Unlike fronted arguments, though, left-peripheral frame-setting adverbials *do* co-occur with the *a*-marker.

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(23) <u>vờgờ ná</u> čờ dílè <u>à</u> tóxí màrúrà.
year DEM REL pass a plant rice
'Every year, he plants rice.'
```

The presence of the a-marker in (23) suggests that left-peripheral frame-setting adverbials do not occupy the same structural position as the fronted topic arguments in (21A) and (22A). This conclusion is confirmed by the following example:

```
(24) Context: Two woman are at the market. 

<u>n<sup>w</sup>asra miče</u> na <u>a</u> skw lele <u>te</u>. 

women two DEM a buy eggs 3PL 

'The two woman, they are buying eggs.'
```

In (24), the topicalised subject in sentence-initial position untypically co-occurs with the *a*-marker. However, unlike in (21A) and (22A), the clause contains a resumptive pronoun that refers back to the left-peripheral subject. This suggests that the sentence-initial subject in (24), and likewise the frame-setting adverbial in (23), has not moved to the initial position from within the clause, but that it is base-generated in this left-peripheral position, for instance by left-adjunction.

Summing up, then, there seem to be two left-peripheral positions for expressions with topic status. The first appears to be clause-internal and can serve as a landing site for topic arguments, in particular for subject topics. Moving the topic to this position leaves behind a trace and blocks the presence of the a-marker. The second position appears to be an instance of left-dislocation, where a constituent is adjoined in a clause-external position as witnessed by the presence of the resumptive pronoun in (24) and by the co-occurrence of the left-dislocated constituent and the a-marker in (23) and (24).

3.4 Distribution and function of the preverbal particles

In the preceding sections, we have encountered various distributional restrictions on the preverbal particles $da/d\vartheta$, $\check{c}a/\check{c}\vartheta$, and a, which will be summed up now. This will shed more light on the nature of the structural position immediately to the left of the verb, in which these particles are located.

The future marker $da/d\vartheta$ obligatorily occurs in clauses with future reference. Apart from this temporal restriction, it is not restricted to a specific sentence-type, nor to a specific word order. It can occur (i.) in neutral VSO clauses (cf. 4c); (ii.) in wh-questions, focus constructions and topic constructions, where an argument has been fronted to the clause-initial position (cf. 5c, 6c); (iii.) in wh-questions and focus constructions in which the focused or wh-expression is located in a post-verbal position (cf. 9b, 10b). We conclude that $da/d\vartheta$ is a temporal marker. Its sole function is to mark the future reference of a clause.

The particle \check{ca}/\check{co} , in contrast, is much more restricted in its distribution. It can only occur in completive wh-interrogatives (no matter whether these are argument or adjunct questions), but it does not seem to occur in declaratives. This claim is based on the examples in (16) and (17), where \check{ca}/\check{co} is present in the adjunct wh-interrogatives, but not in the corresponding answers. (16) and (17) also show that the occurrence of \check{ca}/\check{co} cannot be linked to focus, but must be linked to the clause type interrogative. From this, we conclude that the preverbal marker \check{ca}/\check{co} encodes both temporal information (anteriority) as well as information concerning the illocutionary force of the clause (interrogative), i.e. information that is typically associated with the functional T- and C-system of the clause.

The feature specification of the preverbal marker \dot{a} , finally, is not so clear. Its distribution is restricted in the following way: It is not licensed whenever the clause-initial position is filled by a fronted XP-constituent, no matter whether this constituent is a *wh*-expression, a focus expression, or a topic expression. In addition, \dot{a} cannot occur in negated declaratives (cf. 12b, 14), and it seems to be banned from embedded clauses, too. Unfortunately, we have no data for embedded complement clauses, but the following data from Frick (1978a) show that the *a*-marker is absent from relative clauses (25a) and from narrative clauses, which do not occur as independent structures but only embedded within larger units of discourse (25b). These often come with special non-indicative verb forms, such as the subjunctive or relative aspect, in other Chadic languages:¹⁴

```
(25) a. me vákà ná gí đờ-dà gì đà mìdá (Frick 1978a: 34)
in place DEM stay-with stay 1PL
'in the place where we stayed' (lit. 'in the place with which we stayed')
b. ká' tớg ở-rè-tớg è. (Frick 1978a: 33)
NARR cook-3PL-cook
'they are cooking'
```

Purely descriptively, then, *a* is a marker for affirmative, non-future, VSO-root clauses in Dghwede. The following scheme sums up the distributional and functional differences between the three preverbal particles.

¹⁴ The absence of the a-marker in (25b) has nothing to do with the reduplicated verb, as a freely occurs together with reduplicated verbs in root clauses.

```
C+T
                                        T
(26)
                                              IVSO
                       a /
                              *ča/
                                        da
                                                              (neutral declaratives)
      a.
           XP_{wh} \\
                     *a/
      b.
                               ča/
                                        da
                                              [V ... t_{XP} ... (wh-interrogatives with fronted XP)
           XP_{foc/top} *a /
                              *ča /
                                        da
                                              [V ... t_{XP} ... (declaratives with fronted XP)
      c.
                                              [ V XP<sub>wh</sub> ... (wh-interrogatives with postverbal wh)
      d.
                       a /
                                ča /
                                        da
                              *ča /
                                              [ V XP<sub>foc</sub> ... (declaratives with postverbal focus)
      e.
                       a /
                     *a
      f.
                                              [V...] neg (negated sentences)
          [...[<sub>CP</sub> *a/
                                              [V S O ]]... (embedded sentences)
                               ča /
                                        da
```

In conclusion, the structural position immediately to the left of the verb hosts several head-like elements which specify temporal information $(da/d\vartheta)$ and illocutionary information $(\check{ca}/\check{c}\vartheta)$. While most of the observed distributional restrictions on these preverbal elements (or the absence thereof) follow from their temporal or illocutionary specifications, we still lack a principled explanation for the impossibility of a with fronted constituents in (26bc) (or for its impossibility in negated and embedded clauses, cf. (26f,g). In the next section we will put forward such an explanation after an illustrative look at some data from the Celtic languages.

4. Results and tentative analysis

The preceding discussion has yielded the following results concerning the effects of information structure on word order in Dghwede:

- (27) i. The basic word order in neutral declaratives is VSO.
 - ii. There is a clause-initial XP-position, which can serve as the landing site:
 - a. for *wh*-arguments in *wh*-questions (obligatory)
 - b. for focused subjects (almost obligatory) and objects (optional)
 - c. for subject topics (optional)

These expressions are usually associated with the C-domain of clauses.

- iii. Focused objects mostly occur in their base-position. Focused adjuncts also occur in post-verbal position, immediately to the right of the verb. Potentially intervening discourse-old material can be postposed to the right.
- iv. Dghwede has a clause-external left-peripheral position, in which frame-setting adverbials and topicalised nominal constituents can be base-generated.

Concerning the functional architecture of the left periphery, we obtained the following results:

- (28) i. There is a structural position immediately to the left of the verb that can host various head-like elements: a, $\check{c}a/\check{c}\vartheta$, $da/d\vartheta$.
 - ii. In this position, both temporal information (future, anteriority) and illocutionary information (interrogative force and (non-) embeddedness) are encoded.
 - iii. While the feature specification of $da/d\vartheta$ and $\check{c}a/\check{c}\vartheta$ seems clear (and accounts for their distribution), the feature specification of the a-marker is not so clear: it is impossible (i.) if the clause-initial position is filled by an XP, (ii.) in negative clauses, and (iii.) in embedded clauses.

In this section, we propose a – in light of the limited amount of data available – somewhat speculative analysis of the left-periphery in Dghwede that would account for the observable word order phenomena, as well as for the syntactic distribution and feature specification of the left-peripheral particle *a*. Before doing so, however, we will briefly recapitulate some properties of the left periphery in another group of VSO-languages, namely the Celtic languages. This will pave the way for our analysis.

4.1 Properties of the left periphery in Celtic

As different as it may be in other respects, most of the relevant properties of the left periphery in Dghwede can also be found in the Celtic languages. Unless indicated otherwise, the following observations are taken from Borsley and Roberts (1996) (and the references cited there). First, the Celtic languages have VSO as their basic word order (= (27i)). Second, the Celtic languages have an XP-position before the verb. This clause-initial XP-position can serve as a landing site for constituents with marked information-structural status, such as wh-expressions, focus constituents, and topic constituents (= (27ii)). The postion is commonly analysed as Spec, CP (see e.g. Tallerman 1996). Third, most Celtic languages feature preverbal particles that encode temporal and/or illocutionary information (= (28i)). For instance, Welsh has root affirmative particles, a subordinating particle, and an interrogative particle, among others. Breton also has subordinating and interrogative particles (among others), whereas particles in Irish not only specify the illocutionary status of a clause, but also its temporal reference as [+/- past]. These particles are commonly analysed as being located in T or in C. For Irish particles, Chung and McCloskey (1987) even assume that they are combinations of a complementizer and an Infl-element. Fourth and last, there is a close structural affinity between the T-head and the C-head (= (28ii), even though they head separate projections. This affinity has been alternatively accounted for in terms of T-to-C-raising or Cto-T-lowering (see Roberts 2001 and references cited there).

The foregoing observations concerning the left-periphery in Celtic are summarised in the structure in (29) (neglecting functional projections below T if any):

(29) Structure of the left-periphery in Celtic:

a.
$$[CP \ [C \ part] \ [TP \ [T \ part] \ V \ S \ O \]]$$
 (neutral clause)
b. $[CP \ XP_{wh/foc/(top)} \ [C \ part] \ [TP \ [T \ part] \ V \dots t_{XP} \dots]]$ (XP-fronting)

With these structures in mind, we now proceed to our tentative analysis of Dghwede.

4.2 Information structure and syntax of Dghwede: a tentative analysis

Before we present our analysis, let the reader be reminded again that – because of the limited amount of data available – this analysis is by necessity stipulative and sketchy. Nonetheless, it accounts for *those* data that are available, and it opens up a number of specific research questions on the left periphery of Dghwede that can be pursued in future research and should deepen our understanding of the syntactic effects of information structure in that language. In addition, it points out parallels (as well as differences) to other VSO-languages, and as such may be fruitful for future research on the syntactic properties of VSO-languages in general.

This being said, we propose (30a) as the syntactic structure for neutral (all-new) root clauses in Dghwede, and (30b) as the structure for sentences in which a constituent has undergone fronting to the clause-initial position (neglecting possible functional projections below T, such as AspP, whose head may host the aspectually marked verb).

(30) Structure of the left-periphery in Dghwede:

 $\begin{array}{lll} \text{a.} & \left[{}_{\text{CP/TP}}\left[{}_{\text{C/T}} \text{ part} \right] \text{V S O } \right] & \text{(neutral clause)} \\ \text{b.} & \left[{}_{\text{CP/TP}} \text{ XP}_{\text{wh/foc/top}}\left[{}_{\text{C/T}} \text{ part} \right] \text{V } \dots \text{t}_{\text{XP}} \dots \right] & \text{(XP-fronting)} \\ \end{array}$

As illustrated in (30ab), we assume that Dghwede root clauses have a combined T/C-head, which encodes both temporal and illocutionary information. ¹⁵ This double nature of the uppermost syntactic head can be captured in terms of Haider's (1988) 'matching projections', which has been proposed for the German left periphery. Two projections, originally C and I, are folded into one, while the single head of the joint projection gets the feature specifications relating to both. If correct, a major difference between the Celtic VSO-languages and Dghwede would be that the former do not allow for matching T- and C-projections. ¹⁶

Because of its C-nature, the specifier of the combined T/C-head, Spec,CP/TP, can serve as the landing site for wh-expressions, and other constituents with a prominent information-structural status, such as focus constituents and topics (cf. 27ii). Such expressions are frequently found in the C-domain across languages. In all cases, movement of an XP to Spec,CP/TP is triggered by an (optional) C-feature [w], [foc], or [top] in the C/T-head. While the feature [w] may be spelt out as $\check{c}a/\check{c}\vartheta$ in the completive aspect, the features [foc] and [top] are never morphologically realised.^{17:18}

Recently, various authors have argued for a tight relation between the T- and the C-domain on independent theoretical grounds, see e.g. Pesetsky & Torrego (2001 and subsequent work).

Another option would be to restrict T/C-projections in Dghwede to root clauses, and to assume two structurally distinguished T- and C-projections for embedded clauses (see Brandt et al. 1992 on structural asymmetries between embedded and root clauses). At present, we lack the relevant data for an evaluation of this alternative.

Alternatively, there may be no information-structurally motivated features [foc] and [top] at all. In this case, movement of focus and topic constituents to Spec,CP/TP would be triggered by an optional EPP-feature in C, which could be checked by moving an XP to Spec,CP/TP. See e.g. Grewendorf (2002) for discussion.

The observed restriction of Spec, CP/TP to arguments (cf. 27ii) may be due to the Tnature of the C/T-projection (Spec,TP, like its predecessor Spec,Infl, is generally thought to be an A-position because it is L-related, see Chomsky 1993). Adopting a minimalist perspective on Chomsky's Principles & Parameter framework, as explicated in Chomsky (1995), let us assume, then, that C/T contains an additional (uninterpretable) formal feature F, which must be matched against a corresponding feature in the overtly moved constituent. If no movement takes place, the F-feature apparently causes no harm (or is checked in some other way, for instance by means of the checking operation AGREE, see Chomsky 2000). But if movement takes place, both the landing site (qua its head) and the moved constituent must be specified for F. Since both subjects and objects are found in Spec, CP/TP in wh-questions and focus constructions, this formal feature F cannot be the nominative case feature, which is only assigned to subjects. What we need, instead, is a feature common to both subjects and objects, but not to adjuncts. At present, we see two possible candidates: Either C/T contains a D(eterminer)-feature that can be checked against the D-feature of an argument (assuming with Abney 1987 and many others that only arguments contain D-features). Or else, C/T contains a 'structural case'-feature that – again – can be checked only by arguments, since only arguments carry structural case. If an account along these lines proves feasible, all adjuncts would be blocked from moving to clause-initial position because they lack the relevant formal feature F. As a result, they must be realised elsewhere in the clause (cf. 27iii).

Turning to the temporal feature specification of the C/T-head, we assume that temporal features, like all other features in C/T, are privative features with positive values only. More specifically, we assume that C/T can contain only two temporal features, namely [future], obligatorily spelt-out as da/do, and [past], optionally spelt out as \check{ca}/\check{co} . Feature specifications such as [-future], which were attributed to the *a*-marker by Frick (1978a) are impossible on this approach. The non-future reference of clauses containing the *a*-marker simply follows from an implicature triggered by the absence of the feature [future] in C/T.

What is the nature of the *a*-marker, then? We would like to propose that *a* has no inherent feature specification of its own. Its only function is to structurally license the C/T-head, and it is therefore only inserted as a last resort operation whenever other licensing mechanisms fail. In this connection, it is highly instructive to look at the process of long head movement (LHM) in Breton, which is discussed in Borsley, Rivero and Stephens (1996). According to these authors, LHM is a last resort operation that moves a non-finite verb across an intervening auxiliary head to C in order to license Tense:

As for the question of why focused subjects almost obligatorily move to SpecCP,TP, while other focus constituents remain in situ, the special status of focused subjects can be attributed to the fact that unmarked subjects show a strong tendency to be interpreted as topics (see Givon 1976 for preverbal subjects). Therefore, if a subject is to be interpreted as focus, something special has to be done in order to indicate its marked information-structural status: In Dghwede, the focused subject has to be dislocated to the left-peripheral position Spec,CP/TP. On similar asymmetries between focused subjects and focused non-subjects in the Chadic languages Tangale and Hausa, see Hartmann & Zimmermann (to appear-a).

The optional spell-out of [past] may follow from the fact that anterior reference can in most cases be deduced from the completive aspect of the verb.

(31) <u>lennet</u> en <u>deus</u> Yann t_V al levr. read 3SG.MASC has Yann the book 'Yann has read the book.'

Since LHM constitutes a violation of Travis' (1984) Head-Movement-Constraint, it must be subject to economy considerations, and can only apply if Tense is not licensed in some other way. Crucially for our purposes, LHM does not apply under three syntactic conditions: (i.) if Spec, CP is filled by a topic or wh-phrase, (ii.) in negative clauses, and (iii.) in embedded clauses. In all three syntactic contexts, the C-domain is filled by a lexical element, i.e. a fronted XP, a neg-marker, and a complementizer respectively, which can license Tense. Interestingly, these three syntactic contexts precisely match those contexts in which the a-marker is blocked from occurring in Dghwede (cf. (27iii)). We would therefore like to propose that – similar to Breton – the C/T-head in Dghwede is licensed (i.) if Spec,CP is filled by a topic or a focus constituent or a whphrase, (ii.) in negative clauses, (iii.) in embedded clauses, and (iv.) by an overt temporal head. If none of these licensing conditions is met, a is inserted in C/T as a last resort.²⁰ From this, it follows that even though the a-marker reliably indicates affirmative, non-future, VSO- root clauses, it does not do so by virtue of a particular feature specification, but only because affirmative, non-future, VSO-root clauses are the only clauses in which C/T is not licensed in some other way. This analysis of the a-marker as a structural licenser without an inherent feature content provides a neat account for its at first sight mysterious distribution.

The analysis proposed so far seems to capture all the relevant facts concerning the Dghwede left periphery, but it leaves one last question to be resolved, namely the postverbal focus position that was observed with focused objects and adjuncts (cf. (27iii)). This is not the place to pursue this matter in great detail, but we would like to put forward at least some speculations that may point the way to an account of post-verbal focus in Dghwede. Recall from section 3.2 that focused postverbal objects follow the verb and the subject, whereas focused adjuncts follow the verb, but precede subject and object (if present). In our view, this difference in word order provides evidence against a designated second focus position right below the verb to which focused objects and adjuncts are moved by way of (short) leftward movement. If this was the case, both

Our data suggest that the left-peripheral negative continuous marker nga must co-occur with the fronted subject in Spec, CP/TP for reasons unclear to us.

A potential problem for this proposed parallelism between Breton and Dghwede arises from the fact that the negation element va in Dghwede occurs in clause-final position in the (completive) examples given so far (cf. (12b), (14), (15b)), unlike in Breton, where it is located in C (or Spec,CP). We see at least three alternative ways for maintaining the proposed parallelism: Either (i.) the negative element va occupies a right-peripheral head above CP/TP, from where it can license the empty C/T-head in negated clauses; (ii.) the negative element va occupies the C-position in the left periphery and the TP moves to Spec,CP adopting a Kaynean (1994) analysis (Jochen Zeller, p.c.); or (iii.) sentences in the completive aspect have a covert negation element in the left periphery. Evidence for the latter position comes from the fact that negated clauses in the continuous aspect DO have an overt element nga in the left periphery in addition to the clause-final marker va:

⁽i) nga Aishatu təg ngre va, təg kfe. NEG-CONT Aishatu cook beans NEG cook mush 'Aishatu is not cooking beans, she is cooking mush.'

should precede the subject, or both should follow the subject, contrary to fact. Also recall from (19) in section 3.2 that discourse-old arguments can be post-posed to the right in principle. We would therefore like to propose that the immediately post-verbal occurrence of focused adjuncts is due to an evacuating movement of potentially intervening arguments to the right. This evacuating movement to the right can be likened to a similar evacuating movement to the left in German, where potentially intervening constituents between the finite verb in sentence-final position and the focus constituent can be moved out of the way for prosodic reasons (see e.g. Krifka 1998). In Dghwede, too, this evacuating movement may be forced by a prosodic requirement, according to which a focused non-subject constituent must be at the right edge of a particular prosodic phrase \wp that is projected from the verb and subsequent material. In the default case, this prosodic phrase ω is projected from the verb and its arguments, i.e. from the inner VP or the 'core sentence'. This accounts for the fact that focused objects can remain in their base position following the subject. However, if the inner VP has been emptied of its arguments, \wp can alternatively be projected from the verb and the immediately following adjunct-XP. This would account for the immediately post-verbal occurrence of focused adjuncts.21

Admittedly, the foregoing remarks are of a very speculative nature. We would like to point out, though, that the notion of 'core sentence' or assertion, which contains the verb and its arguments seems to play an important role both for prosodic and tonal phenomena and for the syntactic distribution of certain grammatical formatives in other Chadic and African languages (see e.g. Newman 2000: 546, Hyman 1999: 155). For this reason, we feel encouraged to pursue the prosodic structure hypothesis as a promising approach to the asymmetric distribution of post-verbal focus constituents in Dghwede.

5. Conclusion

In this article we have discussed a number of phenomena that have a bearing on the nature of the left periphery in the Chadic VSO-language Dghwede. In particular, we investigated the effects of information structure on word order in terms of fronting, and the feature specification and syntactic distribution of certain left-peripheral particles. We also proposed a tentative analysis. A particularly interesting result of the discussion was

²¹ Jochen Zeller (p.c.) proposes an alternative, syntactic account for the different locations of post-verbal focused objects and adjuncts, which capitalizes on the observed differences between wh-arguments and wh-adjuncts (see section 3.1). On this analysis, there would be two syntactic focus positions. The first, Spec,CP, precedes the verb and is targeted by focused arguments only. The second, call it Spec,FocP, is located below the verb and is targeted by adjuncts only. While focused arguments have the choice to remain in their base position, focused adjuncts must move to Spec,FocP, thus accounting for their obligatory occurrence in immediately post-verbal position. Notice that this analysis implies that focused adjuncts are the only constituents that must be focus-marked, for reasons unclear to us. A second remark concerns the overall architecture of the Dghwede clause that would be implied by the alternative analysis.

Recall from (9), (10), (16), and (17) that focused adjuncts generally precede the in situ subject. Assuming that the lowest possible position for subjects is Spec,vP, this indicates that the focused adjunct must be higher than vP, which in turn implies that the finite verb may be in T (or some other functional head between FocAdj and T), contrary to what we assume here.

that Dghwede shows some surprising similarities with Celtic VSO-languages, which may open new perspectives on the study of the syntax of VSO-languages. In particular, it would be interesting to see if some of the properties of the left periphery described here can be observed in other VSO-languages, too. This notwithstanding, our discussion of information structure and the left periphery in Dghwede leaves a host of questions unanswered, such as (i.) In which discourse contexts do we find VOS-orders in Dghwede?; (ii.) What is the syntax of embedded complement clauses?; and (iii.) Is there evidence for a phonological phrase boundary at the right edge of the inner VP in neutral sentences, in sentences with a postposed subject, and in sentences with postposed arguments, e.g. in the case of adjunct focus? We hope to address these questions in future work.

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