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Verb doubling in Breton and Gungbe: Obligatory exponence at the sentence level *

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Breton tensed verbs show an synthetic/analytic structure alternation (*I.know* vs. *to.know I.do*), that is not conditioned by their semantic or aspectual structure but by their syntactic environment, namely word order. The sentence is correct if and only if the tensed element is not at the left-edge of the sentence. The infinitive form of the analytic construction prevents the tensed element from the most left-edge position. This paper proposes that the analytic structure (*to.know I.do*) answers the same trigger as expletive insertion (*expl I.know*). I claim that analytic tense formation is a last-resort strategy that forms the equivalent of an expletive by excorporation of the verbal root out of the complex tensed head. The excorporated lexical verb appears fronted as an infinitive form by default. The tensed auxiliary is either realized as a dummy ‘do’ auxiliary (*to.know I.do*), or, for an idiosyncratic list of verbs, as the tensed reiteration of the excorporated verb itself (doubling; *to.know I.know*).

1. Introduction

Breton, the modern Continental Celtic language, allows for two types of analytic constructions. In the most common case (1)a, an infinitive verb precedes a semantically dummy auxiliary that bears the tense and subject agreement markers. Though this auxiliary means ‘to do’ in isolation, its semantic import in the construction is null, and the sentence as a whole is fully equivalent to the synthetic constructions in (2)a. A rarer case of analytic construction is illustrated in (1)b, where the infinitive verb precedes its own inflected form. Though the auxiliary repeats the lexical content of the verb, the repetition import in the construction is null, and the sentence as a whole is fully equivalent to the synthetic constructions in (2)b.¹

ANALYTIC STRUCTURES:

- | | | |
|-----|---|--|
| (1) | a. Debriñ a ran avaloù.
eat R do.1SG apples
‘I eat apples.’ | b. Mont a yan d’ ar jardin.
go R go.1SG P the garden
‘I am going into the garden.’ |
| | <i>Standard Breton</i> | <i>Quimperlé Breton</i> |

SYNTHETIC STRUCTURES:

- | | | |
|-----|--|--|
| (2) | a. Bez’ e tebran avaloù.
EXPL R eat.1SG apples
‘I eat apples.’ | b. Bez’ ez an d’ ar jardin.
EXPL R go.1SG P the garden
‘I am going into the garden.’ |
| | <i>Western Breton</i> | <i>Standard Breton</i> |

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Abbreviations: R marks the preverbal particle, the ‘*rannig-verb*’ that appears (syntactically at least) before all inflected verbs (Fin head in the left periphery, cf. Jouitteau 2005). In the examples translations, small caps signal informational salience. OBL = oblique ; POSS = possessive, PRT=particle.

¹ The Breton data comes from corpus of different dialects, or elicitations in Quimperlé. The verbal particle, the *rannig*, noted ‘R’, is a realization of the Fin Head into which the tensed element incorporates (Jouitteau 2005).

Breton is a ‘linear verb-second’ language (Borsley and Kathol 2000, Jouitteau 2009), in the sense that the element that bears both tense and agreement morphemes can not stand as the left-most element in a sentence (3). For clarity and considering analytic orders in (1), I use in this paper the term ‘Tense second’ instead of ‘verb-second’.

- (3) * E tebran avaloù.
 R go.1SG apples
 ‘I eat apples.’

Standard Breton

The goal of this article is to provide an account of the under-documented analytic constructions in (1). I propose that the two analytic constructions in (1), both with ‘do’ and doubling, represent an expletive strategy alternative to the [expletive + synthetic Tense] groups in (2). I will show that analytic constructions in (1) appear if and only if they serve as a last resort operation in order to meet obligatory exponence in the pre-tense position. The analysis will derive the odd facts of (1): first, in both cases of analytic constructions in (1), there is at least one element that fails to be interpreted. In (1)a, the auxiliary doesn’t seem to do more than providing morphological support, and in (1)b, the lexical verb has two occurrences, only one of which seems interpreted because it does not require two subjects, in apparent violation of the theta-criterion. Second, in both analytic constructions, the two verbal/auxiliary occurrences are phonologically distinct, and obligatorily appear in the relative [Infinitive - Tense] order: in analytic constructions, the infinitive lexical verb never appears on the right of the tensed element. In (4), the pre-Tense position has been filled with a focalized element. Despite satisfaction of the canonical ‘Tense second’ order, the lexical verb can not appear on the right of the tensed element.

- (4) a. *Avaloù a ran debriñ. b. * D’ ar jardin a yan mont.
 apples R do.1SG eat P the garden R go.1SG go
 ‘I eat APPLES.’ ‘I am going INTO THE GARDEN.’

The restriction of distribution is even more strict than strictly left-edge, because infinitive verbs of analytic constructions can never appear in a sentence where another element fills in the pre-tense position. In (5), an object and a prepositional phrase have been fronted by focus, and still, the lexical verb can not appear outside of the tensed complex. Only synthetic tenses are allowed (6), showing that analytic tenses have a last-resort dimension.

- (5) a. *Avaloù debriñ a ran . b. * D’ ar jardin mont a yan .
 apples eat R do.1SG P the garden go R go.1SG
 ‘I eat APPLES.’ ‘I am going INTO THE GARDEN.’
- (6) a. Avaloù a zebran. b. D’ ar jardin e yan .
 apples R eat.1SG P the garden R go.1SG
 ‘I eat APPLES.’ ‘I am going INTO THE GARDEN.’

This striking distribution recalls the one of the Breton expletive *bez’* as illustrated in (2). Like infinitives of analytic constructions, the expletive *bez’* occurs only to the left of tensed elements, as a last resort strategy to avoid Tense first orders as in (3). In formal terms, this means that there is some kind of a trigger in the language’s grammar that imposes that at least one element, head or XP, precedes the inflected element (Jouitteau 2005/2010, 2007). LEIT, as defined in (7), is the unique motivation for expletive insertion in (2).

(7) *Late Expletive Insertion Trigger*

LEIT is a morphological operation that operates at the level of the sentence and bans (Tense)-first orders.

As a last-resort, it either merges an expletive or attracts the closest postverbal element into the preverbal position.

LEIT effects are invisible for the interpretative module.

In this paper, I will show that both analytic constructions (1)a and b pattern alike with expletives and show evidence for the LEIT signature. I henceforth propose that Breton analytic paradigms illustrate the creation of an expletive by means of a morphological excorporation operation (8). The dummy verb ‘do’ *ober* is not included in the numeration. Instead, it is generated as a last-resort default morphology as in (8)a illustrated in (1)a. An idiosyncratic alternative to this last-resort insertion is to pronounce the lower copy of the excorporated verb, leading to doubling structures as in (8)b, illustrated in (1)b.

- (8) a. $V_{[FINP\ R]} [(V)do.T.AGR]_{[vP\ S\ \forall\ PP]}$ b. $V_{[FINP\ R]} [V.T.AGR]_{[vP\ S\ \forall\ PP]}$

I will start in section 2 by investigating the syntactic properties of the analytic construction in ‘do’, and show that all these properties follow if analytic tense are a last resort expletive strategy. In the third section, I will contrast these properties with those of the doubling construction (1)b. I will propose that despite their differences, verb doubling is a subcase of the ‘do’ auxiliation case. In a fourth section, I will focus on the main contrast between the two analytic constructions: productivity. The analytic construction in (1)a is fully productive, whereas (1)b is clearly idiosyncratic. Only certain verbs can double. The list of the doubling verbs varies across dialects and even from speaker to speaker. The list of doubling verbs always fails to form a homogeneous syntactic class. In section 5, I discuss several theoretical consequences of the idiosyncratic restriction of doubling in (1)b, and propose that LEIT operates in a post-syntactic morphological module. I provide comparative evidence in Yimas and Basque verbal morphology, and propose an interpretation of V2 in terms of obligatory exponence. Section 6 provides a comparative exploration of verbal reduplication in Gungbe, opening the discussion to non sentence-initial environments.

2. Analytic construction with *ober*, ‘do’

2.1. Syntactic properties of verbal head fronting

The analytic construction (henceforth AC) with *ober*, ‘do’ is very productive in Standard Breton and in all dialects, as briefly illustrated here below.

- (9) **Eva** a rafe eur werennad lêz.
 drink R would.do.3SG DET glass milk
 ‘He would (like to) drink a glass of milk.’ *Breton Kerne, Trépos (2001:438)*
- (10) **Ober** a ray glao a-raog an noz.
 do R do.FUT.3SG rain before DET night
 ‘It will rain before the night.’ *Breton Kerne, Trépos (2001:438)*
- (11) **Koéh** e hras ar benneu hé deuhlin (...)
 fall R did.PAST.3SG on ends POSS dual.knee

‘She fell on her knees.’

Breton Gwened, Guillevic et Le Goff (1986:161)

- (12) **Tremen** a reont evit tud vad.
 pass R do.PRES.3PL for people good
 ‘They pass for being good people.’

Sarmoniou an Aotrou Quere, Quéré (1906:230)

Verbal head fronting with ‘do’ has the syntactic properties listed in (13).

- (13) *Verbal head fronting properties*
- i. it is restricted to root tensed clauses.
 - ii. it is neutral in terms of information packaging.
 - iii. it is fully productive (except for some compounds of ‘be’).
 - iv. verb fronting is local.
 - v. the infinitive head is moved alone.
 - vi. movement violates the syntactic ban on excorporation.
 - vii. it is restricted to [VINF-do] order.
 - viii. it (sometimes) has a doubling counterpart (1).

All properties, except (viii), directly follow from verb head fronting being a LEIT last-resort operation preventing tense-initial orders. I briefly review them here.

Verb fronting with auxiliary *ober* ‘do’ occurs only in environments where Tense-second is the canonical word order, hence the restriction to matrices of tensed domains, because embedded domains are canonically Tense first (C-VSO, with complementizers that can be phonologically null).

- (14) a. Larout a ran $\emptyset$ (*debriñ a ran / e tebran) avaloù.
 say R do.1SG C eat R do.1SG / R eat.1SG apples
 ‘I say that I eat apples.’
 b. Un azen **hag** (*debriñ a ra / a zebr) avaloù.
 A donkey C eat R do.3SG R eat.3SG apples
 ‘a donkey that eats apples.’

Verb head fronting with ‘do’ is also banned from the imperative mood (Ernault 1888:247). The imperative mood is canonically tense-initial.

- (15) (* Debriñ a (g)ra / Debr) avaloù!
 eat R do.IMP eat.IMP apples
 ‘Eat apples!’

We already saw that analytic tense is not possible when focalized material fills in the pre-Tense position, that is, in minimalist terms, when preverbal A-bar material is brought into the left-periphery for independent reasons and accidentally satisfies LEIT by providing pre-Tense material. In terms of information packaging, Stephens (1982:114) qualifies verb head-initial structures as ‘neutral’, which is also Schafer (1997)’s conclusion from a Modern Breton corpus study. Following Vallduvi’s (1995) terminology, Shafer states that verb head fronting appears in ‘all-focus’ and ‘focus-tail’ sentences (ii). In grammars from the first half of the 20th century, analytic structures are often said to create emphasis, without further details on the type of emphasis produced (see for example Leclerc 1986:63,2°, Kervella 1995:§1997). To my knowledge, contemporary speakers of Breton do not use analytic structures in ‘do’ for

emphasis at all. All readings brought by an analytic constructions can be brought by the synthetic ones. The reverse is not true, because of the last-resort dimension of analytic constructions: whenever an element is informationally salient in Breton (topique, focus), it must occupy a place in the clause's left periphery. This element thus automatically satisfies LEIT and cancels the trigger for an analytic construction. Only very high elements in the left periphery that never interfere with V2 orders, like hanging topics (inducing *as for* readings), scene-setting adverbs, question particles, pragmatic connectors (such as 'but'), and all complementizers associated with prototypical cases of parataxis (*la* in Central Breton, *kar*, 'because' in all dialects, sometimes *ha...*) can precede analytic constructions in 'do' ². The last-resort character of infinitive fronting in analytic constructions is further revealed by its mutual exclusiveness with any other element brought into the preverbal area. Such a case is illustrated here by the negation C head in (16). Any other expletive strategy also logically blocks verb head fronting (17).

- (16) * **Koll** *ne reas* ket ar martolod _ e gasketenn.
 lose NEG did.3SG NEG DET sailor his cap
 'The sailor didn't lose his cap.' Breton Treger, Stephens (1982:113)

- (17) * **Bez koll** a reas ar martolod _ e gasketenn.
 EXPL lose R did.3SG DET sailor his cap
 'The sailor did lose/lost his cap.'

LEIT last-resort verb head fronting is fully productive, except for the verb 'be' and its compounds (iii). The verb *bezañ/bout*, 'to be', is uniformly rejected, as well as the synthetic verb *kaout*, 'to have', a compound of the verb *bezañ/bout*, 'to be' (Kervella 1995:§245^(bis), Jouitteau and Rezac 2006, 2008, 2009) as shown in (18). ^{3,4}

- (18) * **Kaout** a ran un oto.
 have R do.1SG a car D.L Quimperlé, S.B Callac
 'I have a car.'

Ploneis (1983) signals in Berrien another verb that fails to be auxiliated with *ober* 'do', that also contains the stem of *bezañ/bout* 'to be': the verb *gouzout* 'to know'. For de Rostrenen (1795:97) and Trépos (2001:438), the restriction extends to all stative verbs. However, ACs are readily found with verbs like *seblantout* 'to seem'; *chom* 'to stay'; *dont da vezañ* 'to become', or *tremen evit* 'to pass for being', as in (12). The semantic properties of the dummy auxiliary may have evolved over time, leading to these variations.

Another LEIT signature is the locality of verb head movement (Holmberg 2000, Jouitteau 2005/2010, 2007). No long-distance verb fronting is ever found (19).

- (19) * **Livañ** [_{FinP} a soñj da Anna [_{FinP} e lare Paol [_{FinP} 'raio Nina an daol.
 paint.INF R think P Anna R say Paul R do.FUT.3SG Nina the table

² See Jouitteau (2005:chap2) for a detailed analysis of the Breton left periphery.

³ Le Roux (1957:413) cites two cases in Middle Breton, but they can be analyzed as preverbal expletives before an impersonal form of 'to do'.

⁴ Auxiliations in 'do' appear only in the Gwened dialect that has kept an analytic variety of the verb 'have'. Ernault (1890:473) mentions an AC with the analytic form of the verb 'have' (x). This Gwened variety of the verb 'have' in Breton is composed of a proclitic oblique argument on the verb 'to be', *bezañ* (cf. Jouitteau et Rezac 2006, 2008, 2009). The 'infinitive' compound is presumably not the verb 'to be', but a small clause.

(x) **hur bout** e ramb, [1PL.OBL be R do.1PL]; 'we have',
hou poud a ra, [2PL.OBL be R do.3SG]; 'you have'.

‘Anna thinks that Paol said that Nina will paint the table.’

In (1)’, I propose that the site of extraction for the non-tensed verb head is the complex tensed head itself. A competing proposal would be to consider that the infinitive originates from the closest post-Tense position. If so, we should observe all types of intervention effects. Indeed, verb head fronting is for example over-represented in sentences with a pronominal subject. This is noted by Le Roux (1957:408) for Middle Breton and by Le Gléau (1973:45) for Modern Breton. The conclusion however is not very strong, if one considers a larger inventory of Modern Breton data. First, Le Gléau (1973) draws conclusions from a written corpus study whose speakers are not all natives. Second, Le Gléau, does not claim that [Infinitive-*do*-Subjet...] order is ungrammatical: verb head fronting with null pronouns is merely a *statistical preference*. Moreover, the occurrence of a given construction with a null subject should be declared ‘preferred’ only if it could be proved that null subjects would not be preferred anyway for discourse reasons independent of the construction. Finally, testing this prediction on the basis of the correlation with null/incorporated subjects is a rather delicate move, since the respective order of the infinitive head and the subject after tense is unknown: recall that the infinitive verb is never found after the tensed auxiliary in this construction (4).

The excorporation scenario in (1)’, contrasting with the hypothesis of an ultra-local movement from the closest post-Tense position, offers a simple solution for the absence of the [‘AUX *do*’-INF] order in ACs (vii). ACs are never found in the [... AUX – V...] order because the infinitive head never occupies the post-tense position during the derivation: the verb head moves up to the Tense and Fin heads. Excorporation of the lexical verb head in the pre-tense position occurs as a last-resort for LEIT to be satisfied. The surface order [... AUX – V...], though licit in Breton, reveals another ‘do’ auxiliary that is not the dummy tense-Agr support, but a causative semi-auxiliary selecting a small clause as in (20).

- | | |
|--|---|
| (20)a. Me a ray sevel eun ti
1SG R do.FUT.3SG build a house
*‘I will build a house.’
‘I will have a house built.’ | b. Sevel a rin _ eun ti.
build R do.FUT.1SG a house.
vs. ‘I will build a house.’
*‘ I will have a house built.’ |
|--|---|
- Breton Kerne, Trépos (2001:249)*

One can note that this restriction is not universal, since some cases of [Aux V] order are documented for closely related languages. In Middle Breton, the auxiliary ‘do’ could precede its infinitive together with a cliticized object (cf. Hemon 2000:238 note 1). In Cornish, the language closest to Breton, [...V-AUX...] is the canonical order, and the infinitive only exceptionally precedes ‘do’ (Le Roux 1957:409, Fleuriot 2001:21). In Northern Welsh, where the tensed element can be clause-initial, [AUX-V] order is canonical.

There is syntactic evidence that the fronted non-tensed verb is merely a syntactic head (v). Prototypically, verbs move into the first position of the sentence, leaving its DP arguments stranded as in (9) and (10). Oblique arguments also remain IP-internal as in (11) and (12). The lexical verb can however be more important than a unique head. In (21), it hosts a reflexive clitic, and in (22), a proclitic object.

- (21) [**En em** **blijout**] a ra o henti al lec’hiou distro.
REFLEXIVE please R do P haunt DET places solitary
‘She likes to haunt the deserted places.’ *Leon Breton, Le Bozec (1933:53)*

- (22)a. [**Daz** **caret**] a rañ _ . / b. [**Da** **garet**] a rañ _ .

2SG.OBL love R do.1SG
Gwened Breton, Grégoire de Rostrenen (1795: 179)

2.2. Setting aside vP focalisation

(23) [FOC [vP PRO_i **Dimeziñ gant ma merc'h**] ne ri_i ket t_{vP} .
 marry with my daughter NEG do.FUT.2SG NEG
 'You won't MARRY MY DAUGHTER.'

Breton Treger, Le Lay (1925), cited in Le Gléau (1973:45)

This focalization construction has characteristic syntactic properties that sharply distinguish it from verb head fronting in (1)a.⁵

- (24) *vP focalization properties*
- i. it is not restricted to the root tensed clauses (26).
 - ii. it is strictly restricted to focalization readings (sometimes contrastive).
 - iii. it is fully productive for all *v*Ps.
 - iv. movement is not local (23), (25).
 - v. the infinitive head is moved inside a large constituent (23).
 - vi. involves no violation of the head movement constraint.
 - vii. it is not restricted to [V_{INF}-do] order (26).
 - viii. No instances of verb-doubling.

- (25) [_{VP} PRO_i **Bale**] ne gredan ket **a rafe** t_{VP} ken.
 walk NEG believe.1SG NEG R do.COND plus
 ‘I don’t think he would WALK anymore.’ *Breton Treger, (Gros 1984:113)*

- (26) An eskob_i n' en deveze d'**ober**, a lavare an teodoù flemmus,
 DET bishop NEG R.3SG had P do R said DET tongues caustic
 nemet [_{VP} PRO_i **lakaat** ur vennigadenn da zivizoù B].
 only put DET benediction P words B.
 'According to slanderous rumors, all the bishop had to do was to GIVE HIS
 BENEDICTION TO B'S WORDS.'
Standard Breton, Dupuy (2007:16)

The two [VINF-*do*] constructions are distinguished by the size of the displaced element (i.e., head versus phrase), and consequently by the type of movement it undergoes (ultra-local

⁵ See also Borsley, Rivero and Stephens (1996) for a study of the different 'do' auxiliaries.

LEIT movement vs. XP movement). The motivation for movement is also different: focus which can be understood as feature checking under Chomsky's minimalism. Such an A-bar movement automatically satisfies LEIT. As a consequence, vP focalization is mutually exclusive with verb head fronting, because the former satisfies a rule for which the latter is a last-resort strategy. Finally, because head-fronting resorts to excorporation, and vP fronting to XP movement, the latter is found in compound tenses and the former is ungrammatical in such contexts. In (27), the auxiliary 'have' does not contain the lexical verb 'to write' at any point in the derivation, therefore excorporation cannot lead to the fronting of the infinitive of *skrivañ*, 'to write'.

- (27) *Skrivañ* (d'am breur) am eus graet (*d'am breur)
 write.INF to my brother R.1SG have done to my brother
 'I have written to my brother.' *Treger Breton, Leclerc (1986:80)*

I have shown that AC constructions in 'do' result from a last-resort strategy to satisfy LEIT. This hypothesis accounts for the syntactic properties of verb head fronting (i-vi), and for the contrasts between vP focalization movement and last-resort verb head fronting. The assumption that verb head fronting originates from the Fin site (that is the site where the tensed head itself stands) vs. a post-tense IP internal site is justified by the fact that the infinitive head is never found with this auxiliary 'do' after the tensed head (vii). There is a stronger argument in favor of excorporation: the fact that the AC with 'do' has a doubling counterpart (viii).

3. Analytic construction with doubling

3.1. Verb doubling as a subcase of analytic construction

Unlike analytic constructions with the auxiliary "do", which is already found productively in Middle Breton, analytic constructions with doubling emerged at a later stage in the language (during XVII^e century, see Le Roux 1957:416), and appear to be restricted to certain verbs only. The following examples illustrates verbs that can double in (28). They are: *ober* 'do', *bezañ* 'be', *rankout* and *dleout* 'must', *gallout* 'can', *dont* 'come', *mont* 'go', *gouzout* 'know', *kerzhout* 'walk', *reded* 'run', and *lenn* 'read'.

- (28)a. **Rencout** a **rencan** da vont.
 must.INF R must.1SG P go
 'I have to go.' *Breton Quimperlé, [D.L 03/2009]*
- b. **Dleout** a **zlean** ober ma gwele.
 must.INF R must.1SG do my bed
 'I have to make my bed.' *Breton Quimperlé, [D.L 03/2009]*
- c. **Gallout** a **c'hallfen** lako ma avaloù en douar.
 can.INF R can put my apple/potato P.DET soil
 'I can plant my potatoes.' *Breton Quimperlé, [D.L 03/2009]*
- d. **Gellout** a **c'hell** goro ho bugale ar saout.
 can.INF R can .3SG milk your children DET cow
 'Your children could milk the cow.' *Breton Treger, Schafer (1997)*

- e. **Dont** a **zeuio** re vraz ha re vihan...
 come.INF R come.FUT.3SG 3PL big and 3PL small
 ‘The big ones and the small ones will come...’ Breton Leon, Troude (1886:54)
- f. **Mont** ‘ch i d’ ar gê!'
 go.INF R go.2SG P DET house Low-Tréguier, collected by Gros 1911 in Trédrez
 ‘Will you go home!’ cited in Le Roux (1957:417)
- g. Met **gouzout** a **ouzon** kavout an dud en-dro goude-se (...)
 but know.INF R know.3PL find.INF DET people again after-that
 ‘But they know how to find people after that...’ Breton Kerne, Bijer (2007:138)
- h. **Redek** a **redan** bemdez.
 run.INF R run.1SG every.day
 ‘I run every day.’ Quimperlé, [D.L 03/2009]

Verb doubling is exceptional in corpora, and not all verbs are found with the same frequency in spontaneous speech. *Gouzout* ‘know’ is by far the most commonly heard in Modern Breton, whereas *redek* ‘run’, or *lenn* ‘read’, are fairly rare.

I analyze doubling constructions as a subclass of the analytic constructions. Verb doubling exhibits most of the syntactic properties of *do*-ACs. The contrast lies in their different productivity and their effects on information packaging (italics).

- (29) *Verbal head doubling properties*
- i. it is restricted to the root tensed clauses.
 - ii. *it is not neutral in terms of information packaging.*
 - iii. *it is lexically restricted*
 - iv. verbal movement is ultra local.
 - v. the infinitive head is moved alone.
 - vi. movement violates the syntactic ban on excorporation
 - vii. it is restricted to the [VINF-Tense] order.
 - viii. *It (always) has a ‘do’ counterpart.*

Doubling cases are found exclusively in canonical Tense-second environments. No case of doubling in infinitives or imperatives ever arises (i). Verb head doubling is ultra-local (iv), is hence incompatible with long distance extraction (30).

- (30) ***gouzout** ne gredan ket a **ouzez** ken.
 know NEG know.1SG NEG R know.2SG anymore

Doubling does not allow intervening elements like those of clefts (31).

- (31) ***gouzout** ‘ni eo a **ouzon**.
 know N COP R know.1SG

Doubling can be preceded only by elements after which verb-second orders are not found anyway. I illustrate in (32) with a case a preceding complementizer *ha*, ‘and’, xxx in (Bijer 2007:134), *met/hogen*, ‘but’, in **Error! Reference source not found.**, (33) (or Bijer 2007:136). Examples in embedded sentences boil down to cases of parataxis such as (34).

- (32) Va breudeur, ur wezenn-fiez, ha **gallout** a **c'hell** reiñ olivez, pe ur winieg fiez?
 POSS.1SG brothers DET tree-fig Q can R can give olives or DET vine fig
 'My brothers, can a fig tree give olives, or a grapevine figs?'
*Testamant Nevez: lizher Jakez 3, Gwilh Ar C'hoad (1893)*⁶
- (33) *Hogen goud' ouzon* ne 'teus ket klasket laza...
 but know R know.1SG NEG has.2SG NEG tried kill
 'But I know you didn't mean to kill...' *Koatilouri, Barzig*
- (34) ... *rak gouzout e ouie* n' eo ket mont a dont (...) nemetken eo a rafe e genitervez.
 because know R knew NEG is NEG go and come only is R do.COND his cousin
 '... Because he knew that his cousin would not only go back and forth.'
Breton Kerne, Avel gornôg, Bijer p.156

Verb doubling concerns syntactic heads (**v**) and never targets accompanying arguments (35), except incorporated ones (36).

- (35) *[**gouzout** *an doare da vont*] a **ouzez**.
 know DET reason P go R know.2SG
- (36) [**hen gouzout**] a **ouzon**. / [**E lenn**] a lennan
 CL.3SG know R know.1SG CL.3SG read R read
 'I know it (well).' 'I do read it.' *Quimperlé, D.L.*

These facts follow in the excorporation scenario: only elements that can ever be part of the synthetic morphologically complex head (clitics) can be excorporated from it.

The sentence in (37) would be a strong counterexample if it could mean: *He will come home walking*, which it can not, as confirmed by the ungrammaticality of 'tomorrow'. This is a case of accidental co-occurrence of two unrelated instances of the verb 'walk', rather than copying. A goal argument is topicalized in the pre-tense area: *He will come walking* [_{PP}(*in order to*) **come home**]⁷. Presence of the silent preposition is independently revealed by the *e* variant of the rannig noted R, providing a contrast with examples of doubling which tend to use the *a* variant.

- (37) [_{PP} **Dont d'ar gêr**] e **teuio** war droad / *warc'hoazh.
 P come P DET house R come.FUT P feet / tomorrow
 '(In order to) come home, he will come (walking /*tomorrow).'
- Quimperlé Breton D.L., Callac S.B.*

The doubling phenomena is strictly restricted to [VINF-do] orders (**vii**). No doubling is ever found with the infinitive form following the inflected one. The relevant contrast between analytic constructions in *do* and with doubling thus seems to be information packaging.

⁶ This translation of the New Testament has been written by Gwilh Ar C'hoad in the nineteenth century, with subsequent corrections in Modern Breton by Lukaz Bernikod.

⁷ Thanks to Denis Pruel for drawing my attention on these structures.

3.2. Information packaging

Verb doubling triggers a saliency effect on information packaging, which fails to arise in analytic constructions in *do*. This effect is rather delicate to formalize, and even describe. Grammars are at best vague, at worst contradictory about it. Ernault (1890:470) proposes a gradation in emphasis: the doubling of *rankout*, ‘must’, would be a “more energetic synonym” of the *do*-AC, itself more emphatic than the synthetic strategy. This rare note is at odds with Le Gléau (1973:46), for whom focalized *do*-ACs with semi-auxiliaries like *rankout* are ungrammatical. The pragmatic development of (38) that Herve ar Bihan comments on for a sentence by his father points toward a *verum focus* effect, a focalization on the truth value of the sentence, suggesting that doubling may even induce different types of readings on the sentence.

- (38) **Lenn a lennan!**
 read R read.1SG
 ‘You see well that I am reading!’ Guy ar Bihan, collected by H. ar Bihan.
 Pragmatic development: ‘You see that I know how to read.’

In order to test focus effects in verb doubling ACs, I have presented two speakers, D.L and S.B., with the corpus example (39), which seemed to me a good candidate for a neutral reading. The doubling of the verb ‘to know’ is grammatical for both speakers. The discourse context ensures that all information in the sentence is new, and pragmatically disfavors a *verum focus* reading. Both speakers, however, noted an emphasis effect (without further comment on what it consisted of). Emphasis in (39) could bear on (i) the lexical content of the verb, (ii) the sentence as a whole, or (iii) the internal argument of the doubled verb⁸.

- (39)a. Goude bezañ kimiadet diouzh an daou grennard ha danvez beleg anezho,
 after to.be separated P DET 2 adolescent C material priest P.3PL

 e kavas d’ar c’harretour en doa gounezet e verenn.
 R found P DET carter 3SG had won his lunch

 ‘After he left the two adolescent priests-to-be, the carter found he had won his lunch.’
- b. **Gouzout a ouie** e oa e bourk ar Pont un ostaleri ma veze selvichet enni
 to.know R knew R was P bourg DET Pont DET hostel C was served P.3SGF

 sklipoù eus ar c’hentañ. Ha Lorañs mont e-barzh.
 tripe P the first & Lorañs enter in

 ‘He knew there was in the town of Pont a hostel that served first class tripe. He went in.’

Breton Kerne, Avel gornôg, Bijer p.165

I leave for here open the question of the impact of doubling on information packaging. I just take note that verb-doubling *can* have an impact on information packaging and most probably has to, with possible readings beyond *verum focus*. The focus effect probably comes from doubling itself, and not from excorporation.

⁸ Thanks to Alain Rouveret for pointing out this possibility.

Breton indeed can use doubling for intensification, as it independently does in the domain of adjectives (*tomm-tomm*, /*hot-hot*/, ‘very hot’). However, it can’t be the entire story, because Breton reduplication does not always obtain this particular semantic effect. In (40), the infinitive verb ‘to live’ is reduplicated, and its second occurrence bears a diminutive marker. The interpretation of the construction is clearly not intensive. In (41), a nominal head or even an entire DP has been reduplicated over a deictic marker. The obtained reading is specific unknown or specific uncited (Jouitteau 2011). More of the same morphology doesn’t have to mean more of the same meaning.⁹

- (40) **Bevañ-bevaik** a rae...
 live-live.DIM R did.3sg
 ‘He was struggling along.’ *Standard*, Denez (1993:17)
- (41) C’hoand am euz da gaoud ar **marc’h**-mañ (ar) **marc’h**.
 wish R.1sg have P have the horse-here (the) horse
 ‘I want to have such and such a horse.’

A much more extensive study, with carefully controlled questionnaires that would take variation into account would be necessary. For the sake of this paper, the important question is to see if doubling constructions are, as I propose, last-resort operations used to avoid Tense-first word orders, or if they are just triggered by a particular semantico/pragmatic effect. In the latter case, the doubling constructions could not be considered as a subcase of analytic constructions.

The two hypothesis make diverging predictions as to the distribution of verb-doubling: an expletive operation prototypical of analytic constructions will appear only as a last-resort in order to avoid Tense-first orders, whereas an operation driven by information packaging will appear in correlation with the salience reading. The distribution of verb doubling shows all prototypical last-resort properties that we already saw in the analytic constructions in *do*. Not only does verb doubling appear only in canonical V2 contexts (i), but any independent satisfaction of LEIT renders doubling ungrammatical. Doubling is banned with an embedded C head (42)a, a matrix negation C head (42)b, or a preverbal expletive (42)c. This is also the case for any A or A-bar preverbal XP.

- (42) a. * Na larez ket din **ma gouzout** a **oar**...
 NEG.IMP tell.2SG NEG P.1SG if know R know.3SG
- b. (*n') **gouzout** (*n') **ouzon** ket.
 NEG know NEG know.1SG NEG
- c. (*bez') **gouzout** (*bez') **'ouzon**.
 EXPL know EXPL R know.1SG

Distribution of doubling has to be considered in comparison with another Breton expletive strategy that also can bear on information packaging: the merge of expletive *bez*. In (43)a, the preverbal expletive *bez* is neutral in an ‘out of the blue’ sentence, and in (43)b, it can bear *verum focus*. *Bez* can be found in Western Brittany before all sorts of verbs, but its paradigm overlaps with verb doubling based on the ‘be’ stem.¹⁰

- (43) a. **Bez'** **omp** digemeret en eur zal vraz spontuz.

⁹ See http://makino.linguist.jussieu.fr/ARBRES/index.php/Reduplication_simple for extensive evidence and crossdialectal examples of intensive reduplication.

¹⁰ The expletive *bez* is used with all verbs in Standard Breton. Eastern dialects restrict its usage to co-occurrences with the inflected verb ‘be’, and thus to verb doubling (cf. see documentation on ARBRES, http://makino.linguist.jussieu.fr/ARBRES/index.php/Bezan_preverbal and references therein).

EXPL are.1PL welcomed in DET room big terrible
 'We are welcomed in a very big room.'

- b. **Bez' he-deus** da vihanha, tri-ugent metr hed ha tregont metr lehed.
 EXPL R.3SGF has P least 3-20 meter long and 30 meter large
 '(Indeed) It is at least 60m long and 30 meter large.' Miossec (1981: 7)

Despite its impact on information packaging, verb-doubling thus shows the last-resort properties prototypical of analytic constructions in *do*. The last contrast that stands between *do*-ACs and doubling ACs is the question of productivity. I will show in the next section that doubling is fully idiosyncratic and cannot be reduced to a syntactic operation.

4. Idiosyncrasy of verb reiteration

This section is dedicated to showing that Breton verb doubling illustrated in (1)b is idiosyncratically restricted, and concerns a list of verbs that fail to form a class at the syntactic level. No syntactic reduction of the paradigm is possible. This will pave the way to proposing that doubling is triggered at the very late syntax/morphology interface and realized in a morphological post-syntactic module. I will proceed by exploring different attempts of syntactic reduction and point out where they fail to account for the data.

4.1. Variation in doubling verbs

We saw that for Le Roux (1957:416), the emergence of verb doubling dates back to the 17th century. Kervella (1995:§274) proposes that all Middle Breton verbs could be inflected by taking their own root as an auxiliary. Ernault (1888:247) argues on the contrary that the doubling AC was found “only for a small number of verbs, in Modern and Middle Breton”. Ernault illustrates with some corpus data, and produces examples that are quite similar to those later produced by Hemon (2000:239 note 4) and Le Roux (1957:416).

Breton grammars vary with respect to the verbs they claim can double. *Gouzout*, ‘to know’ is the only doubling verb noted by Kervella (1995:§197), though he dedicates an entire section to conjugations with semi-auxiliaries (§247-253). Gros (1984:94), an expert of the Treger dialect, has a very detailed chapter on emphasis by doubling but also cites only ‘to know’ as a doubling verb. However, as reported in Le Roux (1957), Gros had reported a doubling structure with *mont* ‘to go’ in 1911, in Trédrez. Le Roux (1957:414), also a Treger Breton speaker, mentions *gouzout* ‘to know’, but also *gallout* ‘can’, as does Ernault (1888), which he has read. He further mentions that there are « some others » and cites the data collected by J.Gros with *mont* ‘to go’. Eugène Chalm, from Cap-Sizun (Kerne diaclect), signals verb doubling with *gouzout* ‘to know’, *gallout* ‘can’ and *rankout* ‘must’ (Chalm 2008:45). This structure is absent from 38 hours of spontaneous speech recorded from Gwened Breton (*Lorient*, Cheveau 2007). I have established a questionnaire for two native speakers of Breton, D.L from Quimperlé, and S.B. from Callac. The list of verbs they can double is summarized in the table below. The rightmost column summarizes the double occurrences cases reported in the descriptive literature, found in a corpus, or reported to me as used by native speakers.

(44)

			D.L Quimperlé	S.B Callac	<i>reported in the literature</i>
AUXILIARIES	‘be’	<i>bez(añ)</i>	√	√	
	‘do’	<i>ober</i>	√	√	(10)
	‘have’	<i>kaout</i>	*	*	(18)

SEMI-AUXILIARIES	‘know’	<i>gouzout</i>	√	√	(28)
	‘can’	<i>gallout</i>	√	√	
	‘must’	<i>rankout</i>	√	*	(28)
	‘must’	<i>dleout</i>	√	* ¹¹	(28)
LEXICAL VERBS with homophonous semi-auxiliary	‘look for’	<i>klask,</i>	*	*	-
	‘know’	<i>gouzout</i>	√	√	(28)
	‘come’	<i>dont</i>	√	√	
	‘go’	<i>mont</i>	√	*	(28)
LEXICAL VERBS	‘look for’	<i>klask,</i>	*	*	-
	‘run’	<i>reddek</i>	√	*	¹²
	‘walk’	<i>kerzhout</i>	-	-	Guy ar Bihan
	‘read’	<i>lenn</i>	-	-	(28)
	‘laugh’	<i>c’hoarzhiñ</i>	*	*	-
	‘walk’	<i>bale</i>	*	*	-
	‘danse’	<i>dañsal</i>	*	*	-
	‘cry’	<i>leñvañ</i>	*	*	-
	‘cry’	<i>oueleiñ</i>	*	*	-

The distribution of doubling verbs resists any attempt at syntactic reduction to a homogeneous class of verbs.

Let us first examine with care the flexibility in ranking possibilities for auxiliaries because some ranking decisions are analysis dependent. The double occurrences of the verbs *ober* ‘to do’ can either resort to doubling or to a *do*-AC (10). The analysis of doubling cases of *bezañ* ‘to be’, could also oscillate between verb doubling and expletive insertion (43)a. Doubling of *kaout* ‘have’, partly depends on the analysis of ‘to be’. The paradigm of *kaout* is visibly formed of a morphological compound including ‘to be’, to a more or less synthetic degree across dialectal variation (cf. Jouitteau & Rezac 2006, 2008, 2009 and references therein). Though doubling is not grammatical with the *kaout* form of the infinitive (45), some dialects would allow *bez* insertion equally with *kaout* ‘have’ and *bezañ* ‘to be’ (43). These cases thus could equally ‘count’ as verb doubling or expletive insertion. I take these ranking variables into account in the coming discussion.

- (45) * **Kaout** **em** **eus** un oto / gwelet / riv.
have.INF R.1SG have.√ a car / seen / cold
‘I have a car / I have seen / I am cold.’ D.L., S.B.

The generalization on auxiliary-doubling is quasi entirely analysis dependent.

As for semi-auxiliaries, some of them can be doubled, but not all of them (46). The list of doubling verbs also includes some lexical verbs. Hervé ar Bihan reports his father used to double the verbs *kerzhout* ‘to walk’ and *lenn*, ‘to read’ (38). S.B and D.L both double *gouzout* ‘to know’ and *dont*, ‘to come’ in their special and thus lexical interpretation. However, verb doubling is far from extending to all lexical verbs: neither of the two speakers can double lexical verbs like *bale*, ‘to walk’, *c’hoarzhiñ*, ‘to laugh’, *dañsal*, ‘to danse’, or finally *leñvañ* (*dourek*)/ *oueleiñ*, ‘to cry’:

- (46) * **Klask** a **glasko...**

¹¹ The speaker hesitates because she thinks she had heard it, but insists she would not use it herself.

¹² I have found *reddek a redan*, /to run I run/ for the first time in a written source, that my memory fails to trace back. I am even unsure if it was Modern or Middle Breton. This is what gave me the idea to test it with DL and SB in Quimperlé.

look.for.INF R look.for.3SG
 ‘She will try to...’

(47) * **Bale** a **vale**.

walk.INF R walked.3SG.
 ‘He was walking/He walked.’

(48) * **Choarzhñ** (brav) a **c’hoarzhes**

laugh.INF beautiful R laughs.
 ‘You are laughing (a lot)!’

(49) * **Dañsal** a **zansan** ar **jabadao**.

dance.INF R dance.1SG DET jabadao
 ‘I am dancing the jabadao.’

(50) * **Leñvañ** (dourek) a **leñve** (dourek).

cry.INF (water.adj) R cried.3SG (water.adj)
 ‘He was crying a lot.’

(51) * **Oueleñ** a **ouelent** gant glac’har.

cry.INF R cry.3SG by pain
 ‘They cried with pain.’

Variation is dialectal or even idiolectal: D.L from Quimperlé can double the two auxiliaries *rankout* (28)b. and *dleout* **Error! Reference source not found.** ‘must’, and the two lexical verbs *mont* and *redék*, which is ungrammatical to S.B from Callac (1h23 driving distance). Reduction to the verb structure seems a hard task: verbs that are semantically similar may still differ in doubling properties for the same speaker: D.L doubles *redék* ‘to run’ **Error! Reference source not found.**, but not *bale*, ‘to walk’ (47); and S.B doubles *dont* ‘to come’, but not *mont* ‘to go’. Idiolectal variation is a serious obstacle to any attempt at reducing verb doubling to a homogeneous syntactic class.

No morphological particularity emerges either, that would set doubling verbs apart from other verbs. At most, we can note that an infinitival ending such as *-al*, is never present on doubling verbs, but so few verbs do double that it is hardly conclusive. The case of verbs ending in *-out* like *gouzout* ‘to know’, must however be discussed. *Gouzout* ‘to know’ is by far the verb that doubles the most frequently in modern Breton. When one wonders about the link between *gouzout* ‘to know’ and semi-auxiliaries, one can notice it is a compound containing the verb ‘to be’ (in its older form *-bout*). No reduction of the data is however possible. In Treger Breton as in Léon, the independent form of ‘to be’ is not *-bout*, like it is in Breton Gwened and Breton Kerne: it evolved in *bezañ* (Hémon 2000:§139,14). In these dialects, the verb ‘to know’ is arguably not a compound of ‘to be’ anymore.

Similarly, no correlation emerges between doubling verbs and those before which the expletive *bez’* can be found. Gros (1984:110) notes that *bez’* is restricted in Breton Treger to the preverbal area of *bezañ* ‘to be’, *gouzout* ‘to know’ and *kaoud* ‘to have’. The first two can double in this dialect, but *kaout* ‘have’ fails to. This hypothesis also would not hold for Standard Breton or Western varieties, where *bez’* can be used before any lexical verb.

I conclude that the difference between doubling verbs and non-doubling verbs is purely idiosyncratic. Knowing the language requires knowing, for each verb, if it used in doubling constructions or not, pretty much in the same way gender is assigned to inanimate nouns. Dialects and speakers vary in the list of verbs they treat as doubling verbs.

4.2. A typologically unique situation

Verb doubling is largely documented over a large set of languages (see Gouget 2008, Kandybowicz 2008 et references therein). Some languages show instances of verb-doubling with two identical occurrences, as in Nupe, Fongbe, Mandarin Chinese, Haitian (Glaude and Zribi-Hertz, this volume) or Gungbe (52). In all these languages, the two occurrences can appear phonologically identical. In Yoruba (53), a reduplication process has taken place and distinguishes the occurrence in focus position from the lower one.

- (52) **Đù** (% w ㊦ ㊦) **S ㊦ ㊦ ná ㊦ ù** bl ㊦ ㊦ l ㊦ ㊦ ㊦
eat FOC Sena eat bread DET
'Sena HAS EATEN bread.'
Gungbe, (Aboh and Dyakonova 2008)

- (53) **rírà** ni mo **ra** ìwé.
buy FOC 1SG buy books
'I BOUGHT the books.'
Yoruba, Tamburri Watt (2003)

Finally, a set of languages show a closer case to Breton, with one of the two occurrences appearing with a tense markers, as in Portuguese, Spanish (54), Russian (55), Basque (56), Yiddish (Cable 2003), Classical or Modern Hebrew (57) and (58).

- (54) **Comprar**, Juan ha **comprado** un libro!
buy, J. has bought a book
'Juan has bought a book!'
Spanish, Vicente (2007)

- (55) **Citat**, Ivan ee **citaet**.
read Ivan it read
'Ivan has read it.'
Russian, Abels (2001)

- (56) **Hartu** ere **har-tzen** dut erabakia.
take also take-IMPF AUX decision
'As for taking, I TAKE my decision.'
Basque, Hualde & Ortiz de Urbina (2003)

- (57) **'omr-** im **'aamoor** li- mna' say.
say.benoni-3PL say to-despisers.1SG
'They say still unto them that despise me'
Classical Hebrew
(Jeremiah 23:17)
cited in Harbour (2007)

- (58) **liknot** et ha-praxim, hi **kanta**.
buy ACC DET-flowers, she bought
'She bought the flowers.'
Modern Hebrew, Landau (2007)

Doubling may be associated with different readings across languages. Kandybowicz (2008:chap3) distinguishes (i) *contrast of topic/focus* in Russian, Hungarian, Korean, Kabiye and Brazilian Sign language, (ii) *emphasis of the 'really V' type* in Haitian and English, and (iii) *polarity effects*, that is, emphasis, contrastive or not, on the veracity of the sentence in Mandarin Chinese, Nupe and European Portuguese. The environment for doubling can be either pragmatic or syntactic (restriction to negative contexts in Portuguese, restriction to perfect in Nupe). They can also be restricted to a given syntactic construction. In French, doubling requires a preposition (that also requires doubling of the verb's arguments).

- (59) Je peux te dire que **pour l' avoir lu**, elle **l' a lu**!
I can 2SG tell that for 3SG have.INF read, she 3SG has read

‘I can tell you that she DID read it!’
litt. : ‘... that as for reading it, she did indeed read it.’
> pragmatic implication: she showed extensive evidence for this action.

In all the above languages, doubling is fully productive inside the pragmatic and syntactic environment that triggers doubling. The outstanding character of Breton verb doubling is its idiosyncrasy. In Breton, in a doubling configuration, not all verbs can double.

4.3. Theoretical analyses for syntactic doubling

Due to some major turns in the theory, doubling has received several different formal analyses in the generativist paradigm during the last decades. The passage from trace theory of movement, which was dominant in the 80-90’s, to copy theory, opened a boulevard of analysis for doubling effects in syntax.¹³

Under Chomsky’s trace theory (1973), an item moved in syntax exists under one and only one exemplar, because movement creates new elements in the derivation: phonologically null pronominal traces. The operation of verb doubling in the syntactic component is difficult because each occurrence should then require its own arguments to pass the theta-criterion, contrary to typological evidence. In a trace theory T model, doubling can only be viewed as a post-syntactic (morpho(phono)logic) operation. Copy theory (Chomsky 1955, 1993), reverses the perspective: every position in a movement chain is occupied by the same item (except their (un)interpretable features). At the syntactic level, presence of multiple copies is no exception, but is merely the symptom of movement, as sometimes revealed by pronunciation of multiple copies by the sensorimotor system. The sensorimotor system generally imposes pronunciation of the highest copy, and doubling can be obtained to the extent that one can predict where the sensorimotor interface will be in a situation to send two copies to spell-out. Gouget (2008) for example proposes that the complex movement of the verb copy in Mandarin Chinese is peculiar in that it always obtains two copies that count as the highest one in the chain. Depending on the respective ordering of movement and cyclic transfer of the derivation to the interface, reduplication or simple movement is obtained. For verb doubling in Nupe, Kandybowicz (2008) proposes that a tonal factitive morpheme calls for a realizational basis, with the result that the realization of multiple verb copies is associated with the factitive reading. Typological evidence for morphophonologically distinct occurrences can also easily be handled with: two copies in the same chain are already distinct at the syntactic level thanks to the encoding of the motivation for movement into (the interpretability of) feature specification.

Finally, in multidominance theory, two occurrences of a same chain are one and the same syntactic element and can only be differentiated when sent to the interfaces. Pronunciation of a copy/occurrence can be taken care of by a morphological operation like Morphological Fusion (see Nunes 2004 and Kandybowicz 2006a, b).

The paradigm of verb doubling in Breton has key importance in the debate. This paradigm has no equivalent in the doubling literature because of the lexical restriction imposed on it: only an arbitrary list of verbs can be doubled, irreducible to a homogeneous syntactic class, or to a syntactic operation. This means that whatever mechanism is called upon to account for verb doubling in *gouzout a ouzon*, /to know I know/, this mechanism must be set such as to apply to an arbitrary list of verbs. Idiosyncrasy, however, is a prototypical symptom of lexical or morphological operations, crucially not of syntactic operations.

¹³ For a clear and detailed presentation of the analysis of doubling verbs/structures, see Gouget (2008:chap3).

5. A postsyntactic morphological level

This section investigates and discusses the question of the module of grammar where doubling operates: syntax or morpho(phono)logical interface.

5.1. Not in syntax

Doubling can be obtained inside the syntactic component (by means of copies or double occurrences) if and only if, inside the syntactic level, doubling verbs (A) can be distinguished from non doubling ones (B) (+/-auxiliaries /modals /semi-auxiliaries?–particular derivation?). If so, and for each derivation, the syntactic output can provide the interface with either verbal type A or B couples – leading to different spell-outs. Basque provides the relevant contrast with Breton. Basque verb doubling is restricted to a list of verbs strangely reminiscent of those of Breton: ‘to know’, ‘to take’ (56), ‘to walk’ ‘to come’, and ‘to go’ (60).

- (60) **Juen doie, ala etorri dator, ba?**
go.INF go.3SG or come.INF come.3SG then
‘Well, is he leaving (right now) or coming?’, *Biscayan Basque*, Zuazo (1998:207)

Basque doubling verbs happen to also be the only verbs in the language that can show synthetic agreement, which means that doubling can be associated with a particular syntactic derivation leading to synthetic agreement. Verbs that can double are already distinguishable from non-doubling ones at the syntactic level. In Breton however, both doubling verbs and non-doubling ones appear in the same syntactic location and seem undistinguishable at the syntactic level.

Another attempt to locate the doubling operation internally to the syntactic level would be to set a morphological filter after syntax. In this scenario, all verbs are doubling verbs at the syntactic level, but some postsyntactic morphological filter avoids it for most verbs and realizes the AC in ‘do’ instead. Considering that we already rejected the hypothesis that only certain roots would have an independent spell-out, I can’t see what this filter could consist of. Another argument that ACs are not internal to the syntactic module is that its trigger, LEIT, resists encoding under feature checking systems. LEIT, under different EPP-related names, has been proposed to be cast under different types of uninterpretable features: the phonological [P-] in Holmberg (2000) for Icelandic, the [δ] feature in Rezac (2004) or categorial [*u* CAT] in Jouisseau (2005/2010) for Breton, the empty $\varnothing$ sets mentioned by Grohmann, Drury and Castillo (2000), the [-Foc] in Holmberg and Nikanne (2002) for Finnish, etc. The advantages of these feature-driven scenarios are that they accurately derive unselective locality (via Relativized Minimality), and blindness to the X/XP distinction. However, LEIT is an operation that does not exactly coincide with what we know about feature checking: **(A)** LEIT satisfaction does not ever seem to be possible at a distance. Instead, it is characterized by an ultralocal domain of impact, **(B)** LEIT effects are characterized by ‘the far-sighted effect’: in order to obtain unselective locality, feature checking accounts of LEIT need to postulate uninterpretable features that are present on the very head on which they are postulated. Feature-checking scenarios cannot avoid the stipulation that the uninterpretable feature is blind to the interpretable features of its own head (consisting of the inflected head itself or even the potential clitics that crosslinguistically fail to satisfy LEIT); **(C)** Lasnik’s (2001) states that EPP cannot be cast as a strong feature, and his argument holds for LEIT: provided that features can be checked by erasure of their satisfier inside an ellipsis (of VP or IP), VP ellipsis should allow for Tense-first orders in V2 languages, which is not the case. The merge of expletives is also a problem **(D)**: Rezac

Finally, another argument that LEIT does not operate in syntax is its recurrent violations of the Head Movement Constraint (Stylistic Fronting in Icelandic, Long Head movement in Breton, excorporation in Breton ACs). If LEIT operates outside of the syntactic component, no such filter as the Head Movement Constraint or any syntactic ban on excorporation is predicted to apply.

There seems to be morphological evidence that preverbal infinitives should be set apart from post-Tense ones. In several dialects, their phonological spell-out may indeed differ. Ernault points out an asymmetry in Little Tréguier, where the verbal ending is optional in AC, but obligatory in post-Tense position. Indeed, all the infinitives that Favereau (1997:§347) notes to lack infinitive endings in Breton Treger and Gwened appear in a position preceding a ‘do’ auxiliary. Similarly, in the Low Kerne dialect, post-Tense infinitives bear the *-o* suffix (62), whereas the infinitive in AC shows up with *-ek* (63)a. (*Saint Mayeux* ; Ernault 1888:247).

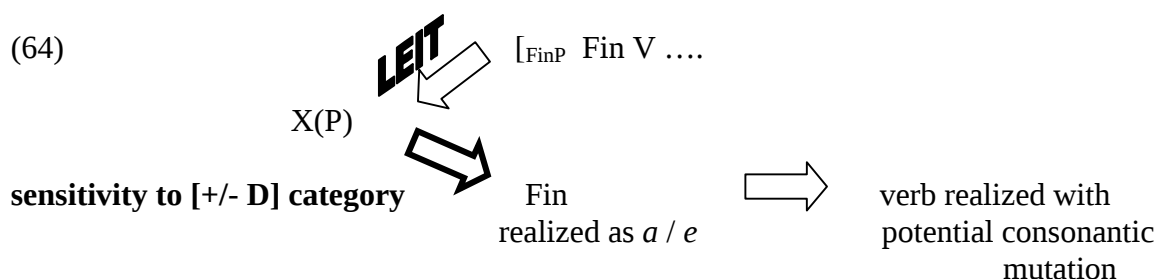
- One could try to push the idea that the above data suggest an asymmetry in Breton between verb roots (preverbal) and regular infinitives (prototypically post-Tense). However, in (63)b, the verb *labourek* is not part of an AC, but XP moved across an auxiliary in a preverbal focused position. The prototypically preverbal ending *-ek* appears. The asymmetry thus seems to lie between the preverbal and post-Tense positions, rather than between the roots and infinitives.

The key to the preverbal/postverbal asymmetry in the spell-out of verbs is most likely to be found in Breton accentuation rules, and in the fact that preverbal items always have a

following vowel available for syllabification: the *rannig* (R).

5.3. Not in phonology

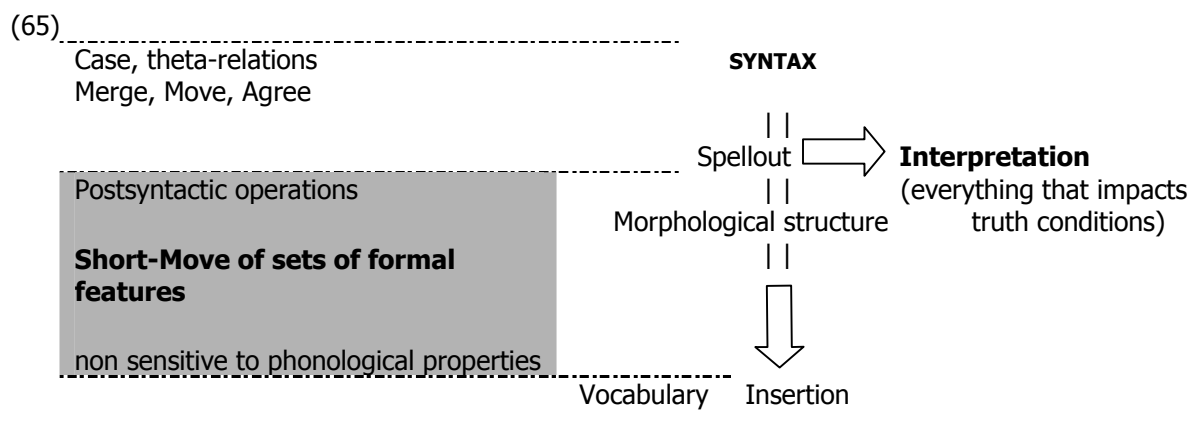
The level where doubling arises can be shown to be sensitive to the [+/- nominal] distinction. In literary standard Breton and in the Leon dialect, the preverbal particle noted here ‘R’ in gloses, agrees in category with the +/- nominal preverbal element (Rezac 2004, Jouitteau 2005/2010). This particule is thus sensitive to the categorial identity of the fronted constituent, including LEIT fronted constituents. The causality chain of LEIT effects is schematized in (64). LEIT triggers last-resort strategies at the end of the derivation, when a tensed head fronts first to fuse with the Fin head and calls for any head or bigger constituent to be Merged or Moved. The +/- nominal category of this pre-tense element will decide for the particular spell-out of the Fin head: *a* follows [+ nominal] elements, and *e* follows [- nominal] elements. It is not rare that the *rannig a/e* itself would not be spelled out, but its syntactic presence is discernable by the consonant mutation it triggers on the following tensed element right adjoined to it.



In doubling cases (as in ACs in general), the *rannig* appears under its *a* form that signals a [+nominal] preceding element, which is logical in a language where untensed verb structures show extensive nominal properties. The important point is that the LEIT last-resort operation is sensitive to the categorial identity of the element serving as an expletive.¹⁴

5.4. A Morphological operation: obligatory exponence in morphology

I assume a T model of grammar (65) and propose that LEIT is located in a post-syntactic morphological structure. As such, LEIT effects are predicted to be blind to phonological properties, but sensitive to the output of syntax (word order).



¹⁴ Note that this argument is convincing, but could not hold in all dialects. All dialects do show the *a* variant of the *rannig* in doubling, but not all dialects follow the [+/- nominal] distinction for the *rannig*.

The absence of impact of analytic structures on the interpretative component, as well as deviant syntactic behavior automatically follows. Sensitivity to categorial features is also easily accounted for: categorial features independently have to be visible in morphological structure. This proposal bears a surprising implication for our theory of Information Packaging. It implies that some discourse effects never flow into the semantic component. If I am right in locating verb doubling in a module of grammar that is independent from the interpretative component, there is a part of information structure manipulation that is separated from Interpretation proper. These effects should never impact vericonditionality, as is verified for verb-doubling.

The idea suggested here that LEIT effects could be crosslinguistically tied to morphology finds independent crosslinguistic support in some well-documented morphological paradigms that strongly recall the LEIT signature. I will briefly present the case of obligatory exponence in the Basque morphology, where a second position phenomenon is identified at the level of a morphologically complex word.

Laka (1993) presents a case of obligatory exponence in the Basque verb morphological complex. The obligatory exponent location precedes the agreement complex, and is canonically realized by the absolutive marker, like *g-* in (66)a and b. The absolutive argument controls the preceding exponent as long as it is first or second person. In cases where the absolutive argument is third person, a Tense-Mood conditioned morphology fills in the gap as in (66)c. These prefixes, *d* (present), *z/Ø* (past), and *l* (irrealis), are last-resort defaults, meaning that they are strictly restricted to contexts lacking and absolutive controller for the prefix.

In certain tenses, however, no prefix is available, and the morphological complex shows ultralocal movement of the ergative marker into the prefix position as in (66)d, referred to as ‘ergative displacement’. Finally, in these critical contexts where the prefix’s morphology is exceptionally controlled by the ergative argument, some dialects show doubling of the ergative marker in two different locations into the complex as in (66)e.

(66)			?	-TM	SG/PL	√have	ERG	- past
							$\frac{1}{2}$	
a.	Berak _i	gu _j	g_i	- a	- it _j	-u		
	He.ERG	us.ABS	1'		-PL			
		‘He has us.’						ABS = $\frac{1}{2}$ > ABS control
b.	Berak _i	gu _j	g_i	-in	-t _j	-u		-en
	He.ERG	us.ABS	1'		-PL			
		‘He had us.’						ABS = $\frac{1}{2}$ > ABS control
c.	Guk _i	hura/haiek _j	d		- Ø /it _j	-u	-gu _i	
	we.ERG	it/them.ABS					-1'	
		‘We have it/them.’						No $\frac{1}{2}$ ABS > Tense/Mood-conditioned morphology
d.	Guk_i	hura/haiek _j	g_i	-en	- Ø /it _j	-u		-en
	we.ERG	it/them.ABS	1'					
		‘We had it/them.’						In some tenses..... ABS = 3 > ERG $\frac{1}{2}$ control (“displacement”)

- e. **Guk_i** hura/haiek_j
 we.ERG it/them.ABS
 ‘We had it/them.’

g_i	-en	- Ø /it _j	-u	-gu_i	- n
1'				-1'	

In these tenses in some dialects....
 ABS = 3 > ERG ½ doubling

The parallel with Breton LEIT effect is striking. Breton preverbal position is canonically filled in by some XP, in a manner prototypical of V2. LEIT last-resort dimension is evidenced when no such XP is fronted. Merge of the Basque Tense-Mood conditioned prefixes strongly recalls the Breton *bez/bet* expletive strategy, where the used expletive is prototypically verbal (it is realized as a morphological shortening of the verb ‘to be’, and contains a [+/- past] encoding). Ergative displacement mimics LEIT ultralocal movement, and ergative doubling seemingly recalls verb-doubling.

The surprising, but, I argue, unavoidable conclusion from Breton, is that an edge-sensitive morphological process similar to the second position phenomena exemplified above in Basque, is active at the level of the sentence, and leads to a generalization on word order (linear V2).¹⁵

The remaining section provides a crosslinguistic comparison. Breton is not alone in presenting a paradigm of verb-doubling that answers obligatory exponence. I present an identical pattern in a genetically unrelated language: Gungbe. The Gungbe paradigm provides an interesting contrast with Breton because obligatory exponence is not relative to the tensed element of the sentence. Comparison thus suggests that there is no crosslinguistic rule that would intrinsically avoid left-edge apparition of Tense morphology. The Gungbe obligatory exponence paradigm is also located in the left-edge of an IP internal aspectual structure, which suggests the left-edge position of the sentence is not intrinsically responsible for obligatory exponence effects.

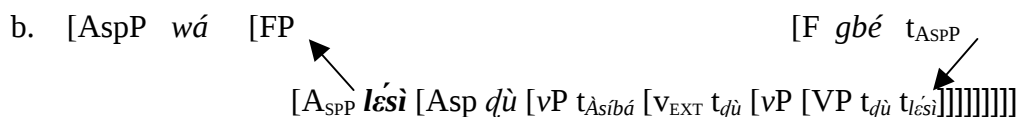
6. LEIT-reduplication in Gungbe

Gungbe provides a case of an obligatorily exponence in the preverbal position, inside a nominalized small clause structure. This small clause is selected by and aspectual control verb (e.g., *refuse*, *begin*) and could be headed by a purpose marker (in purpose constructions) or a final low-tone (in the case of the progressive) noted ‘NR’. In (67)b, I represent the derivation proposed by Aboh (2009) for these structures, with the internal argument of the purpose marker that fronts into its specifier. The position of obligatory exponence is at the left edge of this moved constituent. The element canonically in preverbal position is the internal argument (here in bold), whose preverbal movement is neither case-related (Aboh 2005:158), nor related to information packaging (Aboh p.c.).¹⁶

- (67)a. Àsíbá wá [A_{SP} **lé̀sì** d̀ù] gbé _ . Gungbe, Aboh (2009:14-15)
 Asiba come rice eat PRT
 ‘Asiba came in order to eat rice.’

¹⁵ See also Foley (1991) and Phillips (1994) for a similar ABS displacement paradigm showing morphological obligatory exponence in Yimas (Papua New Guinea).

¹⁶ In Aboh’s terms, FP which embeds the AspP and VP is a predicate, and [spec AspP] functions as the subject of that predicate. He labels the preverbal position the ‘subject position’ (Aboh 2005), but the term is merely induced by his analysis that preverbal movement is EPP-triggered. Aboh (2009) clearly shows that no subject ever stops in AspP where it would fail to receive Case. The Tense marker, whenever realized, is the [+futur] morpheme *ná*. It distributes Direct Case and is located higher in the structure (Aboh 2005:ex 11).



LEIT signature is a full battery of last-resort strategies, some of which syntactically bad behaved, with mutual exclusive distribution of heads and XPs. Indeed, when the verb is intransitive, or when the object is absent, being either a pronominalized clitic or A'-extracted, another element has to 'take its place' and front preverbally. This element can be a locative PP (68), a reduplicated adverb like *dédé*, 'slowly' (69), a goal argument of a double object constructions (70).

- (68) Àsíba tò [àxi mɛ̀ yì] ` . Gungbe, Aboh (2005:157)
 Asiba PROG market in go-NR
 'Asiba is going to the market.'
- (69) Àsíba tò [dɛ̀dɛ̀ zɔ̀n] ` .
 Asiba PROG slowly walk.PRT
 'Asiba is walking slowly.'
- (70) Été wɛ̀ à tò [Kòfí kplón]n`? Gungbe, Aboh (2009:12)
 what FOC 2SG PROG Kofi teach. PRT
 'What are you teaching Kofi?'

A reduplication process of the verb is also a last-resort strategy (71). This means that like the verb excorporation process in Breton, sub-extraction of the verbal root is an available option that obeys the same trigger as a full preverbal XP does. Moreover, as in Breton, presence of a preverbal functional head, the prospective marker *ná*, satisfies LEIT as illustrated in (72). When the numeration provides such a satisfier, no fronting operation is required and the sentence is licit.

- (71)a. Été wɛ̀ Àsíba wá [t_{wh} dũdũ] gbé? Gungbe, Aboh (2009:14-15)
 what FOC Asiba come eat.eat PRT
 'What did Asiba come to eat (it)?'
- b. Kòfí ná nò tò [dũdũ-ì] ` . Gungbe, Aboh (2005:158)
 Kofi FUT HAB PROG eat.eat-3SG NR
 'Kofi will be habitually eating it.'
- (72) Kòfí ná nò tò [ná dũ-ì] ` . Gungbe, Aboh (2005:158)
 Kofi FUT HAB PROG PROSP eat-3SG NR
 'Kofi will be habitually about to eat it.'

Contrary to the generalization that I propose above, Aboh (2005) assumes that neither the reduplicated verb nor the prospective marker fill in the preverbal gap itself. He proposes instead that both heads license a null expletive *via* the Spec/head relation. The problem I could see against an expletive hypothesis is that a phonologically null placeholder should easily vanish under XP fronting. To the contrary, as we will see in the next section, *ná* in (72) blocks any further XP movement or reduplication process.

6.1. Last-resort

Both the XP object and the prospective *ná* being imposed by the numeration, they can both appear preverbally (73). In contrast, preverbal movement for LEIT satisfaction is a last-resort operation. As such, any independent satisfaction of LEIT renders it ungrammatical.

Consequently, the prospective aspect marker blocks reduplication in all contexts (74) (see also Aboh 2005:158-159).

- (73) Dáwè ló tò [**kěké** **nà** xó] `.
 man DET PROG bicycle PROSP buy-NR
 ‘The man is about to buy a bicycle.’ *Gungbe, Aboh (2005:143)*

- (74)a. Jíkù tò **ná** (*jì)jà `.
 rain PROG PROSP fall. PRT
 ‘It is just about to rain.’
 b. Súrù tò **ná** (*sì)sà è ná mì `.
 Suru PROG PROSP sell 3SG PREP me. PRT
 ‘Suru is just about to sell it for/to me.’
 c. Étéì wè Súrù tò **ná** (*sì)sà tì ná mì `?`
 what FOC Suru PROG PROSP sell PREP me. PRT
 ‘What is Suru just about to sell for/to me?’

Adverb movement in itself is not banned, as illustrated with the extraposed adverb *dédé* ‘slowly’ in (75). However, adverb preverbal fronting is ungrammatical with reduplication (77), with PP fronting (78), or with the prospective marker *ná* (75), (76).

- (75) Été wè Àsíbá wá (??**dédé**) **ná** (***dédé**) dù (?**dédé**) gbé (, **dédé**)?
 What FOC Asiba come slowly PROSP slowly eat slowly PRT slowly
 ‘What did Asiba come to be about to eat (slowly)?’
 (76) Kòfí ná nò tò (***dédé**) **ná** (***dédé**) dù-ì (**dédé**) `.
 Kofi FUT HAB PROG slowly PROSP slowly eat-3SG slowly NR
 ‘Kofi will be habitually about to eat it (slowly).’
 (77) Été wè Àsíbá wá (***dédé**) dùdù (?**dédé**) gbé? *Gungbe, Aboh (p.c.)*
 What FOC Asiba come slowly eat.eat slowly PRT
 ‘What did Asiba come to eat (it) (slowly)?’
 (78) Àsíbá tò (***dédé**) àxì m̀è (***dédé**) yì (**dédé**) `.
 Asiba PROG slowly market in slowly go- slowly NR
 ‘Asiba is (slowly) going to the market.’

Not all elements are eligible targets for LEIT fronting. As is the case in Icelandic Stylistic Fronting paradigms or Breton, phonologically null elements seem invisible to this operation (Holmberg 2000, Jouitteau 2005/2010). Traces or intermediate copies also are unavailable targets. We can deduce likewise that A-bar traces of object extraction are invisible for LEIT, because they never block further LEIT effects. The A-trace of the subject also never satisfies LEIT by accident, on its way to SpecTP. Aboh (2009) proposes that EPP positions are ‘frozen’ in the sense of Rizzi and Shlonsky (2007). As such, “the extracted constituent cannot check the EPP feature under Asp on its way to the left periphery because Spec, AspP is a freezing position.” If I am right about LEIT effects being at the very late Syntax/morphology interface, this just follows from the invisibility of traces/copies in this component. The subject itself is never LEIT attracted because it needs Case higher up in the sentence (Aboh 2009:13).

6.2. Hierarchical scale

The ultralocality of LEIT last-resort effects suggests a hierarchical scale as illustrated in (79) for LEIT satisfying strategies.

- (79) Object fronting > reduplication > reduplicated adverb fronting
/ (except non reduplicated elements)

Object fronting is always chosen over reduplication. Speakers vary as to allowing for verb reduplication to take place with a postverbal object (Aboh 2005:fn12). An object also fronts over the adverb (80). We also find data showing that reduplication can take place over the fronting of some PPs (81) (to be compared with (68)).

- (80) Kòfí tò lésì d̀ù d̀édédé. Gungbe, Aboh (2005:147)
*Kofi tò d̀édédé d̀ù lésì.
'Kofi is eating rice slowly.'

- (81)a. Súrù tò [s̀isà è ná mì] ` . Gungbe, Aboh (2009:12)
Suru PROG sell.sell 3SG PREP me. PRT
'Suru is selling it for/to me.'
b. Été; wè Súrù tò [s̀isà t̀i ná mì] `.? Gungbe, Aboh (2009:12)
what FOC Suru PROG sell.sell PREP me. PRT
'What is Suru selling for/to me?'

In Gungbe, it is likely that the reduplication option takes place before the fronting of some postverbal elements, hence creating unavailable postverbal targets. A sharp contrast between the Breton and Icelandic paradigms emerges: any closest postverbal element is an eligible target for preverbal last-resort movement in Icelandic or Breton. However, Gungbe has a class of elements that can show up postverbally, but still are not elected for LEIT fronting. For example, low non-reduplicated adverbs like *bléún*, 'quickly' can appear post-verbally but not front to satisfy LEIT.

- (82) a. Àsíbá tò (***bléún**) lésì d̀ù (**bléún**). Gungbe, Aboh (p.c)
b. Àsíbá tò lésì (***bléún**) ná (***bléún**) d̀ù (**bléún**).
'Asiba is (about to) eat rice *quickly*.'

The respective postverbal order of indirect object, non-reduplicated adverb and adverbial PPs is [IO-PP-ADV] or [IO-ADV-PP] (83). The assumption that ultralocal movement applies as a last-resort predicts that in (84), the indirect object and only the indirect object, being the closest target for fronting, can front. But it doesn't (84).

- (83) a. Métrù ló tò wémà ló ná zé [x̀lán ví lé] [tò flén] [hàd̀òkpóló].
teacher DET PROG book DET PROSP take P child PL P there immediately
b. Métrù ló tò wémà ló ná zé [x̀lán ví lé] [hàd̀òkpóló] [tò flén].
teacher DET PROG book DET PROSP take P child PL P there immediately
'The teacher was about to immediately send the book to the children right there.'

- (84) a. *Métrù ló tò x̀lán ví lé zé è _ tò flén hàd̀òkpóló.
teacher DET PROG P child PL take 3SG P there immediately
b. *Métrù ló tò tò flén zé è x̀lán ví lé _ hàd̀òkpóló.
teacher DET PROG P there take 3SG P child PL immediately

- c. *Métrù ló tò **hàdòkpóló** zé è xlán ví lé _ tò flén .
 teacher DET PROG immediately take 3SG P child PL P there
 ‘The teacher was sending it immediately to the children right there.’

In view of this resistance to fronting, it is rather unclear what postverbal reduplicated adverbs have that make them eligible targets for LEIT fronting over verb reduplication. I also note, following Aboh, that VP and vP also never are eligible targets, and leave these mysteries for further investigations. For the sake of this article, it is sufficient that I remark that in (79), like in the Breton cases, obligatory exponence is met by mixed strategies that go from XP fronting to morphological doubling operations, characteristic of LEIT effects.

The Gungbe syntactic environment for LEIT effects is also interesting because of its differences from the Breton context: first, the obligatorily filled position is not sentence initial. LEIT Gungbe effects arguably arise at the left edge of an aspectual verb structure. The obligatorily filled gap, like in Breton, can be preverbal, but this parallel is twisted: LEIT effects in Breton are relative to the head that bears both tense and subject agreement markers. In Gungbe, no V-to-I movement takes place and the verb lands lower, in an internal IP position (V-to-AsP).

Conclusion(s)

Breton analytic structures obey LEIT:

The choice between synthetic structures and analytic structures in Breton depends on the need for an expletive insertion trigger to be satisfied. This *Late Expletive Insertion Trigger* that leads to verb second orders is responsible for all sorts of last-resort strategies, one of them being excorporation of the verbal root and consecutive pronunciation of the lexical content of the verb in the preverbal area. The default spell-out of the excorporated verb is an infinitive, with the morphological properties attached to all verbs in the pre-tense area. The mysterious restriction of analytic structures to the relative [...V-Aux...] order follows.

The tensed auxiliary is either realized as a dummy ‘do’ auxiliary, or, for an idiosyncratic list of verbs, as the tensed reiteration of the excorporated verb itself (doubling).

Breton analytic structures result from a morphological operation.

The very existence of doubling structures is one of the arguments that excorporation happens in a post-syntactic morphological component. The list of doubling verbs is an arbitrary set and does not form homogeneous syntactic classes: nothing distinguishes doubling verbs from non-doubling ones at the syntactic level. Non-doubling verbs resort uniformly to the AC in ‘do’.

It follows that no scenario operating doubling in syntax is possible for Breton. Theoretically, the hypothesis that doubling arises in a post-syntactic morphological component has the strong implication that doubling exists crosslinguistically, independently of either the copy theory of movement or multidominance.

The rule leading to V2 orders operates in a morphophonological module.

On the one hand, we know of obligatory exponence cases in morphology (cf. Basque ergative displacement, Yimas morphological EPP), and on the other hand, we know of second position phenomena at the level of the sentence, for example V2 languages (Old Irish, Middle Welsh, Cornic, Breton, Medieval dialects of Northern Italian, Old French, Old Spanish, Rhaetoromance, Sorbian, Estonian, Kashmiri, Karitiana, Hebrew, Papago and almost all Germanic languages), but also clitic second languages (Warlpiri, Tagalog, most Slavic languages, etc.). The present analysis of the Breton analytic structures and Gungbe

reduplication structures leads to the major conclusion that there exist mixed systems, in which obligatory exponence operates at a level where a subject or an object with a potentially long relative embedded structure ‘counts’ the same as the excorporated subcomponent of a head for word order. This of course opens interesting perspectives for a unified understanding of second position effects across languages. Among other things, the crosslinguistic violations of the Head Movement Constraint in these languages (Stylistic Fronting, Long Head Movement, verb fronting, etc.) would follow if word order indeed is finalized in a post-syntactic component.

Information Packaging:

Operating in a post-syntactic component as it does, *LEIT* last-resort strategies are invisible for the interpretative component of grammar. The data presented here does not contradict this fact in the sense that no *LEIT* operation ever impacts the truthconditionality conditions of the sentence. However, some discourse effects can still arise. The AC with ‘do’ is said in Breton Grammars, for varieties of the beginning of the XXst century, to have been used for a salience effect on the verb. In modern varieties, this is still the case for doubling structures. My proposal implies that these discourse effects are interpreted in a pragmatic component of interpretation, distinct from semantic interpretation proper.

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