Deriving the Complementarity Effect: Relativized Minimality in Breton agreement[*]

Mélanie Jouitteau & *Milan Rezac*
Université de Nantes/Naoned *University of the Basque Country (UPV-EHU)*
melaniejouitteau@yahoo.fr milan_rezac@yahoo.ca

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Abstract: Breton φ-agreement is characterized by the *Complementarity Effect*, which allows *pro*-dropped but not lexical DPs to control φ-agreement. We contrast verbal and prepositional systems: a lexical DP co-occurs with the root form of a preposition, but with a 3rd.sg. (*frozen agreement*) form of a verb. We argue that frozen agreement arises through φ-relativized locality: the Breton *v*P independently shows nominal properties, and thus intervenes for agreement. The φ-probe of T Agrees with the *v*P for 3rd.sg. rather than the *v*P-internal subject. In the prepositional system on the other hand, lexical DPs occur with bare stems and φ-inflection spells out affixed pronouns. The mechanics predict that in verbal constructions where the subject originates outside the *v*P, it is local enough to control the agreement of T, which correctly yields *Have* under a prepositional analysis as the sole verb immune to the Complementarity Principle. Finally, we propose a typology of complementarity effects in agreement depending on the interaction of intervention (frozen agreement) and syntactic incorporation past the intervener.

Keywords: agreement; locality; Breton

1. The Breton Complementarity Effect and locality

Breton φ-feature agreement is set apart from more familiar systems by the COMPLEMENTARITY EFFECT. To a first approximation, φ-agreement morphology spells out only the features of phonologically null DPs. In (1)a, the person and number features of a *pro*-dropped subject are coded on the verb in T; in (1)b, where the subject is an overt DP, the verb bears 3.sg. φ-features regardless of the features of the subject.[1] This pattern holds regardless of the position of the DP subject, which may be post-verbal or in a pre-verbal position, as illustrated in (1)c. The A/Ā status of the preverbal subject has no impact on the agreement facts.[2]

(1) a. Gant o mamm e karf**ent**/*-**e** *pro*[3.PL] bezañ.
with their mother ® would.love-**3.PL**/*-**3.SG** be-INF
'They would like to be with their mother.'

b. Gant o mamm e karf**e**/*-**ent** Azenor ha Iona bezañ.
with their mother ® would.love-**3.SG/*3.PL** Azenor and Iona be-INF

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[1] We use the following abbreviations: 1/2/3 for person, SG./PL. for number, MASC./FEM. for gender, INF for infinitive, PROG for the progressive particle *o*, NEG for both of the Breton discontinuous negation markers *ne* … *ket*, and ® for the Breton preverbal particles *a* and *e* (*rannig verb* 'small part of verb').

[2] On the A/Ā status of preverbal subjects in positive sentences, see Stump (1984, 1989), Borsley and Stephens (1989), Schafer (1995), Rezac (2004b), Jouitteau (forthcoming b, 2003, 2005).

'Azenor and Iona would like to be with their mother.'

c. Azenor ha Iona$_1$ a garf**e**/*__ent__ t_1 bezañ gant o mamm.
Azenor and Iona ® would.love-**3.SG**/*__3.PL__ be-INF with their mother
'Azenor and Iona would like to be with their mother.'

We describe the Complementarity Effect as an alternation of rich and invariant agreement in terms of the relationship between φ-feature targets and φ-feature controllers. This alternation follows (2).

(2) Complementarity Effect:
(i) RICH AGREEMENT: the φ-features of a phonologically null DP are coded by φ-agreement morphology.
(ii) INVARIANT AGREEMENT: the φ-features of a phonologically overt DP are not coded by φ-agreement morphology on the target. The target assumes either FROZEN AGREEMENT (a 3.sg invariant form) or the bare stem.

The alternation characterized as the Complementarity Effect also shows up with a preposition and its object, which is the other context in Breton where rich morphology exists.

(3) a. gant/*gant**i** [o mamm]
with/*with.3.SG.FEM. their mother
'with their mother'
b. gant**i**/*gant *pro*[3.SG.FEM.]
with.3.SG.FEM./*with
'with her'

We observe that the invariant form of the preposition in (3)a is the bare stem rather than frozen agreement as defined in (2). There are significant asymmetries between the verbal and prepositional systems, discussed in detail in section 4 after we lay out the core of our analysis, which are indicative of precisely this difference: a verb in the context of an overt DP controller is 3.sg. (frozen agreement as can be seen in (1)b), while a preposition in the same context is the bare stem. Both frozen agreement and the bare stem instantiate invariant agreement, which shows up when the potentially agreeing argument of a verb or a preposition is a full DP. There is exactly one exception to the Complementarity Effect:[3] the verb *Have* uniformly codes the φ-features of all DP subjects, be they overt or null.

(4) Bremañ (, Azenor ha Iona) neus-**ont** (Azenor ha Iona) un ti
Now (, Azenor ha Iona) have-3.PL. (Azenor ha Iona) a house
'Azenor and Iona/they have a house now.'

The Complementarity Effect is of considerable importance in the setting of the minimalist program, where featural agreement plays a central role in syntactic dependencies. It has also

[3] We set aside resumptivity, where an overt DP is linked to a null *pro* which itself controls agreement; this yields only apparent overt controllers of rich agreement. Clause-external DP subjects require such resumption by a *pro*, which then triggers rich agreement. Subjects that precede the sentential negation always have an Ā-reading (as opposed to other preverbal subjects which may be in an A-position), and also always trigger rich agreement. For Schafer (1995), Ā-movement past negation violates Relativized Minimality and the dependency thus requires linking of the DP subject to a resumptive rather than a trace or copy (cf. Rizzi 1990, Cinque 1990, Postal 1998; cf. Ouhalla 1993). For Jouitteau (2005), Neg is a C head and subject movement past it triggers the *that*-trace effect. Both analyses predict the rich agreement as resumptive *pro* found with pre-negation subject.

always been something of a syntactic anomaly, because it looks as though a central syntactic process, φ-agreement, refers to phonological overtness. Two lines of analysis have been pursued for the Complementarity Effect in the Celtic languages, both carefully developed for Breton by Stump (1984): the Incorporation Analysis and the Agreement Analysis.

On the INCORPORATION ANALYSIS, rich agreement morphology is the spell-out of a pronoun itself, not of φ-agreement with it. Only pronouns stand in the relevant clitic-like relation to T and P to be spelled-out as their affixes; phonologically independent DPs naturally do not. The Incorporation Analysis is pursued for Breton by Anderson (1982), Stump (1984) who rejects it in favor of an Agreement Analysis, and for similar facts in Irish by Pranka (1983), Doron (1988), Ackema and Neeleman (2003) and in Scottish Gaelic by Adger (2000). These treatments differ in whether the amalgamation of T/P and the pronoun happens syntactically as (Stump 1984), as in the usual treatment of syntactic clitic dependencies (see Sportiche 1997 for an overview), or in a post-syntactic, prosody-sensitive component (Pranka 1983, Doron 1988, Adger 2000, Ackema and Neeleman 2003). The Incorporation Hypothesis has the obvious advantage of being rather minimal: very little needs to be said beyond the cross-linguistically familiar fact that weak pronouns but not full DPs can be affixal. The impossibility of agreement morphology tracking an overt DP follows from the Theta Criterion, which disallows a pronoun to co-occur clause-internally with a DP bearing the same theta-role in a language that lacks clitic doubling.[4] However, the Incorporation Analysis has no obvious way of handling the *Have* exception. Furthermore, we will show below that while a post-syntactic version of it seems correct for preposition-object agreement, it cannot work for T-subject agreement because there is in fact 3.sg. φ-agreement (frozen agreement) in the latter context.

The alternative is the AGREEMENT ANALYSIS, which posits that Breton uses more or less the same φ-agreement mechanism as that found in languages like English and French. In the framework of Chomsky (2000), T has a φ-probe which is valued by the interpretable φ-set of the DP subject, with the same locality properties as φ-Agree elsewhere. The Agreement Analysis has a certain theoretical appeal in that it does not make Breton a language without φ-probe on T. However, the Agreement Analysis has no explanatory answer for the complementary distribution of φ-agreement and overt DPs which the Incorporation Analysis handles so well. As applied to Breton by Stump (1984, 1989) and to Irish by McCloskey and Hale (1984), the complementarity is handled by a stipulation that φ-agreement in these languages cannot take place with a phonologically overt DP; updating the terminology to Agree, we will call this the *φ-PHON CONSTRAINT:

(5) The *φ-PHON constraint: φ-Agree is limited to phonologically empty goals.

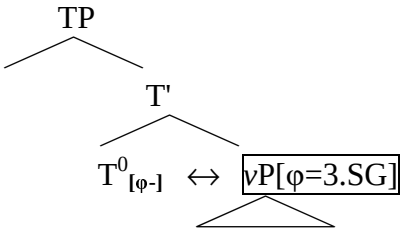
Like the Incorporation Analysis, the Agreement Analysis has so far had no good answer to the *Have* exception, and it does not account for the fact that in verbs it is the 3rd.sg. frozen agreement form rather than the bare stem which appears with overt subjects.

In this paper, we derive the Complementarity Effect in borrowing what we see as the good elements of both the Incorporation and Agreement Analyses: the role of the distinction between affixal pronouns and DPs, and the universal presence of a φ-probe on T. However, we propose to derive the Complementarity Effect in the verbal system in a new way: it is a LOCALITY effect that occurs when there is an INTERVENER with interpretable φ-features between T and the subject. We propose that the 3.sg. frozen agreement of T as in (1)c in fact is φ-agreement, which takes place with a nominal clausal functional projection containing the subject. Idealizing slightly for the moment by restricting ourselves to transitives and the base position of the

[4] The Theta Criterion is not the only principle potentially responsible for complementarity. Anderson's (1982) version of the Incorporation Analysis appeals to the binding theory; cf. Hendrick (1988: 97ff.). Classical accounts of the complementarity of clitics and DPs in non-doubling languages like French rely on Case.

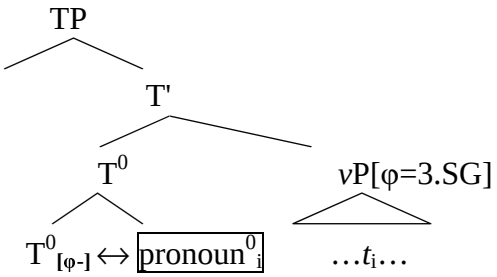
subject, frozen agreement is agreement with the *v*P itself, which in Breton unlike in English or French has interpretable 3.sg. φ-features. Since the DP subject is contained within the *v*P, its φ-features cannot be reached by T's φ-probe across the intervening φ-features of *v*P, as in Figure 1. The 3.sg. agreement with the *v*P constitutes frozen agreement. By contrast, weak pronominal subjects undergo independent syntactic incorporation (cliticization) into T^0, as in a syntactic version of the Incorporation Analysis. By this, they escape the *v*P and become the closest goal for the φ-probe of T, as shown in Figure 2.

Figure 1: Agreement with an overt DP subject



…DP subject…

Figure 2: Agreement with a clitic/affixal pronoun subject



This approach to the Complementarity Effect is novel in three ways. First, it claims that there is actual φ-agreement in frozen agreement contexts. We will demonstrate that this is true only for the T-subject system; the P-object system shows all evidence of instantiating a post-syntactic (prosodic) version of the Incorporation Analysis.

Second, the controller of the 3.sg. frozen agreement is a nominal functional projection in the complement of T which contains the subject. This implies that the Breton extended VP has a nominal character which is absent in languages like English and French, whose subjects uniformly agree with T. We present evidence for this from the behavior of Breton VPs for Case assignment and Case requirements in section 2. The interpretable φ-features of this nominal clausal projection have the same "default" characters as those of nominalizations, gerunds, clauses, and small clauses in English.

Third, the core of our analysis, the distinction between rich and frozen agreement, follows directly from feature-relativized locality applied to φ-features (Chomsky 1995, 2000, cf. Rizzi 1990). Building on the nominal character of the Breton extended VP, we show in section 3 how the logic of locality predicts frozen agreement, and how syntactic incorporation of weak/clitic pronoun subjects evades it. Section 4 then demonstrates that this accounts for φ-agreement asymmetries between the T-subject and P-object agreement system, which provide crucial evidence for the presence of a φ-probe on T.

Our analysis predicts that if there were a Breton construction where the nominal functional projection to which we attribute frozen agreement did not intervene between T and the subject, φ-agreement should uniformly be with the subject. In section 5, we show that this is the case for

the verb *Have*. Following prepositional analyses like Freeze (1992) and Kayne (1993), we show that *Have* in Breton is based on the preposition *eus* 'from' used as a clausal head, which has the subject of *Have* in its specifier. Since Breton PPs are in no sense nominal and lack interpretable φ-features, the PP projection of [$_{P}$ *eus*] does not present a goal for the φ-probe of T, which can Agree with the subject in [Spec, PP]:

(6) $T_{[\varphi\text{-}]}$ [$_{PP}$ subject [$_{P'}$ *eus*$_{P}$ [$_{vP}$ be …]]]

It is a significant result of our approach that we predict that precisely *Have* should be an exception for the Complementarity Effect, because of its different clausal architecture.

At the heart of our story is the idea that the Complementarity Effect in the verbal system arises from feature-relativized locality, due to the intervention of a nominal projection between the φ-probe of T and the subject. This hypothesis derives the Complementarity Effect from the logic of locality and the independent φ-feature specification of functional categories, without parametrizing or modifying the core Agree relation itself. We discuss the cross-linguistic implications in section 6.

2. The nominal character of the Breton extended VP

In this section, we will support the proposal that the Breton extended VP has interpretable φ-features from its nominal behavior. Like expletives, nominalizations, and (small) clauses, the φ-specification is [3.sg.].[5] The hypothesis that verbal functional projections are nominal receives support from independent data in Breton. Jouitteau (forthcoming a, 2005) discusses the nominal properties of *v* and notes that the way the Breton *v*P licenses its internal argument is systematically parallel with the Breton DP. First, whenever case is morphologically realized on an object, it is uniformly genitive. The data in (7) below illustrates that objects proclitics show the same morphology as possessive pronouns.

(7) a. **o** distruj — Noun head and its pronoun theme
their destruction
'their destruction'

b. **o** debriñ — Infinitival verb and its pronoun theme
their eat-INF
'to eat them'

c. Alies **o** debr Yann. — Tensed verb and its pronoun theme
often their eat-3.SG Yann
'Yann eats them often.'

As in the DP system, direct case is not available for post-verbal object pronouns. Post-verbal free-standing pronoun objects are illicit:

(8) a. *distruj int — Noun head and its pronoun theme
destruction they
'their destruction'

b. *debriñ int — Infinitival verb and its pronoun theme
eat-INF they
'to eat them'

[5] 'Interpretable' in this sense simply means valued in the lexicon; the same lexically specified but semantically inert φ-features must be posited for example for the plural of *trousers* or the neuter gender of Czech *devče* 'girl' (Rezac 2004a: 28). By contrast, the φ-probe of the target of Agree like T has an unvalued φ-set (Chomsky 2000).

c. *Herve a zebr int — Tensed verb and its pronoun theme
Herve ® eat they
'Herve eats them.'

Post-verbal object pronouns have to be incorporated into a preposition:

(9) a. an distruj anez-he — Noun head and its pronoun theme
the destruction P-3.PL
'their destruction'
b. debriñ anez-he — Infinitival verb and its pronoun theme
eat-INF P-3.PL
'to eat them'
c. Bremañ e tebr anez-he — Tensed verb and its pronoun theme
now ® eat P-3.PL
'He eats them now.'

Only internal arguments that are full lexical DPs are licensed directly under the head:

(10) a. distruj an avaloù — Noun head and its DP theme
destruction the apples
'the destruction of the apples'
b. debriñ an avaloù — Infinitival verb and its DP theme
eat-INF the apples
'to eat the apples'
c. Buan e tebr an avaloù — Tensed verb and its DP theme
rapidly ® eat-3.SG the apples
'He eats the apples rapidly.'

In Jouitteau (forthcoming a, 2005), (10) is uniformly analyzed as a Construct State configuration where V-to-*v* movement parallels N-to-D movement and triggers genitive case assignment to the internal argument (cf. Borer 1999 on the Construct State and its analyses). *v* is therefore a nominal category for the purposes of Case assignment and bears the categorial [+D] feature.

In line with their nominal character for the purposes of Case assignment, *v*Ps are themselves demonstrated to obey the Case Filter. In the following ECM examples, the *v* head of the causative verb *lakaet* 'put' assigns Case to its internal argument (in bold) in a Construct State configuration. In (11), this Case is available for its *v*P complement and consequently, no extra Case assigning preposition is licit.

(11) Dec'h em boa lakaet (*da) **[$_{vP}$ sevel un ti]**.
Yesterday ®-1.SG-had put (*P) build-INF a house
'I had a house built yesterday.'

Whenever the Case provided by Construct State is absorbed by another element such as a causee as in (12)a or a theme as in (12)b, the *v*P structure passes the Case Filter only by obligatory insertion of a preposition.

(12) a. Dec'h em boa lakaet **Yann** *(da) [$_{vP}$ sevel un ti].
Yesterday ®-1.SG-had put Yann *(P) build-INF a house
'I had Yann build a house.'
b. Dec'h em boa lakaet **un ti** *(da) [$_{vP}$ sevel].

Yesterday ®-1.SG-had put a house *(P) build-INF.
'I had a house built.'

In contrast, English or French ECM infinitives do not need to receive Case and consequently do not show such a variation in the presence of an extra Case-assigner. The pattern above shows on the one hand that, like the DP, the *v*P can receive Case in a Construct State configuration or as object of a preposition; and on the other hand, that it must receive Case, so the presence of a preposition in (12) is obligatory. In finite clauses, the Case requirement of verbs is met by obligatory *v*-to-T movement, which has the same effect as Case assignment from T (e.g. Pesetsky and Torrego's 2001 valuation of an unvalued *u*T feature).

Jouitteau (forthcoming a, 2005) concludes that *v* bears an interpretable [+D] feature triggering the parallel behavior with the nominal system in terms of the Case it needs and the genitive Case it assigns to its internal argument. The nominal properties of the Breton verbal structure reduce entirely to the interpretability of the [+D] feature on *v*, and the Larsonian structure of the verb remains otherwise untouched. Assuming this, we take another step in pushing the nominal parallel and propose that *v* also has 3.sg. interpretable φ-features. These are the same interpretively default 3.sg. φ-features found elsewhere for gerunds, nominalizations, clausal arguments, small clauses, and which may trigger agreement (McCloskey 1991, Den Dikken 2001):

(13) [$_{SC}$ The girls late]/[$_{CP}$ That the girls would be late]/[$_{DP}$ The girls('s) arriving late]
seems unlikely.

A *v*P thus agrees like a DP does. This consequence of the nominal behavior of Breton *v* will form the lynchpin of our argument that the Complementarity Effect in the verbal system is a locality effect resulting from the features of *v*P intervening between T and the DP subject.

Before turning to the core of the argument, let's see how this will extend to non-transitive constructions. Since Perlmutter (1978) and Burzio (1986), passives as in (14) and unaccusatives as in (15) are analyzed as lacking an external argument.

(14) a. Dec'h e veze gwelet ar merc'hed.
yesterday ® was-3.SG seen the girls
'The girls were seen yesterday.'
b. *Dec'h e oa **o** gwelet _____.
yesterday ® was-3.SG their seen

(15) a. Alies e kouezhe an delioù.
Often ® fell-3.SG the leaves
'The leaves fell often.'
b. *Alies **o** c'houezhe _____.
often their fell-3.SG

As expected from Burzio's Generalization, if a verb does not assign an external θ-role, it does not assign Case (Burzio 1986, cf. Laka 2000); therefore, the genitive clitic object is illicit in (14)b and (15)b. In a Larsonian structure, such verbs would contain no *v*, and therefore also not the interpretable nominal features brought by it. Nevertheless, our locality-based story requires that the plural argument be contained within the maximal projection of some category with 3.sg. φ-features, because the Complementarity Effect holds in passives and unaccusatives as can be seen from the singular agreement on *veze* and *kouezhe* above. In turn, the nominal character of unaccusatives and passives is supported by their behavior in ECM structures, where like transitives they require the preposition *da* to receive Case (cf. discussion of (12) above):

(16) Dec'h em boa lakaet an delioù ***(da)** gouezhañ
Yesterday ®-1.SG-had put the leaves *(P) fall
'Yesterday I made the leaves fall.'

The nominal behavior of passives and unaccusatives thus favors analyses of intransitives such as Harley (1995) or Bowers (2002), which uniformly posit a *v* head for all verbal constructions. This is independently supported by the underlyingly causative lexical representation of unaccusatives proposed by Chierchia (1989).[6] An alternative would be to assume that unaccusatives and passives involve a small clause format (cf. Hoekstra and Mulder 1990), where the small clause is then the relevant nominal category with 3.sg. φ-features. This permits us to assume that all subjects are generated internal to a projection bearing interpretable the [+D] feature, be it a small clause or a *v*P. As discussed in the next section, the projection of this category bears the 3.sg. φ-features of its head and intervenes between T and the subject.

The last point is to make sure that a subject always remains internal to the [+D] projection we posit, as well as being base-generated there, so that it will not be accessible to the φ-probe of T. For Irish, McCloskey (1996) shows that although in VSO orders the subject is post-verbal, if it is a DP (with Case requirements) it is necessarily in a derived, *v*P-external position. McCloskey tentatively identifies the target of subject externalization as [Spec, AgrP], and the target of V-raising as T, which takes an AgrP complement. There is evidence for a derived subject position in Breton.[7] Hendrick (1990: 157) observes such a derived position must exist in examples like (17)a, and Jouitteau (2000) for examples like (17)b; Rezac (2004b: 458) argues from Breton *v*P-fronting as in (17)c that this is always the case, because a fronted *v*P must contain a subject trace but not the subject itself.

(17) a. N'en deus ket [$_{FP}$ Yann$_1$ [$_{vP}$ seblantet t_1 karout ar vugale.]]
NEG-®-3.SG.MASC-have NEG Yann seemed love the children
'Yann didn't seem to love the children.' Hendrick (1990: 157)

b. Emañ [$_{FP}$ an dud$_1$ c'hoazh [$_{AspP}$ o t_1 c'hervel ar radio]].
is the people again PROG call the radio
'The people are calling the radio again.'

c. [$_{vP}$ t_2/*Azenor karout ar vugale]$_1$ a ra [$_{FP}$ Azenor$_2$ t_1]
Azenor love-INF the children ® does Azenor
'Azenor does love the children.'

We assume that in its derived position too, the DP subject is properly contained within a category FP that shares the φ features of the verbal structure. As illustrated in (18) with French, the functional projections of a DP share the interpretable features of the nominal head, whether this is construed as a consequence of selection, reprojection, or head/feature movement up through the functional architecture.

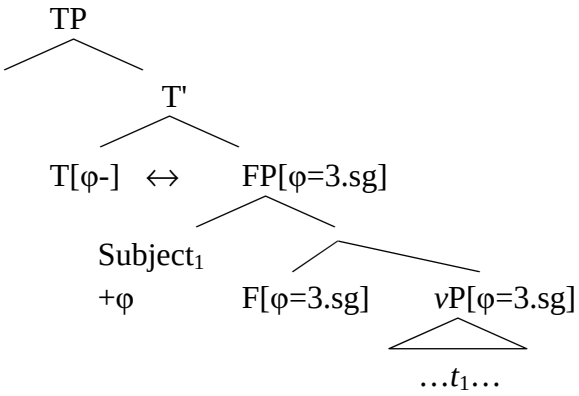
(18) [$_{QP}$ Toute [$_{DP}$ la [$_{NP}$ question]]]
all-FEM.SG the-FEM.SG question-FEM.SG
'the entire question'

[6] See Pustejovsky (1995), Levin and Rapport Hovav (1995), and Davis and Demirdache (2000) for support and/or discussion.

[7] See Roberts (2005) and Jouitteau (2005) for evidence that the derived subject position is lower in the Brythonic language than in Irish.

We assume that the same mechanism arises in the verbal structure, so that F and FP bear the 3.sg. φ-features due to the verbo-nominal *v* (or small clause) head. *v* continues to be the locus of object Case licensing and responsible for the nominal behavior of the clause. FP inherits the nominal properties, in particular the 3rd.sg. inherent φ-features. These in turn interfere between the φ-probe of T and the derived subject as illustrated in Figure 3. For simplicity, we identify the derived position of the subject as [Spec, FP].

Figure 3: Frozen agreement



In the next section, we discuss the theory of locality in the minimalist program to show that the projections of *v* and F intervene between the φ-probe of T and the subject contained in them, and how the cliticization of the subject to T obviates this.

3. The Complementarity Effect as locality

Consider the structure in (19), where we use F for the highest nominal clausal category of both transitives/unergatives and unaccusatives/passives:

(19) T $[_{FP}$ (DP) $[_{F'}$ F $[_{VP}$ …]]]

Our proposal is that feature-relativized locality prevents the φ-probe on T from accessing FP-internal DPs because the interpretable 3.sg. φ-features of F intervene. This is clear for DPs in the complement of F, but it needs to be justified for [Spec, FP], as we will do in the first part of this section. We propose furthermore that DPs that raise independently to T by cliticization escape the intervention effect of F through by-passing FP, as we discuss in the second part of this section.

In section 2 we argued that there is a clausal functional category below T which bears interpretable [+D] feature, and has the same interpretable but default 3.sg. φ-features as clauses, small clauses, etc. If these features stand between T and the highest DP in the complement of T, simple feature-relativized locality should block a higher φ-probe from seeing the DP. Specifically, we adopt the assumptions of Chomsky (2000) that locality is closest c-command and that asymmetric c-command is defined by containment in a sister, as summarized in (20). In the configuration (21) therefore, with a nominal F, the φ-probe of T should be limited to F(P) and unable to find the DP.[8]

[8] Three technical issues arise: complex specifiers; intervention effects under mutual c-command; and the visibility of uninterpretable features. First, a complex specifier in bare phrase structure such as {D, {D, N}} for $[_{DP}$ D $[_{NP}$ N]] must behave as a simplex, D, in order to c-command its sister; see Collins (2002: 57ff.) and Rezac (2004a: 24ff.) for different suggestions. Second, the present definition of locality is such that if there is mutual c-command between α

(20) a. Locality: A [φ-] probe can match a feature [φ+] iff there is no other matching feature [φ'+] such that [φ-] c-commands [φ'+] and [φ'+] c-commands [φ+]. (Chomsky 2000: 122)
b. C-command: α c-commands β iff the sister of α contains β. (Chomsky 2000: 116)
c. Sister, contain: α is the sister of β iff Merge(α, β), or equivalently in bare phrase structure, there is a K such that α, β ∈ K. K immediately contains α iff (i) K = Merge(α, β) for some β, or equivalently, α ∈ K, or (ii) α=K. K contains α iff K immediately contains α or K immediately contains L which contains α. (Chomsky 2000: 116)

(21) T $[_{FP}$ F […DP…]]

In order to ensure agreement between T and FP rather than T and the subject, we require only that the subject be properly contained within FP. We wish to examine a limiting case, where the DP is the specifier of FP. The configuration is (22)a, with its bare phrase structure (Chomsky 1995, 2000) representation in (22)b. Applying the definition of c-command and locality, we see that the DP is c-commanded by the maximal projection of F, which should thus act as an intervener between the DP and a probe of T if it has matching interpretable features:

(22) a. T $[_{FP}$ ZP $[_{F'}$ F^0 YP]]
b. {T, {F, {ZP, {F, YP}}}}

It is furthermore not relevant if F Agrees with ZP for the same features as those which it bears inherently, in our case φ-features. The inherent features of F are present on all its projections. Valued uninterpretable features do not project beyond the projection of F which Agrees, if they are ever visible to a probe at all (see note 8). Thus, even if F of the clausal nominal projection FP also Agrees with the subject in [Spec, FP], as in McCloskey's (1996) AgrP proposal for Irish, the inherent 3rd.sg. φ-features of F/FP will still prevent a higher probe from accessing both the inherent φ-features of the ZP subject in [Spec, FP] or lower, as well as valued uninterpretable φ-features on lower projections of F.

These simplest assumptions could be wrong if some principle renders a head and its specifier equidistant, as proposed in Pesetsky and Torrego (2001).[9] However, this does not seem to be the case considering empirical evidence from φ-agreement in English. The argument can be made on the basis of constructions like (23)a, where the complement of *seem* contains two potential goals with specified φ-features: the 3.sg. gerund *X's arriving on time*, and the 1sg.pl. specifier of the gerund, *we/us*. The number specifications at the point in the derivation where T's φ-probe

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and β, each intervenes for the other, a result that may be desirable or not; see Fitzpatrick (2002: 455ff.) and Abels (2003: 78ff.) for discussion. It interacts with the third issue, the visibility of Agree-valued uninterpretable features. If they are visible, then in $[_{HP}$ α $[_{H'}$ H …]] = {H", {α, {H', {H, …}}}} (where different labels are distinguished for only for convenience), α and H' mutually c-command each other and should intervene for each other if they share features; in particular, H' may have uninterpretable features Agree-valued from α. This is not a desirable result; α here is generally accessible, as under successive-cyclic movement. If uninterpretable (though valued) features are immediately deleted or otherwise invisible to probes, the question is resolved, and H' never intervenes for α; see Béjar (2003: 187 and passim), Abels (2003: 59f.), and Rezac (2004a: 24 and passim) for the conclusion that uninterpretable features must at least not project once valued, being deleted. Thus they will certainly not be present on H", nor on H' if it is H that has Agreed with α; this would be the case by cyclicity if α originates in the complement of H (Rezac 2003). On the other hand, lexical (interpretable) features of H are naturally present on all its projections, which is crucial for us here.

[9] Most theories of equidistance, such as those in Chomsky (1995) for example, are concerned with equidistance between dependents of a head.

seeks a goal are diagrammed in (23)b (gerund boxed). We see that the φ-probe is limited to the gerund as a goal, and cannot look past its maximal projection (GerP) into its specifier, to Agree with the plural *we/us* and assign it nominative. Instead, the specifier of the gerund receives non-agreeing default Case, which gives *us* rather than *they* (Schütze 1997: chapter 2).[10]

(23) a. $[_{GerP}$ us/*we arriving on time$]_1$ seems/*seem t_1 (to be) unlikely.
b. T $[_{VP}$ seem … $\boxed{[_{SG}$ PL $[_{SG}$ SG …$]]}$ …$]$

We thus conclude that the maximal projection of a head with specified φ-features acts as an intervener for any φ-features on constituents in it as a consequence of locality in bare phrase structure, which essentially enforce generalized feature percolation from a head to its projections. Given the nominal character of F that we argued for in section 2, this means that the specified φ-features of F block access to any FP-internal arguments. The φ-probe of T will find and Agree with FP, exhibiting the frozen agreement of the Complementarity Effect. Locality therefore ensures that the features of a lexical DP are inaccessible and thus derives the *φ-PHON constraint of the Agreement Analyses of Stump (1984, 1989) and McCloskey and Hale (1984).

Our second assumption is the crucial hypothesis of the Incorporation Analysis as presented in Stump (1984): Breton has affixal subject pronouns which necessarily undergo syntactic movement into T. This is one traditional approach to referential *pro*, which pursues its analogy with Romance object clitics (cf. Rizzi 1982: chapter 4, Burzio 1986: chapter 2, Cardinaletti 1997).[11] We leave open the implementation, noting that in our theory the movement clearly cannot be driven by the φ-probe of T which could not pass the FP barrier.[12] However, cliticization into T that is not the result of φ-Agree with T seems to be necessary in any case, for example from the French pro-PP clitics *y* in (24), corresponding to $[_{PP}$ *à* DP] 'to DP', and *en*, corresponding to $[_{PP}$ *de* DP] 'of/from DP' (Kayne 1975: 105ff.). It is implausible that locative cliticization is related to the Case/φ-agreement system, and yet it happens (cf. Cardinaletti and Starke 1999: 207ff. for pertinent discussion).[13] In general, we observe that cliticization in Romance brings a clitic into a local relation with T, which does not relate to the clitic or a corresponding full DP by Case/φ-agreement; this is further illustrated in (24)b where it is standardly assumed that the accusative of *les* comes from a lower AGR head than T, e.g. that of the participle.

(24) a. Nolwenn y_1 a pensé t_1. (cf. … pensé à ça)
Nolwenn there has thought thought to it
'Nolwenn has thought about it.'
b. Nolwenn (les) a vu(s) (ces lapins)
Nolwenn them has seen these rabbits

[10] If the gerund is the specifier of the small clause predicating it of *unlikely*, the ban on left branch extraction might be thought to prevent Agree in any case. However, this is a constraint on overt movement rather than Agree, which as Kennedy and Merchant (2000) show can be eliminated by ellipsis; it should not constrain Agree, for which the appearance of the left branch constraint (e.g. with possessors) arises precisely because of locality as proposed.

[11] It could be that referential *pro* is base-generated under T rather than moved there; cf. Alexiadou and Anagnostopoulou (1998: 531-3) for a recent discussion and theta-theoretic issues. This would give us the correct results too.

[12] Thanks to Alain Rouveret (p.c.) for raising the issue of the trigger for subject cliticization.

[13] A reviewer raises locative agreement in the Bantu languages (Bresnan and Kanerva 1989). However, this is best not viewed as the result of φ-Agree, but rather as morphology parallel to the French locative *pro* such as the French locative clitics *en* and *y* or the the Dutch locative expletive: see Carstens (1993: 177), Zwart (1997). For example, while DP class prefixes and agreement with them in Chicheŵa or Swahili cross-references class and number for each DP, the locative classes do not distinguish or agree for number (though the DPs within them do take their own class/number prefixes), being differentiated from each other in the conceptualization of the locative (e.g. general vs. interior location).

'Nolwenn has seen them/these rabbits.'

We assume both clitics and *pro* move to their hosts in the syntax. Evidence comes from the fact that the relation between the clitic in its base and derived position is a long distance dependency that obeys syntactic movement constraints, which holds of locative clitics as well as pronominal clitics (Sportiche 1997). Thus for example neither French object or locative clitics nor Breton *pro*-dropped subjects can be the (left) branch of a conjunct.[14]

The structural output of the posited syntactic incorporation brings the affixal subject *pro* into T in Breton, escaping the FP projection:

(25) $[_{TP}\,[_{T}\,T\ pro_1\,]\ [_{FP}\ \ldots\ t_1\ \ \ldots]]$

In this configuration, *pro* is visible for T's φ-probe, because it is not in its trace position. Rich agreement spells out φ-Agree with *pro* in this configuration.[15] Thus, agreement with affixal pronouns in Breton is obligatory; φ-agreement with phrasal DPs is impossible.

We have not discussed how head-raising fits into this system. The details here are unclear in the absence of a general theory of head-raising, its interaction with projection (percolation), and the present discussion of whether it is syntactic (see Chomsky 2000, McCloskey 2003). Our concern is with F-to-T raising, where F bears its interpretable 3rd.sg. φ-features. If there is no Incorporation of the subject into T, F-to-T raising does not change the locality relations that are important to us, as shown in (26)a. F raised to T will be the closest specified φ-set to T if the output of F-raising is visible for φ-Agree locality; if not, FP is the closest match as before. Unclarity arises when both *pro* Incorporation and F-raising bring both into a single head complex with T, as in (26)b, possibly with articulated internal structure not indicated.

(26) a. $[_{TP}\,[_{T}^{0max}\ T+F]\ [_{FP}\ DP\ \ldots]]$
b. $[_{TP}\,[_{T}^{0max}\ T+F+pro_1]\ [_{FP}\ t_1\ \ldots]]$

The structure of the result is unclear. If the output of head movement is indeed visible to φ-locality, F raised to T might block agreement with *pro* if it is closer to T than *pro*, assuming c-command within the complex; if there is no c-command here and *pro* and F are equidistant, we might suppose either agreement with *pro* or with F should be possible. This is not the case; however, the question has so many unclarities at this point that we set it aside.[16]

To sum up our proposal, absence of φ-agreement with phrasal DPs in the Complementarity Effect arises because of φ-agreement with the specified 3.sg. φ-features of the Breton extended VP, which bears default interpretable φ-features. These, projected from some [+D] head F to FP, intervene in agreement with a FP-contained subject. Instead, T agrees with F for 3.sg., as shown in (27)a; this is frozen agreement. On the other hand, if the subject is affixal *pro*, it will incorporate into T and thus escape the FP barrier. The φ-features of T Agree with it, as shown in (27)b, giving rich agreement.

(27) a. Gant o mamm e karf**e**/*-**ent** <u>Azenor ha Iona</u> bezañ.
with their mother ® would.love-**3.SG/*3.PL** Azenor and Iona be-INF
'Azenor and Iona would like to be with their mother.'
b. Gant o mamm e karf**ent**/*-**e** *pro*[3.PL] bezañ.

[14] Contrasting with the distinct and available operation of post-syntactic incorporation (see section 4 for discussion and examples)
[15] We return to whether *pro* can be independently spelled out here in section 6.
[16] We could assume, for example, that if F and pro are both equidistant to T, φ-agreement is maximized, so that agreement occurs with *pro* whenever that is not 3rd.sg.

with their mother ® would.love-**3.PL**/***3.SG** be-INF
'They would like to be with their mother.'

The frozen agreement part of the Complementarity Effect is thus a locality effect, deriving the *φ-PHON constraint of the Agreement Analysis, while agreement with *pro* reflects incorporation as on the Incorporation Analysis. The locality-based approach makes an important prediction: frozen agreement should be actual 3.sg. agreement, rather than absence of agreement as both the *φ-PHON constraint and the Incorporation Analysis have it. In the next section, we will confirm this, presenting a minimal contrast between T and preposition agreement systems.

4. Evidence for a φ-probe in T

In this section, we will provide three arguments to show that T has a φ-probe, which in frozen agreement contexts agrees with a 3.sg. goal. These arguments will show a consistent contrast with the agreement morphology of the prepositional system, which does not reflect φ-Agree but rather a post-syntactic pronoun incorporation.

The first argument is particularly clear: in frozen agreement contexts where there is an overt DP, verbs show the 3.sg. form, while prepositions show the stem form. The second fact is the most striking. The prepositions *gant* 'with', *araok* 'before', *da* 'to', for example, show up as such when their complement is an overt DP: *gant/araok/da Azenor* 'with/before/to Azenor'. With a *pro*-dropped 3.sg. complement however, they show up as *gantañ/ganti* 'with him/her', *araozañ/araozi* 'before him/her', *dezhañ/dezhi* 'to him/her'. Combining the inflected 3.sg. form, of the appropriate person, number, and gender, with an over DP is impossible: **ganti Azenor*, **araozañ Nelson*. This suggests that in frozen agreement contexts, prepositions are not agreeing with anything at all, and thus do not undergo φ-Agree.

By contrast, inflected verbs do not show this asymmetry. No verb makes a distinction between the form it uses with an overt and with a *pro*-dropped 3.sg. subject: the 3.sg. form *karfe* 'would sing' in (27)a is used equally with a clause-internal 3.pl. subject *Azenor hag Iona* 'Azenor and Iona', and with a *pro*-dropped 3.sg. subject interpreted as 'he, she':

(28) Gant o mamm e karfe bezañ.
with their mother ® would.love-3.SG be-INF
'He/she would like to be with their mother.'

This fact in itself is ambiguous between whether the verb is in both contexts the stem or the 3.sg. form. In the former case we would have no evidence for a φ-Agree mechanism. In the latter we would have positive evidence for agreement with some 3.sg. element in both cases, which would demonstrate in particular that there is agreement with some 3.sg. element in frozen agreement contexts regardless of the φ-features of the subject.

The inflectional paradigm of the verb given in Table 1 shows that the second hypothesis is correct, because reference to the 3.sg. φ-specification is required to spell-out the appropriate form of the verb. This can be seen from the 3.sg. and frozen agreement form of *gouz-out* 'know', which is *oar*, a form distinct from the stem of the present and non-finite forms, *(g)ouz-*, past and imperative, *oue(z)-*, imperfect *oui-*, and non-finite forms, *gouz-*.[17] Thus, to spell-out *oar*, we must refer not only to present tense which would yield *gouz*, but also to 3.sg. φ-features. We can reach the same conclusion with less security by examining the past tense paradigm of a regular verb such as *kanañ* 'to sing'. The paradigm lets us identify the verbal root, *kan*, and the past tense

[17] The variation in the presence of initial *g* is irrelevant, being due to consonant mutations which take place obligatorily in finite forms because they always come after mutation triggers.

marker *i/j*, followed by regular person/number morphology. The 3.sg. past form differs radically from the rest, being *kanas*. This suggests its spell-out refers to 3.sg. past; however, we could also suppose that the past stem *kan-i/j* is idiosyncratically spelled out as *kan-as* in the context __#.

Table 1: Breton verbal paradigms (partial)

	kan- 'sing'			
	Present	Impf.	Past	Imper.
1.S	kan-an	kan-e-n	kan-i-s	
1.P	kan-omp	kan-e-mp	kan-j-omp	kan-omp
2.S	kan-ez	kan-e-s	kan-j-out	kan
2.P	kan-it	kan-e-c'h	kan-j-oc'h	kan-it
3.P	kan-ont	kan-e-nt	kan-j-ont	
3.S	kan	kan	kan-as	kan-et
Inf.	kan-añ			
Prt.	kan-et			

	gouz-/gouez-/gouiz- 'know'			
	Present	Impf.	Past	Imper.
1.S	ouz-on	oui-e-n	ouez-i-s	
1.P	ouz-omp	oui-e-mp	oue-j-omp	gouez-omp
2.S	ouz-out	oui-e-s	oue-j-out	gouez
2.P	ouz-oc'h	oui-e-c'h	oue-j-oc'h	gouez-it
3.P	ouz-ont	oui-e-nt	oue-j-ont	
3.S	**oar**	oui-e	ouez-as	gouez-et
Inf.	gouz-out			
Prt.	gouez-et			

We now have positive evidence for two conclusions. First, the agreement morphology of prepositions does not appear in frozen agreement contexts, when the object is an overt DP. The bare stem appears instead, and the 3.sg.masc./fem. forms cannot. This suggests there is in those contexts no φ-Agree. Generalizing to the paradigm, we may suppose that φ-Agree does not take place anywhere in the case of prepositions and their agreement morphology spells out incorporated *pro*, which we will support by the next two arguments. The second conclusion is that the φ-agreement morphology of verbs in frozen agreement contexts is specifically an agreeing 3.sg. form, showing that φ-Agree is taking place. In direct contrast to prepositions, we cannot account for the invariant form as a non-agreeing stem, and there is no 3.sg. element to incorporate. Thus, the φ-features must come from agreement with the 3rd.sg. nominal clausal category posited in section 2, which blocks agreement with the subject.

These conclusions are supported by the second argument, a contrast between T morphology and the rest of the system in φ-feature distribution shown in Table 2. Pronouns and nouns distinguish person, number, and gender. *Pro*-drop subject agreement in Breton codes the person and number of the subject, and never gender. Agreement morphology on prepositions, by contrast, codes all of person, number, and gender of the *pro*-dropped subject. The same is true of object/possessive proclitics.

Table 2: Gender in agreement morphology

	Independent	Preposition	Possessor	Verbal subject
DP	Azenor 'Azenor'	gant Azenor 'with Azenor'	c'hoar Azenor 'Azenor's sister'	e komz Azenor 'Azenor speaks'
3.SG.MASC	eñ 'he'	gantañ 'with him'	e c'hoar 'his sister'	e komz '(s)he speaks'
3.SG.FEM	he 'she'	ganti 'with her'	he c'hoar 'her sister'	e komz '(s)he speaks'

This asymmetry suggests that T has a system different from that of P. The agreement morphology of T is spelling out an agreement relation between T and its *pro* subject which systematically ignores gender features. On the other hand, for prepositions, agreement morphology shows the same distinctions as pronouns and plausibly simply spells out incorporated pronouns.

The third argument speaks specifically to the implementation of the φ-agreement morphology which we find on prepositions in *pro*-drop contexts. It shows that inflected prepositions involve non-syntactic amalgamation of a preposition and an affixal pronoun. The φ-agreement of T, by its contrasting behavior, involves a syntactic relation. The evidence comes from anomalous left conjunct agreement in examples like (29)a, studied extensively for Irish in McCloskey and Hale (1984) and McCloskey (1986). The left member of a conjunction is a gap (*e*), and the preposition is inflected for its φ-features. The phenomenon is only possible with the complements of prepositions, and never with the subject of T (unlike in Irish):[18]

(29) a. Chom a rae [etrezi [*e* hag ar gorrien]].
stay ® did-3.SG between-3.SG.FEM and the dwarves
'She/he stayed between her and the dwarves.'

b. Dec'h e erruas [Nolwenn/**e* hag ar gorrien].
yesterday ® arrived- 3.SG Nolwenn and the dwarves
'Yesterday arrived Nolwenn/*she and the dwarves.'

Although this resembles regular left conjunct agreement, the phenomenon here is actually rather anomalous, since left conjunct agreement never permits *pro*-drop of the left conjunct, only agreement with it. This is for example the case in Czech:

(30) Přišla Katka/**e* a Radek.
came-3.SG.FEM Kate-FEM and Radek-MASC.
'Kate and Radek came.'

It thus seems that while left conjuncts can agree, the Coordinate Structure Constraint strongly bars *pro*-drop. In view of this, Pranka (1983), Doron (1988), Adger (2000), and Ackema and Neeleman (2003) propose, for Irish and Scottish Gaelic, that no syntactic process is involved here. Rather, the inflected preposition in forms like (29)a reflects a post-syntactic prosody-sensitive spell-out of the preposition *etre* 'between' + pronoun *hi* 'she' as the single word *etrezi*.[19] This converges with the two previous arguments, that prepositions lack φ-Agree in frozen agreement contexts and that their inflected forms make the same distinctions as pronouns,

[18] The preposition *etre* 'between', which requires plurality in its complement, guards against ellipsis.
[19] We note in favour of this that with a strong prosodic junction, examples like *etre # hi hag ar bed* 'between her and the world' are permitted with the strong pronoun *hi* 'she' and the bare stem form of the preposition.

both contrasting with T-agreement which does φ-Agree in frozen agreement contexts and lacks gender agreement. We propose that generally, prepositions lack uninterpretable φ-features and their inflected forms are the result of the sort of prosodic merger proposed in the references cited.

By contrast, we see that T must have uninterpretable φ-features which enter into Agree, in all contexts including that of frozen agreement. The 3.sg. morphology in frozen agreement contexts is direct, independent evidence that the frozen agreement phenomenon of the Complementarity Effect does involve φ-agreement, unlike the predictions of either the Agreement and Incorporation Analyses. The element Agreed with is the [+D] clausal category FP proposed in section 2, which intervenes between T and the closest non-affixal DP as argued in section 3.

Our approach at this point makes an important prediction: in clausal constructions where the FP does not intervene between T and the subject, there should be no interference for T's φ-agreement with it. In such constructions the Complementarity Effect should not arise. In the next section, we propose that the verb *Have* instantiates this option, due to an independently justified property of its clausal architecture which is built on a preposition.

5. Deriving the pattern of *Have* from its prepositional structure

Recall that *Have*, whatever the location of its subject, is never subject to the Complementarity Effect, as shown in (31) for the possessive and auxiliary version of *Have*.

(31) a. Bremañ (,Azenor ha Iona) **o** deus (Azenor ha Iona) un ti.
now (,Azenor ha Iona) 3.PL-have (Azenor ha Iona) a house
'Azenor and Iona have a house now.'

b. Dec'h (,Azenor ha Iona) **o** deus (Azenor ha Iona) prenet un ti.
yesterday (,Azenor ha Iona) 3.PL-have (Azenor ha Iona) bought a house
'Azenor and Iona have bought a house yesterday'.

In prepositional analyses of *Have* (Benveniste 1960, Szabolcsi 1981, 1983, Freeze 1992, Kayne 1993, Harley 1998, and for Breton Schafer 1994), both auxiliary and lexical *Have* are analyzed as a prepositional head that predicates its subject (possessor/agent) of a predicate (thing possessed/verbal structure). The preposition incorporates into the *BE* copula, which we base-generate in T. There are numerous constructions cross-linguistically which instantiate an analytic form of the prepositional analysis of *Have*. All Celtic languages including Breton are familiar with the *Be + Preposition* constructions which express accompaniment or attribution, as illustrated by locutor A in the dialog in (32). Such constructions correspond to the lexical *Have* in English, German, or French. Among the modern Celtic languages, Breton (and Cornish) alone instantiate a parallel synthetic element, *Have,* to express strict possession (answer of locutor B).

(32) A: Dit eo ar c'harr 'zo ganit?
to-2.SG is the car ®-is with-2.SG?
'The car that you have here, is it yours?'

B: N' eo ket! M'**eus** ket karr ebet!
NEG is NEG 1.SG-**have** NEG car none
'No it isn't, I have no car.'

The prepositional analysis is thus naturally favoured in Breton. Furthermore, we note that it is morphologically transparent: the root *eus* of *Have* in bold in (32) is identical with the preposition *eus* 'from, of' in isolation in (33).

(33) a. **Eus** Venus on.
from Venus be-1.SG
'I'm from Venus.'

b. Ur plac'h **eus** ar skol.
a girl of the school
'a girl of the school'

The precise selection of a preposition that marks the source or provenance like 'of' or 'from' is predicted by the fact that *Have* means CAUSE or EXPERIENCE when it forms a complex predicate with another verb (see Ritter and Rosen 1993, Harley 1998, Jouitteau 2005).[20] Note that the identity between the root of the verb and the preposition has been preserved throughout the significant morphological restructuring that this verb has undergone in the language, as illustrated in the Table 3 (a synthesis from Davalan 1998 and Favereau 1997).[21]

Table 3: *Have* paradigm in the present tense

	Standard (written)	Spoken Breton	Other dialectal forms
1.SG	a/e m **eus**	'm**eus**	'b**eus**^{L}
2.SG	a/e z p**eus**', c'h**eus**	't**eus**^{T,Ki}	'b**eus**, 'p**eus**^{Aé,Ag}, 'f**eus**^{Ph,Ku}, 't**eus**^{T,Ki}
3.SG.FEM	he d**eus**	'n**eus**, d**eus**^{W,L}	'n**eus**
3.SG.MASC	en d**eus**	'd**eus**	'n**eus**
1.PL	hon **eus**	'm**eu**mp^{Ku,T}	'b**eus**, 'n**eus**, 'n**eus**omp^{Ki}
2.PL	ho p**eus**	'p**eus**	'p**eu**t & 'p**eu**c'h^{Aé,Ag}, 'n**eus**oc'h^{Ki}, 'h**eus**^{L,Ph}
3.PL	o d**eus**^{W,L}	'n**eu**nt	'n**eus**ont^{Ki}, 'n**eus**^{Ph,Ki}, neuint^{Ku,T}, d**eu**nt, 'd**eus**

This paradigm demonstrates two important points. First, in Breton there is overt morphological evidence for the fact that *Have* is headed by a prepositional functional head. Second, as evidenced in the paradigm, while the agreement morphology of Breton originated as genitive proclitics, which is evident in the standard written forms with their gender distinction, it is synchronically a regularly inflected verb with a corresponding regularization of its paradigm:

[20] It is uncontroversial that the *Have* compound in Breton contains *Be*. In tenses other than the default present tense, the morphology of *Be* with tense information covers the preposition. A wide-spread traditional analysis considers only this *Be* to be part of the compound, rejecting any incorporated preposition. This analysis usually rests on the misinterpretation of the existential construction given in (i).

(i) N' eus ket bara.
NEG V NEG bread
'There is no bread.'

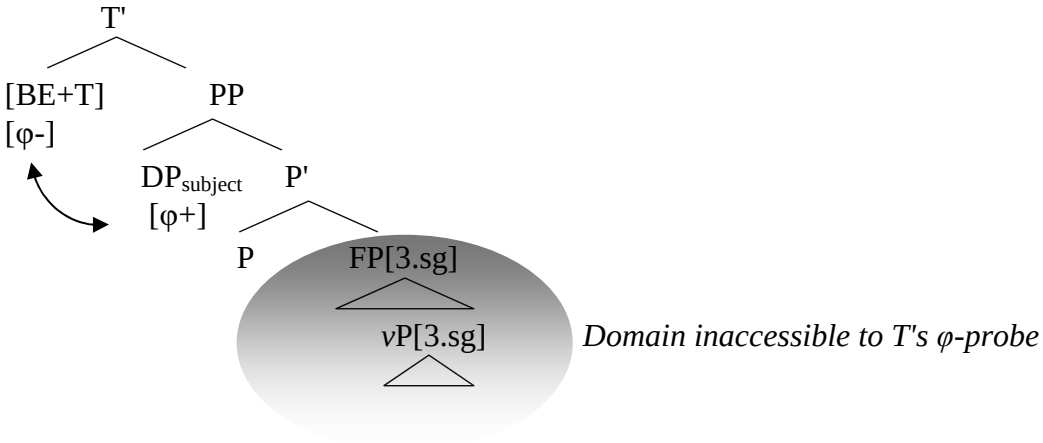
(ii) Il n' y a pas de pain.
expletive NEG there has NEG P bread
'There is no bread.'

Under the assumption that existential constructions universally involve the Auxiliary *Be* as in the English translation, (i) would demonstrate that *eus* cannot be a preposition, and by consequence the present tense paradigm of *Have* only involves *Be*. This would be a serious problem for a prepositional account of *Have* if there was evidence that the existential construction in Breton does indeed select the auxiliary *Be*. However, existential constructions in many languages like French (ii), Spanish, and Greek use the auxiliary *Have* (Freeze 1992); it is this use of *Have* that is responsible for the prepositional root *eus* showing up in the Breton existential construction (i).

[21] Superscripts refer to the Breton dialects (T=Trégor, Ki=Basse cornouaille, L=Léon, Ph=Poher, Aé=Arrée, Ag=Argoat, W=Vannetais). The preposition appears exclusively in the default present tense paradigm, when no tense information covers it. In other tenses, only *BE* is morphologically present on the right-hand part of the *Have* complex.

there is no gender distinction (Favereau 1997: 215), and φ-agreement morphology uses standard agreement markers on the right edge. Thus, we propose the structure in Figure 4, where the subject of *Have* (possessor for lexical *Have*, lexical argument for auxiliary *Have*) is in [Spec, PP]:[22]

Figure 4: *Have*



This structure accounts automatically for the outstanding agreement pattern of the verb *Have.* All DPs in [Spec, PP], lexical or pronominal, will always be the closest set of φ-features for the probe in T.

Following standard prepositional analyses of *Have* and Breton-internal morphological evidence, we have built the clausal architecture of *Have* in Breton on the basis of the preposition *eus*, which takes the subject of *Have* as its specifier and predicates it of its complement. Prepositions in Breton do not have interpretable φ-features. This cross-linguistic truism is evident in this language because PPs themselves, unlike their DP complements, are not subject to the Case filter, and do not assign Case by the Construct State (which would license genitive proclitics). Therefore, the PP projection of *eus* does not intervene between the φ-probe of T and the subject. The closest set of φ-features to the probe in T is always the possessor/external argument in [Spec, PP]. *v* as [+D] bears its usual interpretable 3.sg. φ-features, which are shared by F and project to *v*P and FP, but this is irrelevant because these are buried within the prepositional structure and do not contain the subject. Therefore, we correctly predict that *Have* in Breton is the unique verb which never shows frozen agreement, and thus never yields the Complementarity Effect.

6. Conclusion

The Complementarity Effect in an agreement system seeks a motivated, non-stipulative explanation in recent minimalist frameworks, where syntactic dependencies are at heart simply agreement. For some cases, such as Breton preposition-object agreement, the Incorporation Analysis provides such an explanation. However, in the case of Breton T-subject agreement, an

[22] The older proclitic system illustrated in the first column in Table 3 is identical to possessive pronouns, indicating that the casual morphology is genitive (not dative). In our approach, such proclitics would be implemented by having the subject of the PP in Figure 4 obligatorily bind an anaphoric clitic in [Spec, *v*P] or [Spec, FP]. The clitic incorporates into P and then T+BE. Syntactic clitics in Breton are uniformly proclitics and this prevents the preposition from appearing as an inflected preposition because the movement of the clitic is here syntactic. Not reported here is the complete regularization of *Have* in some eighteenth century Vannetais sources, showing frozen agreement with overt DPs (Hemon 2000: 257f., §174(2)); we take this to be a reanalysis of prepositional *Have* as a regular transitive verb (cf. Spanish *tener* 'hold' both for possession and perfect constructions).

empirically adequate yet explanatory solution is not entirely provided by either the Incorporation or the Agreement Analysis, although both have their good points. We have sought to provide an approach with these characteristics. The Complementarity Effect between T and its subject follows from the basic restriction on syntactic dependencies, feature-relativized locality, and the logic of projection in bare phrase structure, by which a projection shares the properties of its head. Our starting point has been the empirically justified hypothesis that the Breton extended VP bears an interpretable [+D] feature responsible for its partly nominal behavior, contrasting with English or French *v*P structures. The predictions of our approach comprise both the 3.sg. form of frozen agreement and the systematic exception of *Have*, neither of which have received a satisfactory explanation in earlier work. In this last section, we discuss the cross-linguistic adequacy of our proposal. We point out the implications of our treatment of Breton for complementarity effects cross-linguistically and the typological predictions that our proposal makes.

An important contribution of Breton to the study of complementarity effects is that it eliminates several possible connections to asymmetries with which such phenomena are paired in other languages, such as pronoun-DP or person-number asymmetries, or the post-verbal position of the subject partly consequent on the verb-initial property.

In Fiorentino and Trentino, both a person-number asymmetry and the post-verbal nature of the subject seem to be of crucial importance (Brandi and Cordin 1989). An invariant default form of the verb appears exclusively with 3rd person subjects that are in the post-verbal position or Ā-extracted from it. Rich agreement morphology is found in all other contexts: preverbal 3rd person subjects, and 1st and 2nd person subjects regardless of their position in the clause. This suggests that the probe agreeing with the post-verbal subject is eclectic: it is a person probe only which sees 1st/2nd but not 3rd person goals, for example because the latter are underspecified for person; number agreement for 1st/2nd person goals is contingent on person agreement (Rezac 2004a: 311f.). Sichel (2001: 99ff.), extending Rouveret's (1991) Incorporation Hypothesis type account, attributes the Complementarity Effect in Welsh to such an eclectic nature of the agreement probe: the probe is for person only, for which pronouns (including 3rd person ones, in this case) but not lexical Ns are specified. The Complementarity Effect therefore arises simply because the person probe of T does not see DPs headed by lexical Ns. However, in Breton this is untenable because of the visibility of frozen agreement and because of agreement with clause-internal lexical DPs demonstrated by *Have*. In both cases, there is number agreement with pronouns and non-pronouns alike, and this is expressed using the same morphology, leading us to posit a single mechanism underlying it: φ-Agree. The eclectic goal Hypothesis thus is untenable for Breton, where the Complementarity Effect must arise from a different mechanism agreeing in number as well as person, and both pronouns and non-pronouns must be potential controllers.

Breton also cannot be subject to an account of the Complementarity Effect which would rely on the verb-initial nature, with consequent post-verbal subject position, of the other Celtic or Semitic languages where it appears. Such an account is also proposed by Sichel (op. cit.), who partly identifies the person probe of VSO constructions with the EPP requirement: movement of the subject to [Spec, TP] and its incorporation into T both satisfy the same feature. However, in Breton the pre-verbal subject position can be clause-internal; the subject in it can be in an A-position satisfying the EPP (see references in note 2 and in section 2). In this position, preverbal DPs and pronouns require frozen agreement in structures without *Have*, while preverbal DPs and pronouns require rich agreement in structures with *Have*. Therefore, the mechanism underlying the Complementarity Effect in Breton must not be linked to the VS phenomenon.

Into our account of the Complementarity Effect in Breton, two points of parametric variation enter: the presence of interpretable φ-features on a functional projection in the extended VP

above the subject, and the syntactic incorporation of pronoun subjects into T. Both are reasonable and independently justified loci of variation that together give three different types of T-subject relations in languages. Their interaction is shown in Table 4.

Table 4: The typology of intervention-based complementarity effects

	[+D] intervener	Syntactic incorporation of the subject into T
Type A *English, French, Spanish*	**no**	√
		*****
Type B *Breton, Arabic, Welsh*	√	√
Type C *Niuean, Irish, Scottish Gaelic*	√	*****

Type A is represented by languages such as English or Spanish where the subject is uniformly accessible to φ-Agree and agreement morphology spells out the result of this operation. VPs do not bear interpretable φ-features and have no intervener triggering frozen agreement. Consequently, no Complementarity Effect arises, whatever incorporation possibilities the subject has. Assuming the eclectic probe hypothesis for post-verbal subjects would make Fiorentino and Trentino into type A languages in this respect, though movement to the preverbal position would have to independently result in number agreement.

Type B languages are like Breton: they have both syntactic subject cliticization and a [+D] intervener between the probe in T and a lexical DP subject, and agreement morphology spells out φ-Agree. Although we have not discussed Welsh in this paper, preliminary considerations such as the impossibility of *pro*-drop under left conjunct agreement (Sadler 2003, note 7) suggest that its agreement, subject to the Complementarity Effect in much the same way as Breton, results from the same mechanics. In Breton the intervener responsible for frozen agreement is the nominal character of the extended VP; however, we leave open the possibility that other types of interveners could trigger the same effect, so that frozen agreement need not necessarily correlate with nominal behavior of the VP as it does in Breton (section 2). For example, in Arabic where post-verbal lexical subjects allow only gender and person but not number agreement, a head bearing inherent number intervenes (see Demirdache 1989 for identification of such an intervener as Agr^0). Agreement in VS orders with a lexical subject is thus frozen for number. The probe in T independently looks for gender and finds it in the post-verbal lexical subject.[23] Rich morphology arises with incorporated pronominal subjects. Preverbal subjects also trigger rich agreement; following Demirdache (1989), the preverbal subject in Arabic is a topic linked to an empty pronominal in subject position, thus predicting both the rich agreement morphology of SV orders and the fact that the preverbal subject must be specific. The theoretic difference between languages with partial interveners like Arabic and languages with eclectic probes like Fiorentino is that in the latter there is a class of post-verbal subjects which never enters into φ-Agree because it never qualifies as a match for the probe, although the possibility of underspecification makes it difficult to tease the two systems apart.

Finally, languages of type C have a [+D] intervener between T and the subject, but no strategy such as cliticization to ever bring any subject higher than this intervener (independently, the ones we know of also have no prepositional *Have* structures). Such languages behave

[23] See Béjar (2003) for a theory of split φ-probes. As pointed out by Hamida Demirdache (p.c.), our locality triggered account might be tested in Arabic when two probes are interacting (auxiliary and participle). We leave this for further research.

throughout like Breton clauses with lexical subjects: T is uniformly blocked in frozen agreement due to the intervener, yielding a single form for all person/number combinations of any particular stem. Such a language would look like a language with no agreement at all, because the frozen agreement form does not stand in contrast to any other φ-feature combinations. Therefore, for languages known for their lack of agreement, which at first glance seemed to stand as counterexamples for a universal φ-probe on T, our system allows a different analysis. Niuean is a good candidate for type C, since it is well known for the nominal behavior of its verbal structures (Massam, forthcoming), and has the predicted invariant agreement morphology.

Once this invariant agreement morphology is created in syntax by a regular intervener, prosodic incorporation of the subject is an available diachronic change, internal to type C. Such a situation is illustrated by a register of Middle Irish (c. 900-c.1200), where two parallel sets of forms co-occur. They are exemplified below for the future tense of the verb 'praise' in Table 5.

Table 5: Middle Irish verbal paradigm (Doyle 2002)

Subject	Rich Agreement	Frozen Agreement
1.SG.	molfad	molfaidh mé
2.SG.	molfair	molfaidh tú
3.SG.	molfaidh	molfaidh sé / sí
1.PL.	molfamaid	molfaidh sinn
2.PL.	molfaidhe	molfaidh sibh
3.PL.	molfaid	molfaidh siad

Rich agreement with a *pro*-dropped subject is found in the literary register, while 3.sg. frozen agreement with an overt pronominal subject is found in the more colloquial register of prose texts (Doyle 2002). In the colloquial register, the pronoun remains internal to the [+D] projection, and the 3.sg. agreement characteristic of frozen agreement appears throughout the verbal paradigm; this can then serve as a base for prosodic pronoun incorporation. We take it that Irish and Scottish Gaelic are of type C. Their pronouns behave more like lexical DPs than Brythonic pronouns, and do not pass over the [+D] intervener on T by cliticization at the syntactic level. Irish and Scottish Gaelic rich morphology thus is never created by φ-Agree. Their rich agreement morphology is due to prosodic incorporation of a subject pronoun on frozen agreement (see the references in section 4), in a manner similar to prosodic incorporation of Irish post-verbal lexical DPs (McCloskey 2003). Because in such a system realization of a verbal host followed by a pronoun as a single word depends on PF-level lexical properties of the pronoun (or the pronoun and the host), the famous spotty paradigms of Irish rich agreement described by McCloskey and Hale (1984) are unproblematic, though they constitute a phenomenon difficult to handle if rich agreement were a reflection of φ-Agree by the P/T host.[24] The rich verbal and prepositional agreement morphology of Irish and Scottish Gaelic therefore parallels the prepositional system we posit for Breton.[25]

The Brythonic and Gaelic branches of the Celtic languages thus differ in that rich agreement on T spells out φ-Agree with *pro* as in Breton (25), repeated here as (34)a, while it spells out post-syntactic incorporation of a pronoun in Irish and Scottish Gaelic, in (34)b.

[24] See Andrews (1990) and Legate (1999) for the treatment of spotty paradigms in different approaches.

[25] Breton prepositional agreement does not have an obviously spotty paradigm, but it is not predicted that it should; the post-syntactic incorporation theory merely predicts such paradigms possible. However, there may in fact be spotty paradigms in Breton: for example, the 1.sg. form of *dirak* 'before', standard *diraz-on*, can also surface as *dirak-on*.

(34)
a. $[_{TP}\ [_{T}\ T\ pro_1\ ]\ [_{FP}\ \ldots\ t_1\ \ldots]]$
b. $[_{TP}\ T\ [_{\alpha P}$ pronoun …]]

Breton rich agreement does not spell out *pro* itself, as assumed in other approaches using the Incorporation Hypothesis, and as we posit for rich agreement on Breton prepositions; it reflects φ-Agree with *pro*. Only this hypothesis naturally derives the fact that agreement with a 3rd.sg. *pro* takes the same form as the frozen agreement morphology found in Complementarity Effect contexts, which is due to Agree with 3rd.sg. φ-features of F and not to an incorporated pronoun. Similarly for *Have*, φ-agreement morphology with *pro* and with a remote overt DP controller is identical, with no pronoun incorporation in the latter case. If rich agreement morphology in *pro*-drop contexts were spelling out *pro*, we would expect that it could differ from the morphology which spells out a φ-set valued under Agree a remote controller such as F or an overt DP.

It is worth asking whether *pro* can ever be independently spelled out in the configuration (34), giving a double agreement effect. This would show up as rich agreement locally doubled by a clitic pronoun or extra inflectional layer. A phenomenon partially corresponding to this description does exist in Breton: the ECHOIC PRONOUNS, which have played a role in discussion of the Complementarity Effect (Stump 1984, 1989, Borsley and Stephens 1989).[26] The optional echoic series, used for emphasis, normally requires an inflected form as a host, (35). Nevertheless, the properties of echoics are not those which *pro* in (34)a should exhibit. First, the echoic pronoun may float lower in the verbal system than the inflected verb in T, for example below negation in (35)b. Second, it may appear in the so-called double subject construction (35)c, an instance of the broad subject construction of Doron and Heycock (1999) with a subject base-generated in a non-thematic position, where φ-agreement is cross-linguistically impossible (Rezac 2004a: 169ff.). Finally and more theory-internally, the echoics may double the inflection of prepositions which we analyze as itself spelling out incorporated *pro*, (35)d, as well as pronominal possessors, which we would analyze simply as syntactic cliticization, (35)e.

(35)
a. Levrioù a lennit-hu/*lenn-hu.
books ® read-2.PL-you/*read-2.PL-you
'You read books.'
b. Ne lennit(-hu) ket(-hu).
NEG read-2.PL(-you) NEG(-you)
'You do not read.'
c. C'hwi zo-hu/*oc'h-hu brav ho ti.
You be-3.SG-you/be-2.PL-you beautiful your house
'Your house is beautiful.'
d. Ganeoc'h-hu/*gant-hu.
with-2.PL-you/*with-you
'with you'
e. ho ti-hu
your house-you
'your house'

[26] There is a quite different use of the echoic series in some dialects, as the object of *Have* and the imperative; see Rezac (2004a: 312ff.) for analysis and cross-linguistic parallels.

The distribution of the Breton echoic series, particularly in view of the double subject construction, resembles rather that of anaphoric adverbs with a local φ-set as an antecedent, as in some analyses of floating quantifiers (see Bobaljik 2003 for an overview).

Sichel (2001: 112ff.) argues that the Welsh auxiliary pronouns which partly correspond to the Breton echoic series also must be analyzed as independent rather than weak pronouns, and therefore they also do not correspond to the *pro* of (34)a. The Welsh auxiliary pronouns probably require an analysis different from that required for at least some Breton echoics. Rouveret (1991), Koopman (1999), and Sichel (2001) argue that the incorporated *pro* responsible for rich agreement in Welsh and the associated auxiliary pronoun originate in a single big-DP constituent, resembling Romance clitic doubling of pronouns. This analysis predicts that the two components could in principle be both realized in-situ in contexts where *pro* does not cliticize; this gives the Welsh reduplicated pronoun series, which has no counterpart in Breton. Sichel (2001) also argues that it predicts that the auxiliary pronouns will occur in a subset of positions available to DPs, which seems true of Welsh, but not of Breton: the pre-negation position of the echoic in (35)b is not available to lexical DPs, unlike in Welsh. Finally, the analyses requires a clause-internal DP source for the auxiliary, which is not present in Breton double subject constructions like (35)c.

We conclude at this point that the *pro* posited in (34)a is not being independently spelled out as the echoic or auxiliary pronouns. This leads to the possibility that there are general principles associated with spell-out of two non-distinct φ-sets in a single head adjunction complex which allow only one morphological reflection of their φ-values.[27] A similar condition is indeed independently argued for by Carstens (2003), based on Kinyalolo (1991), which could be extended to the present context.

As this discussion shows, cross-linguistically the sources of both agreement morphology and of complementarity effects are various: morphology can originate as φ-valuation, syntactic cliticization, or post-syntactic cliticization; complementarity can arise because of the Theta Criterion or another principle which enforces DP/pronoun complementarity, an eclectic probe which creates an asymmetry between various goal types, or as an intervention effect. However, each of these mechanisms is independently motivated and is therefore expected to show up as a source of agreement morphology or complementarity. Each mechanism is expected to give rise to different empirical properties of agreement morphology and complementarity effects, and our analysis of Breton demonstrates this.

[27] Thanks to an anonymous reviewer for raising this possibility, citing an oral presentation by Michal Starke.

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