(1)   (a) béoigidir   in spirut   in corp   in   fect   so
          vivifies.PRES.3SG the spirit   the body   the   time   this
          'The spirit vivifies the body now'   (Wb 13d7)

       (b) as-rubart   día friu-som ara celebartis   a   sollumnu[1]
          say.PERF.3SG God to.3PL   that celebrate.PAST.SUBJ.3PL   his   feasts
          'God said to them that they should celebrate his feasts'   (Ml 102ᵈ

(7)   (a) C   (b)   C   (c)   C

        C   T   C   T   C   T
        ní   berid   do
            T   V   T   V   T   V
          beir   t$_V$ beir

The idea that different verbal forms can be linked to different syntactic positions is theoretically appealing. However, there must also be empirical data to support this view. This is the topic of the next section.

the case, and the position of the clitics remains constant, then this supports CHP's analysis of simple verbs. CHP argue that when the verb is simple object pronouns appear to its right and are suffixed to it; this is what we would expect if the verb had raised to C.

The evidence from object pronouns, however, is not as clear-cut as CHP suggest. Crucially, the use of suffixed pronouns in Old Irish is restricted. Generally only third singular forms of the pronoun are found attached to third singular indicative verb forms, and even in these cases suffixed pronouns are not used consistently. The productive pattern in Old Irish seems to be infixation using the dummy preverb no.

(11)   (a) no-s   nguid-som
             PVB-INF.3PL beseech.PRES.3SG.CONJ-emph.part.

These data can be made sense of if we assume that when C is specified as relative it causes lenition of the initial segment of the following word.[4] Crucially, the particle that appears in the C position is not lenited. If special relative verb fo 3 (l) 4 (e) 3 (l) -2 (a) 3 (t) -2 (i) -70 (o 3 (t) o 3

4   A NEW POST-SYNTACTIC ACCOUNT OF THE OLD IRISH VERB

In section 3 it was argued that the verb in Old Irish never raises higher than T. If this is the case, then the different morphological forms cannot be a result of different syntactic positions, as CHP suggest. It seems we need more than syntax to account for the distribution of absolute and conjunct endings in Old Irish. We need some kind of post-syntactic processes. Let us consider, then, what these post-syntactic processes might be.

4.1 The syntax-phonology interface

Post-syntactic operations can be divided into two kinds, those that are conceptually motivated and so must occur in all languages, and those that are empirically motivated and only occur in individual languages. Let us examine each in turn.

    According to Chomsky's architecture of the grammar, after syntax is complete, the derivation proceeds to the phonological component. However, the structures manipulated by syntactic operations are somewhat different to those manipulated by phonology. Syntactic structures are hierarchical, whereas phonological structures are flat. Furthermore, syntactic operations refer purely to morphosyntactic features, whereas phonological operations refer only to phonological features (Chomsky & Halle 1968). Therefore, after syntax is complete, but before phonology begins there are two post-syntactic operations that must take place in all cases: hierarchical syntactic structures must be linearized and (assuming Distributed Morphology) morphosyntactic feature bundles must be replaced by phonological feature bundles.

    Chomsky (1995a: 340) argues that the operation responsible for the linearization of syntactic structure might be Kayne's (1994) Linear Correspondence Axiom (LCA). For Chomsky the LCA is operative at the syntax-phonology interface and is responsible for the conversion of the hierarchical output of syntax to the linear order found in phonology.[6] We will follow Chomsky on this point and little more will be said about it below.

    The idea that syntactic operations make no reference to phonological features, and phonological operations make no reference to morphosyntactic features can be easily explained if we assume that there are no phonological features present in the syntax, and no morphosyntactic features present in phonology. This is one basic assumption behind Distributed Morphology (DM – Halle & Marantz 1993, 1994). DM assumes an operation Vocabulary Insertion, which takes place at the syntax-phonology interface and replaces morphosyntactic feature bundles with phonological exponents. More will be said on this operation below.

    So far we have outlined two post-syntactic operations that must take place cross-linguistically to convert syntactic structure to phonological structure, namely Linearize and Vocabulary Insertion. However, there is a further conceptually necessary post-syntactic operation, namely Chain Reduction.

    If, following Chomsky (1995a, 2000 et seq.), we adopt a copy theory of movement, then at the output of the syntax the derivation will contain multiple copies of any element that has been moved. Chomsky (2001) argues that Move can be seen as Internal Merge. The element to be moved is copied and remerged in the higher position. So, for example in a passive construction, such as (19), the object John is merged as the complement of the verb, in the VP, and then copied and remerged in the subject position.

(17)   [$_{TP}$John was [$_{VP}$kissed t$_{John}$]]

At the output of syntax, then, there will be two copies of the DP John. However, only one of these copies can be phonologically realised as sentences of the type *John was kissed John are ungrammatical.[7] This suggests that there must be some operation that marks one copy of a set of identical elements to be realised and deletes the subsequent copies. This operation, which we will term Chain Reduction, marks the leftmost, or highest copy of the element in question for realization and deletes the lower copies (see Brody 1995, Pesetsky 1997, Nunes 1999, 2004, Bobaljik 2002).[8]

So far it has been argued then, that the syntax-phonology interface contains three necessary operations: Linearize, Chain Reduction and Vocabulary Insertion. These operations are conceptually motivated, and so must take place in all languages. Within DM, however, there are a number of further operations that are argued to take place between syntax and phonology. These operations manipulate the output of syntax, changing the morphosyntactic feature structure of syntactic terminals and so influencing the way that these terminals are realised phonologically (e.g. fission, fusion, impoverishment see Halle & Marantz 1993, Harley & Noyer 1999 for further details). These operations operate only in particular contexts in particular languages, and so are harder to justify.

A truly minimalist theory of the syntax-phonology interface will include only operations that are conceptually motivated. Let us examine now whether such an interface can account for the Old Irish verbal system.[9]

4.2 The absolute/conjunct distinction

Under this revised view of Chain Reduction then we would expect the tense and !-features to be realised in the highest or leftmost position, namely T. However, as we saw above, this is not always the case. Let us consider the operation Chain Reduction in more detail. So far it has been assumed that Chain Reduction is a post-syntactic operation, and the decision as to which copy is marked for realisation is determined at the PF-interface.[14] If this is the case, then it seems plausible that this decision should be determined by PF requirements (Landau 2006: 54):

(19)   (a) PF copies that are demanded by PF requirements cannot be deleted
       (b) PF copies that are excluded by PF requirements must be deleted

For example, Franks (1999) argues that second-position clitics in Serbo-Croatian move to C in the syntax and are usually spelled-out there. However, these clitics need a host to their left. If no such host is available the top copy, i.e. that in C, cannot be realised, and a lower copy is spelled-out instead. Similarly, Bobaljik (2002) argues that in cases of object shift, the highest copy of the object cannot be realised if it appears between V and T. V and T must be string adjacent in order for morphological merger to take place. An intervening object that interrupts this adjacency requirement cannot be realised, and so a lower copy will receive a phonological realisation instead.

It seems that a similar argument could be made for the spell-out of tense and !-features in English. If, as is often assumed, tense and !-features in English are affixes, then in order to be realised they must have a host, i.e. they must satisfy the Stranded Affix Filter (SAF – Lasnik 1981, 1995). The SAF can be seen as a PF requirement (Halle & Marantz 1993; Lasnik 1995; Bobaljik 2002; Landau 2006). Therefore, if at PF, tense and !-features have no host and are stranded in T they cannot be realised there, and so the lower copy in V will be spelled-out instead, resulting in Affix-Hopping. So, it seems then we have the beginnings of an explanation as to why tense and !-features are sometimes spelled-out in T and sometimes in V. However, there are several aspects of the above proposal that are in need of further clarification. First, what exactly does it mean for a feature to be an affix? Second, what constitutes 'a host'? In other words, how is the SAF satisfied? Let us examine each of these issues in turn.

phonology to find an appropriate host (so-called Prosodic Inversion –

provide a morphosyntactic host for the affixal features, satisfying the SAF and allowing the realisation of these features in the leftmost position. When C contains no positively-valued

Chain Reduction. In the second half of this section we turn to the second parallel between English and Old Irish, namely in the use of do in English and no in Old Irish.

Both do in English and no in Old Irish seem to have the status of last resort elements, used to provide a phonological realisation for a functional projection that for some reason

inserted. However, this does not seem to be the case. The particle no appears only when there is no other element that could appear in the C position. This includes not only conjunct particles, but also, as we shall see in the next section, the initial preverbs of compound verbs.

An alternative is to characterise the particle no as an elsewhere morpheme. In this case, the appearance of no is not conditioned by any one feature in particular. The VI for no has no feature specifications, apart from the fact it can appear in C. In DM terms, no will always compete for insertion into the C position, but will only be inserted when there are no more highly specified VIs (i.e. conjunct particles or initial preverbs) that match the feature content of C more closely. When C contains a negative feature, or a conjunction feature or a preverb feature (see (29) below), the corresponding VI will be inserted. However, if none of these features are present, the elsewhere morpheme no will be inserted.

(29)   [C [+negative]]   →   ní
        [C [+conjunction]]   →

way the alternation between ø and *no* reflects whether the C head reaches the point of Spell-Out, and whether or not it is marked for deletion during the process of Chain Reduction. It seems then that the postulation of an affixal Force feature can account not only for the distribution of absolute and conjunct endings but also for the distribution of the particle *no*.

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