Delimiting the Syntactic Word

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1 An unsettling lacuna: No consensus on the syntactic word

It is something of an embarrassment that we syntacticians still don't have a good story about what a word is. That is to say, there are plenty of theories about what a word is, and no shortage of opinions, but there's a striking lack of consensus in the field of syntax.

Syntax contrasts starkly in this respect with phonology. There is a broad consensus in phonology that there is a phonological word, at least in English-like languages if not universally, and that it is a prosodic unit of organization between the metrical foot and the prosodic phrase—perhaps the only such unit at that level (Ito and Mester 2012; 2013).

The phonological word is the domain of application for many phonological rules (stress assignment, tone assignment, vowel harmony, word-final devoicing, etc.), for phonotactic generalizations, and for word minimality (cf. Hall 1999).

There are dissenting opinions (Scheer 2008 argues that only word boundaries are motivated, not words as domains), but the existence and identity of the phonological word has enjoyed a broad consensus since such works as Selkirk (1984) and Nespor and Vogel (1986).

But the boundaries of the phonological word are not determined by phonology, the way the boundaries of the syllable or foot are; the external boundaries of the phonological word are imposed from outside phonology. Word boundaries are always, or nearly always, morpheme boundaries, even word-internal word boundaries (in cases of compounding and cliticization). So phonology has little to say about the *origin* of the phonological word.

Nor can morphologists say why words have the limits and boundaries that they have. Lexically and morphologically, we have a reasonable appreciation of the differences between a root or stem and an inflected form, or a 'lemma,' but little understanding of the difference between a lexical word and a function word,[1] and no idea what the essential property is of any of these core notions. It is clearly not listedness, since idioms are listed but are larger than words (Di Sciullo and Williams 1987), and inflected and derived words are words but not necessarily listed.

Since phonologists are convinced that there are words, and are relying on someone else to determine where word boundaries are, and morphologists are stipulating it and semanticists don't care, it is up to syntacticians to develop a workable theory of the delimitation of the word. I say workable, because there are positions out there but I will argue that none of them is satisfactory. Consider the following four positions:

(1) a. That words are syntactic atoms, with no syntactically recognized subparts (LEXICALISM, Di Sciullo and Williams 1987, Williams 2007);

   b. that words are maximal X^0's, composed of X^0's (the X^0 THEORY of DM and related approaches, Baker 1988, Halle and Marantz 1993, defended by Embick 2017);

   c. that words are phrasal (a number of remnant movement analyses arising in the wake of Kayne 1994 and an increasing disenchantment with head movement) (the PHRASAL WORDS position, cf. Koopman and Szabolcsi 2000);

   d. or that there is no syntactic word; the influence of non-syntactic morphological factors on what is pronounced as a word are so great that there is no syntactic characterization of a word (what I will call the ALEXIST position, Julien 2002).

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[1]One theory of the difference between lexical and functional words is that lexical words contain a categoriless root, see for example Borer (2005b); an alternative without roots or any lexical-functional distinction can be found in Ramchand (2008); see remarks in Svenonius (2014).

None of these positions has achieved anything like a consensus in the field, though the X^0 THEORY is probably the most popular among generative linguists and the LEXICALIST position is probably the most popular among nongenerativists. I will discuss each in turn and argue that none of them is satisfactory, motivating an alternative.

2   Staking out a fifth position

We can characterize SYNTACTIC WORD pretheoretically as a class of objects recognized by the syntactic computation and corresponding reasonably well to the surface prosodic word.

In this sense, I suggest that there are syntactic words (contra the ALEXIST position), and they can be syntactically complex (contra LEXICALISM), but they cannot be equated with maximal X^0 (contra X^0 THEORY), nor are they phrases (contra PHRASAL WORDS).

Everybody who believes that there are syntactic words also believes that the correspondence to phonological words is less than perfect. Normally, the syntactic word is understood as the basis for the phonological word (Selkirk 1984); the phonology processes a syntactic word as a phonological word, all else being equal.

Of course, all else is not always equal, and there are well known cases in which 'simple clitics' lead to mismatches between the syntax and phonology (Zwicky 1977). In the case of a simple clitic like the English copula or auxiliary, the syntax determines its position, but it is prosodically defective, so it is incorporated prosodically into an adjacent prosodic word.

(2)   a.   Who's missing? (/z/ prosodically adjoined to the subject)

   b.   Matt's missing (/z/ surfaces as voiceless [s], showing phonological integration of the copula with the subject)

   c.   Who do you think's missing? (/z/ stranded by syntactic movement of the subject, prosodically adjoined to the matrix verb)

There are more interesting mismatches, the details of the analysis of which depend on specific assumptions of the theory; for example Selkirk (1996) argues that there is a violable constraint against recursion of prosodic categories, so in some cases, the phonological computation might delete a prosodic word boundary to conform to that constraint.

Assuming that phonological processes can under certain circumstances alter, introduce, or eliminate phonological word boundaries, we can state a preliminary definition of the syntactic word as a class of syntactic objects which map onto prosodic words in the input to phonology.

(3) Syntactic word: A class of syntactic objects which map onto prosodic words in the input to phonology

The position that I am calling ALEXISM denies that the syntactic word is a coherent class; it takes the mismatches between syntactic and phonological words to be so pervasive that it is misleading to speak of a syntactic word. For example, Julien (2002) analyzes TAM suffixes in some OV languages as as involving movement of a head-final verb phrase to the left of a functional TAM head, as illustrated below.

(4) a. T [$_{VP}$ O V] (before VP movement)

   b. [$_{VP}$ O V] T t$_{VP}$ (after VP movement)

In this case the phonological word with the form V-T is not a syntactic constituent, so there is no syntactic object which corresponds even approximately well with the verbal phonological word. In Julien's theory, there are other languages in which inflected verbs are constituents, in some cases formed by X^0-movement as on the X^0 theory, but there is little indication that they have special syntactic word properties that the inflected verbs of the OV languages in which the verb is not a constituent lack. Hence there is no basis for talking of a syntactic word in general.

It seems to me that ALEXISM shirks a number of facts that beg explanation. There are systematic correspondences among prosodic, syntactic, and semantic deficiency. For example, Di Sciullo and Williams (1987), Williams (2007) document systematic absences of certain kinds of meanings word-internally, such as restrictions on word-internal anaphors (as in *self-destruction*).

For another example, Cardinaletti and Starke (1999) develop a typology of strong pronouns, weak pronouns, and clitics in which prosodic robustness corresponds to referentiality (for example, they suggest that 'strong' pronouns are always human-denoting and never expletive).

Another example is that incorporated nominals in most languages are NPs, not DPs (Baker 1988); this generalization is codified in the Proper Head Movement Generalization (Li 1990, Baker 1996) which states that a functional head may not move to a lexical head. Regardless of whether that is the right characterization of the facts, it is clear that empirically, a high degree of referential independence tends strongly to correspond to a high degree of prosodic independence.

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These kinds of arguments are used to motivate LEXICALISM, which posits an architectural distinction between the syntactic component on the one hand and the module and mechanisms responsible for building complex words on the other. However, I am by and large persuaded by the DM arguments that subword structure is syntactic.

For one thing, complex words like *unbreakable* have the same kinds of category-sensitive selectional relations, binary structure, and compositional interpretation as syntactic structures. For another thing, despite the kinds of restrictions mentioned above, there are many cases of interaction between subparts of words and structure outside the word. Additionally, there are many cases in which multiword collocations alternate paradigmatically with single words, as in *broke = did break*, or *prouder= more proud*.

Though I am arguing, contra alexism, that there is a syntactic word with syntactic properties, the lexicalist position imposes too much independence from syntax on word stucture (Marantz 1997).

The most successful attempt to build words syntactically in a way which distinguishes them structurally from nonwords is the X^0 THEORY (Baker (1988) inter alios). X^0 theory analyzes many, if not all complex words as complex X^0's, structures in which one X^0 (terminal node, drawn from the lexicon of syntactic atoms) is recursively adjoined to another X^0. Central to the theory is head movement, which allows subparts of words to take complements and specifiers independently, prior to forming a word with other morphemes.

The X^0 theory is a grand unification of the facts of word formation and verb placement (actually head placement more generally, cf. Taraldsen 1991) with movement theory, now reduced to the theory of Merge. If successful, this would constitute one of the crowning achievements of generative grammar.

Unfortunately however, head movement has stubbornly resisted the attempt to unify it with phrasal movement. As has been noted many times, head movement is unlike phrasal movement in many respects (see Matushansky 2006, Hall 2015, Bentzen and Svenonius 2016 for overviews). The moved head fails to c-command its trace. The locality of head movement is more restrictive than that of phrasal movement; Rizzi (1990) tried to unify the two under Relativized Minimality, where A-bar movement cannot cross an A-bar position and head movement cannot cross a head; but A-bar positions are defined featurally (only certain heads bear the features that make them A-bar positions) while head positions are defined structurally (everything without subordinate structure is a head, and everything constructed by head movement is a head).[2]

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[2]In theories which allow the complex X^0 to be formed without head movement, for example in a

A problem for head movement which I will detail further below is known as the 'Trigger problem'; it is unclear what the trigger is for intermediate steps of head movement, and the problem is worse than the corresponding problem for A-bar movement.

Another problem for the head movement theory of word formation is that it requires lowering (Bobaljik 1995, Embick and Noyer 2001), since some complex words are pronounced lower than the sources of some of their component morphemes, whereas phrasal movement arguably never involves lowering (Brody 2000b, Harizanov and Gribanova to appear).

One more argument against head movement is that it doesn't show the kinds of interpretive effects that phrasal movement exhibits. For example, movement of a quantified noun phrase may change the scope it takes, but modal verb doesn't change its scope, as illustrated by the pair of equally ambiguous clauses in Norwegian below, where the first is a V2 matrix clause, and the second is an embedded clause where the verb remains in the verb phrase.

(5)   Scopal ambiguity regardless of whether V is in C or in v

    a.   *Derfor   burde   minst   tre   Nordmenn   ta   gull*
         therefore should least   three Norwegians take gold

        'Therefore at least three Norwegians should get gold [medals]' (V in C)

    b.   *så minst   tre   Nordmenn   burde   ta   gull*
         so least   three Norwegians should take gold

        'so at least three Norwegians should get gold [medals]' (V in v)

Another set of problems for the X^0 theory stems from the problem of what makes an X drawn from the lexicon distinct from a projection of X in a syntactic structure. The Merge theory of syntax (Chomsky 1995b) leads to the expectation that they are identical apart from what can be read off the configuration: that one dominates some structure that the other does not.

In the terms of Muysken and van Riemsdijk (1986) and Chomsky's (1995a) 'Bare Phrase Structure,' an X which dominates no structure is minimal, and an X which

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base-generated compound (Piggott and Travis 2017), heads cannot be defined structurally; instead, certain instances of merge result in the projection of a phrase, and other instances of merge result in projection of a head. These two classes of instances of merge could be called 'phrasal merge' and 'head merge.' It would require extraordinary evidence to motivate such a fundamental complication of the theory of merge.

dominates structure is not minimal (see (6)); this is the minimal statement of the head-phrase distinction, except that it would identify a complex X^0 as not minimal, i.e., phrasal. If the syntax needs to maintain a distinction between phrases and complex X^0's, it can't be derived in the simplest structural terms. Eliminating complex X^0's, therefore, allows for a simpler theory of phrase structure.

(6) Conceptually elegant Bare Phrase Structure derives a head-phrase distinction from configurations created by Merge

    a. X which doesn't dominate anything is X^{min},

    b. X not dominated by a projection of itself is X^{max}

    c. X which doesn't take any dependents and is embedded in a larger structure has both properties ($X^{min/max}$), an unprojected head/phrase (barring vacuous projection).

    d. X with neither property is what is informally called X' in X-bar theory

Widespread dissatisfaction with X^0 theory in general and with head movement in particular has led to the development of a set of alternative analyses of complex words as derived by phrasal movement (for example Koopman and Szabolcsi 2000). In general, these works take the empirical results of X^0 theory as their starting point and show how the same results can be achieved without head movement. Typically, they require a large number of movements and landing sites, including evacuation sites to enable remnant movements. Normally these movements are not motivated by any other considerations than to get morpheme order (and sometimes word constituency) right according to the observed data.

Cinque (2005) presents a powerful argument against these unmotivated movements. In a large survey of the relative orders of demonstratives, numerals, adjectives and nouns in noun phrases cross-linguistically, he argues that all and only the observed basic orders can be derived if movement is restricted to phrases containing the lexical head of the extended projection. Constituents not containing the head can move only in the presence of licensing requirements (discourse-related, as in topic movement, or formal, as in a second-position condition on demonstrative placement). To relax these restrictions would cause the system to overgenerate orders of Dem Num Adj N.

Remnant movement analyses of word formation appear to rely heavily on evacuation movements which should be banned according to Cinque. For example, verb movement to T in a VO language requires evacuation of all material to the right of V (any complements), including the object, to a landing site between V and T, fol-

lowed by remnant VP movement to the immediate left of T. Discourse-configurational movement of objects to a position outside the VP is common, but what is suspect according to Cinque (2005) is movement without any discourse configurational motivation of all VP-internal material, not including the verb, to a position outside the VP but still within the extended projection of V, which would hold of any position between V and T.

Although phrasal approaches to wordhood have been common since Kayne (1994), they have mainly demonstrated that unconstrained movement can mimic the effects of head movement, and haven't led to insight concerning which phrases are words and which phrases are not words. As a result, the phrasal theory of words faces the same problems as ALEXISM: it provides no handle on systematic limits on word meaning, or the correlation between prosodic and referential deficiency.

3 The source of syntactic words

It is clear from studies of child acquisition that the word is a unit in acquisition; children learn words, and for example before they have mastered the inflectional system they use the infinitive form of a verb, not the bare stem when that can be distinguished (Wexler 1994); in languages without infinitives, they use an inflected form of the verb rather than uttering a bare stem, even before they are able to get the distribution right (Fortescue 1984).

Experimental studies have confirmed that learners are sensitive to word boundaries (e.g., Christophe et al. 2003). They may initially learn morphologically complex words as wholes, but once the words have been analyzed, their component parts are listed in a lexicon and assembled productively (Marantz 2013).

Cyclic effects in phonology suggest that word assembly is cyclic (Marvin 2002, Newell 2008). This suggests that the phonological properties of the prosodic word may be the result of the cyclic assembly procedure; for example, stress is determined word-internally because that kind of prosodic prominence is computed at that stage of the derivation of PF from syntactic structure.

The question remains, why is just this particular unit—verb plus tense, noun plus plural, etc.—stored and processed in this way? As stressed in section 1, it is clear that the answer will come from syntax, not from phonology. It is also clear that it must be parametrizable; tense is a suffix on the noun in English, but not in Hawaiian.

Descriptively, the X^0 theory is the most successful of the options explored in the literature. The X^0 theory takes X^0 as a starting point for thinking about words, continuing a tradition going back to before the advent of functional heads, when a

noun phrase was thought to be projected from a noun, and tense was thought to be asyncategorematic.

In an idealized isolating language, according to this line of thinking, each X^0 is a word and each word is an X^0. Some X^0 have an attractor property, which can be indicated with an asterisk: X^0*. The attractor property '*' causes X^0's to glom together, forming complex words. This means that words are heads and certain combinations of heads caused by *. The attractor property is often thought of as morphological: a head marked * is one that is morphologically bound (cf. the feature 'M' in Harizanov and Gribanova to appear which triggers their process of 'Amalgamation,' where M suggests 'morphological'). This could be interpreted to mean that there is no syntactic significance to *, nor to complex heads, leading in turn to a 'phonological' or 'PF' theory of head movement (Chomsky 2000). I would class a PF analysis of head movement as an ALEXIST theory in terms of its shortcomings.

The Head Movement Constraint (Travis 1984) is normally interpreted to limit head movement of X to Y to the configuration where Y takes X as its complement, for example if T takes V as its complement, then V may move to T, but if there is an Asp between T and V, then V may not move to T except by first moving to Asp. A distinction is sometimes made between head movement by substitution and head movement by adjunction (Rizzi and Roberts 1989), but the usual understanding of recent literature has been that V would first adjoin to Asp and the larger head Asp, containing V, would then move to T.

The configuration relating a head to the head of its complement is a SPAN in the terms of Svenonius (2012b; 2016b), Bye and Svenonius (2012) inter alios (defined in (7) and (8)).

(7)   A structural description of a span
      A span is a sequence of heads related to each other by the complementation relation, ignoring specifiers and phrasal adjuncts

(8)   Recursive definition of a span

      a.   A head is a (trivial) span

      b.   X-Y is a span, if X is a head, Y is a span, and X takes (a projection of) Y as its complement

Baker (1988) and Rizzi (1990) attempt to ground the HMC in the theory of locality of movement. In that case, the fact that complex words generally corre-

spond to spans is an indirect outcome of the interaction of complement selection, the distribution of the * feature, and the locality of movement.[3]

I would argue, though, that this grounding is unsuccessful. The very locality of head movement, as encoded in the HMC, makes it significantly different from phrasal movement. Phrasal movement allows a syntactic object to be interpreted computationally in two distinct places in a syntactic tree. But head movement does not. The complementation relation is the relation between a head and the first item it merges with; there is no closer configuration. Hence it is hard to see what motivation there can be for head movement to the selecting head. Phrasal movement is driven by featural interaction between the probe at the landing site and a goal on the moving element. If movement is a case of merge, then it seems that no feature checking which could occur under head movement could not have happened under complementation, which is also an instance of merge. Since the HMC rules out head movement across an intervening head, head movement is quite unexpected, seen in the light of the well-known properties of movement and phrase structure.[4]
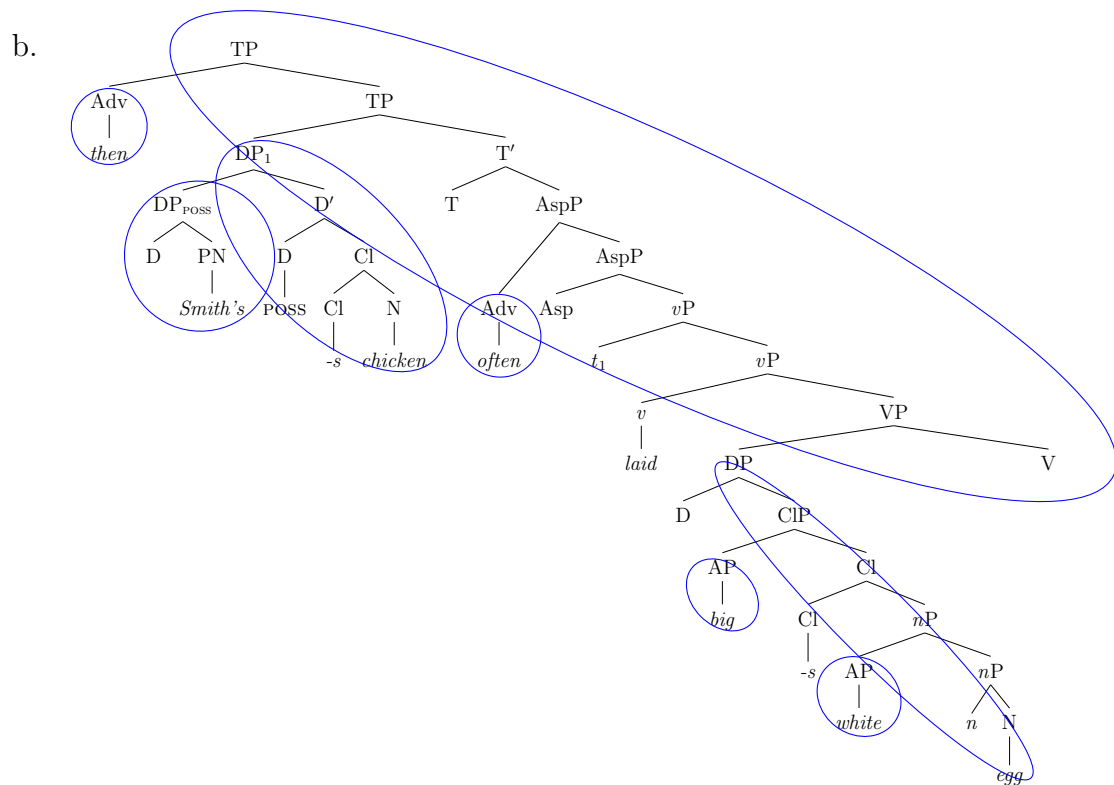
Due to these various indications that complex words are not formed by movement, there must be some other way for X and Y in a span to form a word. Brody's (2000a, 2000b) Mirror Theory holds that syntactic complements are *always* incorporated; unincorporated arguments are specifiers. In that case, complementation and spans are definitional of wordhood.

(9) Example of a sentence in which every word is a specifier and every specifier is a word (assuming possessive *'s* to be part of the possessor):

    a.   Then Smith's chickens often laid big white eggs

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[3]If complement selection is semantically motivated (at least indirectly), and the * feature is somehow related to morphology, and movement is syntactic, then the motivation for word boundaries involves all three domains.
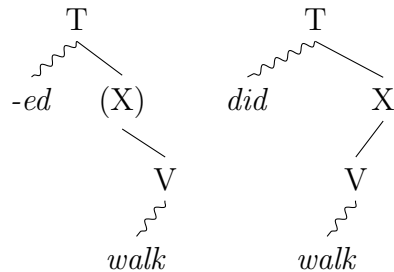
[4]Sometimes it is argued that the HMC does not hold, for example in what is called Long Head Movement (LHM); see Harizanov and Gribanova (to appear) for discussion and references. Their most significant case of LHM involves the movement of Bulgarian participles across intervening auxiliaries. I suspect of these cases that they involve phrasal movement, and take the HMC to be essentially empirically correct; thus I try to capture its effects in the version of Mirror Theory that I develop here. Harizanov and Gribanova (to appear) also suggest that predicate clefting in languages like Hebrew involve long head movement, but they surface with two copies of the same verb (with different inflections), so are different from canonical movement. I will have to assume that they will succumb to an alternative analysis in the future.
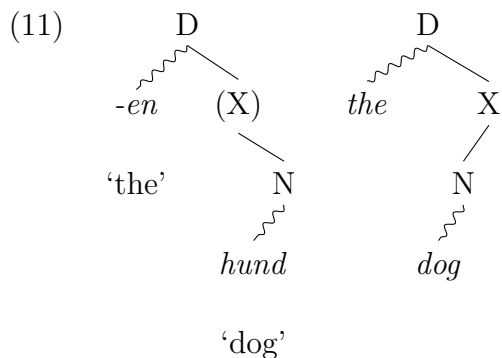
b.

TP
Adv | then
TP
T'
DP₁
DP_Poss
D'
D | PN | Smith's
D | Poss
Cl
Cl | -s
N | chicken
T
AspP
Adv | often
Asp
AspP
vP
t₁
vP
v | laid
VP
DP
D
ClP
AP | big
Cl
Cl | -s
Cl
nP
AP | white
n
nP
n
N | egg
V

For Brody, there is no semantic content to complementation as opposed to spec-ifierhood (in *walked*, the V *walk* is in the same span as T, but in *did walk*, the V *walk* is a specifier of a projection below T). This is illustrated below, with Mirror-Theoretic diagrams where syntactic structure is displayed directly as spans, without any distinction between the head and its maximal projection. Straight lines sloping down to the right indicate complementation, and straight lines sloping down to the left indicate specifiers. The squiggly lines indicate exponence. The X in the lefthand tree is in parentheses to indicate that it could either be present, and null, or absent. So the lefthand tree is just a TP where T takes a VP, with or without an intermediate category like Asp or Voice or *v*. The word *walk-ed* spells out V-T or V-X-T (with X being null).

X is necessary in the righthand tree, because *walk* follows *did*. The word *did* spells out X-T (possibly as two morphemes, e.g., *di-d*), and it precedes whatever is contained in its complement X and not already incorporated. Since complements always incorporate, the verb must be a specifier of X.

(10) Brody's Mirror Theory identifies incorporation with complementation and words with specifiers

```
        T                    T
       ╱╲                   ╱╲
    -ed    (X)          did     X
              ╲                   ╲
               V                   V
               ╱                   ╱
            walk                walk
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The same holds for a DP: If NP is the complement of D, then D is a suffix, as in Norwegian where 'the dog' is *hund-en* (see Anderssen 2012 for a span-based analysis of the Norwegian definite marker). If D is pronounced to the left of the noun, as in *the dog*, then N is a specifier of some head in the complement of D, as illustrated below.

(11)

```
            D                    D
           ╱╲                   ╱╲
       -en    (X)           the     X
                 ╲                     ╲
     'the'        N                     N
                  ╱                     ╱
               hund                   dog

                'dog'
```

I argue in Svenonius (2016a) that complements and specifiers are interpreted differently. As a result I cannot equate words with spans the way Brody does; the semantic relation between tense and the verb is identical in *walked* and *did walk*, and the semantic relation of the definite article to the noun is the same in structures where the definite article is affixed and in those in which it is not. Instead, there must be some way for a span to spell out as two words.

In fact, it is quite common for spans to spell out as more than one word, as illustrated in the following sentence, which can be compared to (9).

(12) Example of a sentence in which each extended projection span spells out as more than one word (assuming an Abney-style analysis of the possessive *'s*)

a. In fact the farmer's chickens are laying some very big eggs

b.
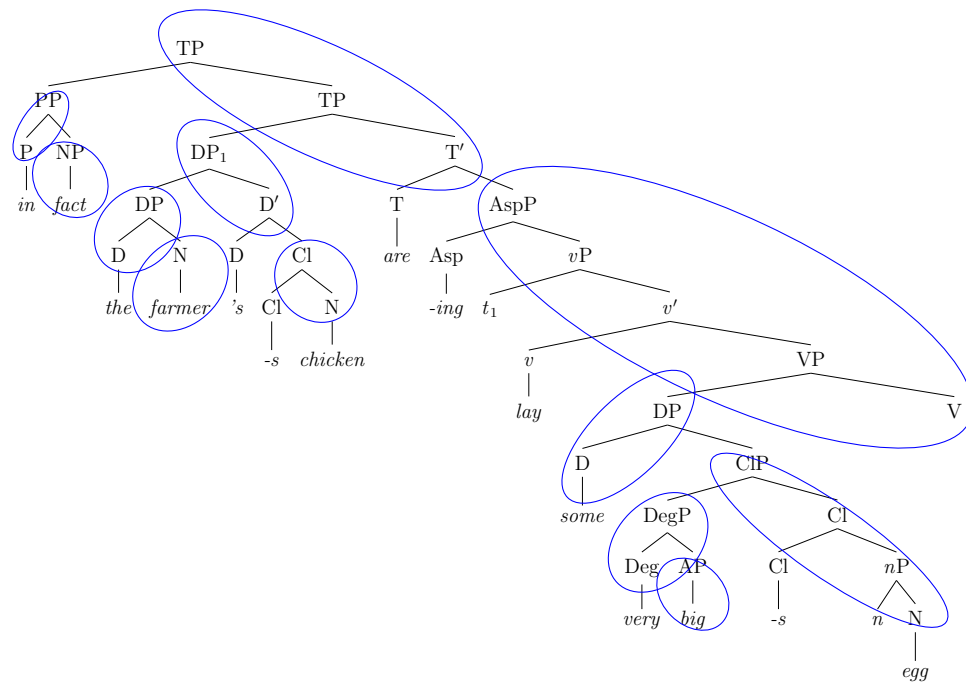
When D precedes a nominal, Brody posits a head below D which takes the nominal as its specifier, whereas I posit a head below D which bears a feature inducing a word boundary. Call that feature w (Svenonius 2016b), and call the span from the w head on down to the next w, or to the end of the span, a w-span. A w-span maps to a prosodic word, and if that is not altered by phonological computation, then a w-span will correspond on the surface to a phonological word.

There is a tendency for words with lexical roots to form prosodic words, while purely functional words often fail to do so. This might suggest a connection between w and roots. I tentatively suggest that w is related to root insertion; at spell out, roots are inserted in w-spans (and tend to linearize as if they were at the bottom of the w-span). An extended projection span normally contains one w, but may contain two (for example when an auxiliary is an inflected root). It is possible that an extended projection could lack any w at all; below I will refer to a hypothetical extended projection span with no w as a rootless specifier.

A verb form like *are laying* shows that the participle is a w-span excluding tense; what this means is that there is a head with w in a progressive clause, and that that head is lacking when the progressive is absent (since the same verb in a simple tense forms a word with tense). The simplest interpretation is that the head bearing w is

the progressive aspectual head which spells out as *-ing*.

From the earlier example in (9) we know that there is no w head between N and plural number ('Cl[assifier],' following Borer 2005a), since the plural is a suffix, and no w head between V and the exponent of tense, in the absence of the progressive, since that exponent is suffixed to V.

Instead of (maximal) X^0, I suggest that we take EXTENDED PROJECTION SPANS as the starting point for the notion of word. I take the fact that words generally constitute spans to be an explanandum, not an epiphenomenon (contra the X^0 theory). It seems to me that our emerging understanding of the nature of extended projections can shed light on our understanding of what words are. We could think of the extended projection span as a kind of 'extended word.'

In an idealized agglutinating language, every word would be an extended projection span and every extended projection span would be a word. Deviations from the ideal involve (i) a single extended projection being broken up into more than one word—the 'extended word' fragmented into 'mere' words—and (ii) defective specifiers, which lack the components that ordinarily make specifiers linearize independently, and therefore are bound to the word corresponding to the extended projection. Clitics and incorporated material are typical defective specifiers of the extended projection span.

Thus, there is a feature or a set of features w which break up extended projections. The w feature reverses the markedness of * in the X^0 theory. Where * causes separate heads to be grouped together, forming words, w causes extended words to be broken up, causing their subcomponents to be treated separately.

Pursuing the intuition that the prosodic word is the result of cyclic spell-out (Marvin 2002, Newell 2008), I suggest that the w feature divides extended projections into smaller units for lexical insertion. There is substantial evidence that lexical insertion applies not to one head at a time, as in DM, but rather to a small span at a time (Bye and Svenonius 2012, Merchant 2015). For example, the portmanteau morpheme *du* in French competes with the preposition-determiner sequence *de le* for insertion (Svenonius 2012b), requiring lexical insertion to consider at least two heads together (similarly for *au = à le* and many other cases).

(13) French portmanteau *du* requires lexical insertion to operate on spans, not heads (Svenonius 2012b)

    a. *de la maison* ∼ **du maison* (feminine noun)

    b. **de le parc* ∼ *du parc* (masculine noun)

This cannot simply involve syntactic fusion of the masculine definite article with the P *de*, because at the stage in the derivation when *de le* is competing with *du* for insertion, the phonology of the noun (more precisely, the lower part of the noun phrase) must be visible, since phonologically conditioned cliticization of *le* to the noun phrase blocks insertion of *du*.

(14)   The choice between French portmanteau *du* and separate *de l(e)* is made in the spell-out stage, not in the syntax proper (Svenonius 2012b)
    l'hôpital ~ **le hôpital* (vowel-initial masculine noun, without P)
    de l'hôpital ~ **du hôpital* (vowel-initial masculine noun, with P)

Note that examples like this show that there is no absolute preference for a single portmanteau morph such as *du* over a pair of separate exponents such as *de* and *l(e)*. The computation resolving the competition is modeled Optimality Theoretically in Svenonius (2012b).

The fact that the single exponent *du* can spell out P and D together suggests that there is no w feature dividing them. I know of no evidence that the nonfused *de* and the various determiners which can follow it are separate syntactic words. Miller (1991) argues that they are not. Then the extended projection of the noun in French might contain just one w feature, at or above the highest category to suffix to the noun (perhaps number), parsing the extended projection span into two domains for lexical insertion, one for the noun and the number marker, and another for the determiner and a preposition.

Another class of examples involves outward-sensitive phonologically determined allomorphy selection, for example for a class of Icelandic participles in which the phonological shape of an outer agreement suffix determines the allomorph of an inner participial suffix (Svenonius 2012a); here, *-ð-* is chosen before a vowel, *-in-* elsewhere.

(15)   a.   *tafin* 'delayed, F SG NOM'

    b.   *tafins* 'delayed, M SG GEN'

    c.   *tafða* 'delayed, F SG ACC'

    d.   *tafðir* 'delayed, M PL NOM'

Here, it is clear that no w feature separates the head which is spelled out as agreement and the head which is spelled out as *-ð-* or *-in-*; it is uncontroversial that these inflected participles are one word, not two. In a system like that of Embick (2010), where exponents are inserted one at a time working up the tree, the participial

suffix would be inserted before the agreement suffix was in place. The existence of outward sensitivity shows that this is incorrect (see Deal and Wolf 2017).

If all sensitivity were outward, then Embick's approach to insertion could simply be turned around, and lexical insertion could proceed stepwise from the top. But examples of inward sensitivity are also easy to find, where the choice of an allomorph depends on the phonology of the inner material (e.g. Korean nominative case, with /i/ after consonants and /ka/ after vowels; see Svenonius 2012a for examples and discussion). The existence of both inward and outward sensitive examples shows that lexical insertion cannot apply one head at a time, but must apply to spans. However, lexically conditioned allomorphy is not normally found across a word boundary. This suggests that, for example, when N and D are not a single word, their allomorphs are not selected simultaneously. Instead, N is lexicalized and then D is lexicalized. This suggests that the w-span, separating N and D, is the unit of lexical insertion.

In certain cases, something which is otherwise diagnosed as a specifier really seems to be fully morphologically integrated into its host, even triggering allomorphy. An example comes from subject pronouns in Irish, which in some cases are prosodically incorporated into the verb and trigger allomorphy in the verbal morphology (Bennett et al. 2018). On the theory here, this would mean that the subject pronouns in question are "rootless," lacking a w-marked head in their projection, hence being lexicalized in the same round of spell-out as the w-span in which they are contained. As Bennett et al. (2018) note, an unincorporated specifier never triggers lexical allomorphy in its host, and it follows from the theory developed here that only a rootless specifier will be able to trigger lexical allomorphy, and that a rootless specifier will fail to project a prosodic word, hence be incorporated. As for why rootless specifiers are unusual, I assume it is due to learnability and language change: a rootless specifier will naturally be reanalyzed as a head in the extended projection span in which it is contained, for example an agreement head. In the case of Irish, it is the nature of the alternation between pronouns and full noun phrases which militates against that analysis, but over time, an analysis in terms of a silent *pro* specifier coupled with agreement is likely to replace an analysis in terms of a rootless specifier.

4   Extended projection spans

The recognition of the role played by spans in the structure of words improves on standard theory by eliminating head movement—anything that can be created by head movement is simply a span—without the problematic evacuation steps needed for remnant movement.

Allowing lexical insertion to target spans also greatly simplifies lexical insertion, compared with DM. According to DM, the target of lexical insertion is the terminal node, i.e., not the word or the complex X^0 but the minimal head (Embick and Marantz 2008). This means that a monomorphemic inflected form like *mice* or *men* or *broke* or *worse* doesn't spell out the feature plural or past or the comparative, but is a contextually specified or 'adjusted' form of the lexical head (the 'root'), where the inflectional head is zero (Embick and Marantz 2008). Spanning eliminates the zero morpheme, because forms like *mice* can lexicalize the entire span (cf. also Ramchand 2008, in which verbs are decomposed into up to three heads).

Siddiqi (2009) also eliminates the zero morpheme, within the DM framework, by assuming that a morphological operation of fusion applies in such cases, to fuse the two X^0's into a single terminal node for the purposes of inserting a portmanteau morph. But this requires that the operation of fusion must be sensitive to, or at least coordinated with, the inventory of exponents, since fusion applies if and only if a suitable portmanteau exponent is available for insertion. If lexical insertion targets spans in the first place, rather than terminal nodes, then no step of fusion is necessary. Bye and Svenonius (2012) detail the mechanisms of competition for lexical insertion which ensures that *mice* outcompetes **mouse-s* for insertion into the span.

Any sequence of heads in a complement relation is a span, but inflected words represent a specific subcase of span, namely the extended projection span.

Grimshaw's (1991) extended projections were C–T–V and P–D–N (defined as sequences of categories). Grimshaw (2005) scaled this up to be compatible with cartography (Cinque 1999); fine-grained functional categories are taken to be organized in hierarchies, and extended projections respect the hierarchies, so that for example perfect is higher than progressive (*We have been swimming*, not **We are having swum*).

If arguments generally occupy specifier positions,[5] then extended projections can largely be defined in terms of complementation (Svenonius 2016a), and maximal spans are generally equivalent to extended projection spans.

On Baker's (1988) analysis of incorporation, complement nouns incorporate to V. A V together with an N complement does not constitute part of a single extended

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[5]This is not a common assumption, but it is not unreasonable. Binary branching has the consequence that many objects are specifiers (Larson 1988), for example the direct object in *send a book to Kim*, and the hypothesis that thematic roles have uniform structural expression (Baker 1988) then requires many more direct objects to be specifiers, for example in *send a book*. From there it is a reasonable step to assume that all direct objects are specifiers, in the absence of evidence that they are not.

projection, and in general the incorporation of a lexical category into another lexical category would not fall under extended projections. This might mean that extended projection spans only represent one subcase of words; in that case, complementation and spanhood are more central to the syntactic word than is the notion of extended projection.

However, there is often a prosodic boundary between the incorporated element and the verbal host (see for example Kari 1976 on preverbs in Navajo, or Newell 2008 on incorporated nouns in Ojibwe). If that is a word-internal prosodic word boundary, then it would suggest that the extended projection boundary *is* respected in the construction of words, but that in incorporation structures, that prosodic word is embedded in another—the incorporated expression has a w feature independent of, and embedded within, the verbal extended projection.

In other languages, for example Central Yupik as described by Woodbury (1987), there is no prosodic word boundary detectable at the morphological boundary between an incorporated noun and its host verb. This can be seen in the examples in (16) below, where feet are built across the entire word from left to right without respecting the boundaries of the incorporated N (also discussed in Svenonius 2016b), with the result that the initial syllable of the verb root (here, *-ssu:-* 'hunt') will be stressed after an incorporee with an odd number of syllables, but unstressed after an incorporee with an even number of syllables.

(16) a. *pi-ssú:-tu-llí:ni-lú:ni*
          thing-hunt-always-apparently-APP.3REFL

          'S/he apparently always hunted [things]'

      b. *mallú:-ssu-tú:-lliní:-luni*
          beached.whale-hunt-always-apparently-APP.3REFL

          'S/he apparently always hunted beached whales'

This could mean that in such languages, an extended projection boundary does not map to a prosodic word boundary. However, it is also possible that there is an underlying prosodic word boundary in such cases, and that a constraint against recursive word structure (Selkirk 1996) causes it to be deleted.

So at least in English-type languages, and conceivably in all languages, every extended projection span containing a root, up to the first w feature, maps from the syntax onto a prosodic word. This will apply to incorporated lexical words as well as their hosts, but sometimes phonological computation will erase the evidence.

5 Linearization of words in the span

Parametric variation has been productively conceptualized as the variation of properties of functional heads (Borer 2005b), particularly in the distribution of features which provide 'instructions' to syntax (Rizzi 2010).

For example, McCloskey (1996) argues that Irish differs from English in that the latter, but not the former, has a feature attracting the subject to SpecTP (Chomsky's 1982 EPP). Similarly, wh-expressions undergo wh-movement overtly in English, but covertly in Chinese (Huang 1982). The finite verb is taken to move to T in French, but not in English (Emonds 1978). Another classic parameter is the head-finality parameter, which is responsible for Japanese having the basic word order OV (Fukui 1986).

Brody (2000a;b) proposes to refine the V to T parameter and unify it with the OV parameter by allowing parametrization of the point at which a word is linearized in its span. The point at which a head linearizes in a span is marked with @. Assuming that specifiers and adjuncts linearize to the left of the projections which introduce them (Kayne 1994), a verbal word linearized in T will follow adjuncts and specifiers of T and any higher head in the extended projection, and will precede adjuncts and specifiers of the complement of T and any lower projection. This gives the same word order effects as head movement, but without movement. Each independently linearizable specifier or adjunct contains an @ feature somewhere in its extended projection, e.g., a DP linearized in D has $D^@$, while a DP linearized in N has $N^@$; in the diagrams I simply represent DP in a specifier as $DP^@$, intended as shorthand for a DP containing an @-marked head somewhere in its extended projection.
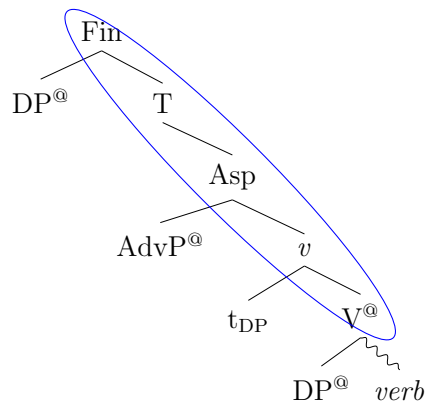
(17) V to Fin (Icelandic, French), V to T (Italian, Spanish, Northern Ostrobothnian, possibly Faroese; Bentzen 2011)
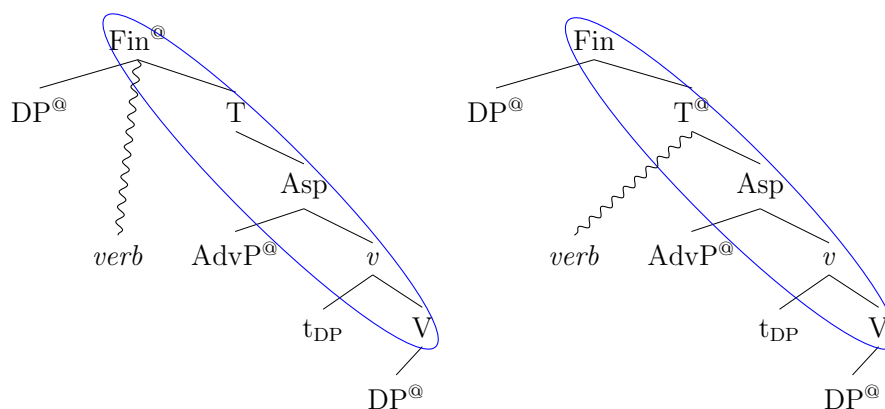
(18)   V to Asp (Russian, Czech), V to v (English, Mainland Scandinavian),
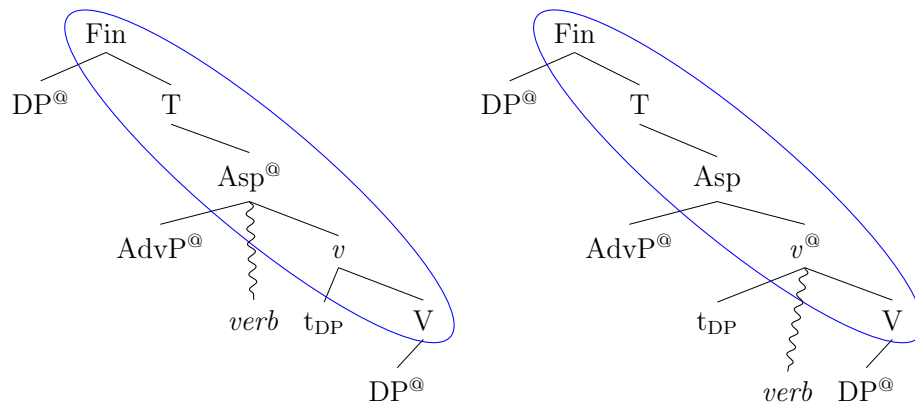
(19)   V in situ (OV, e.g., Turkish)

The distribution of @ in Mirror Theory is more directly learnable than the head movement feature * in the X^0 theory; a learner need only posit an @ on the head where a complex word linearizes; no additional features need be posited. In contrast, on the X^0 theory, attracting features on intermediate heads must be inferred indirectly.

An extended projection with no @ is defective. Defective specifiers will not linearize independently of the extended projection word in which they are embedded, and surface as incorporated elements.

In ongoing work, I explore the syntactic significance of @. Tentatively, I suggest it is the syntactic label, which is necessary for internal merge. Thus, only projections bearing the @ feature can undergo movement. For example, incorporated elements

cannot be extracted (there is no 'excorporation,' Baker 1988). If correct, the connection between the @-label and internal merge would clearly establish the syntactic significance of @. A complication is that clitics appear to move, under some circumstances, as if they had @, but then to become dependent for their linearization on their host, as if they lacked @. These cases might suggest that @ can be deleted or somehow neutralized in the course of a derivation; or that there is a way for @-less pronominal elements to move despite the general restriction of internal merge to nodes with @.
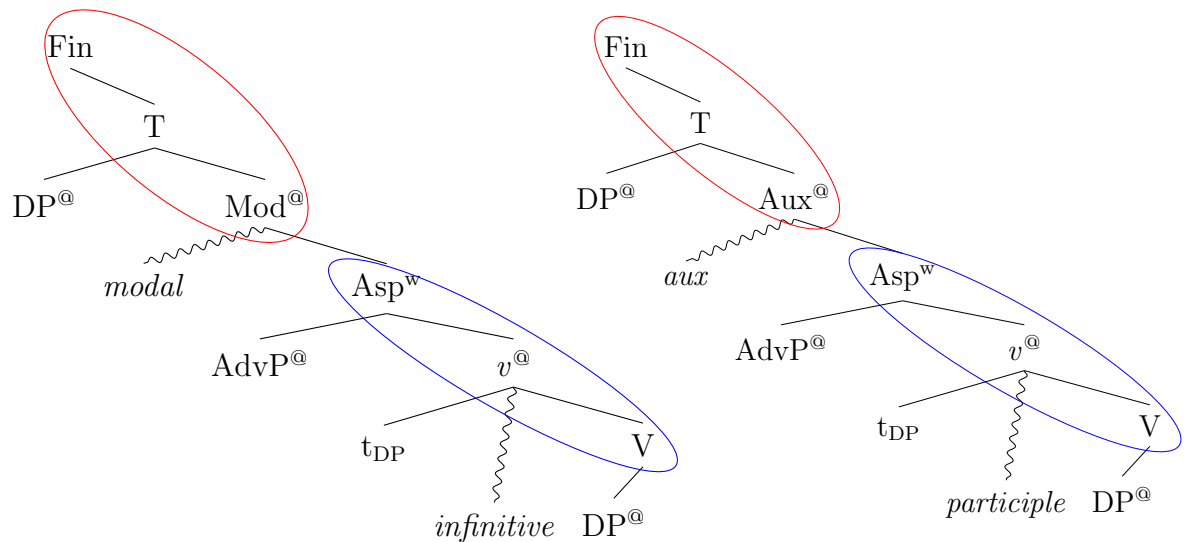
6   Periphrastic tenses and the w property

To recap, learners posit a feature w on a head which is spelled out by a consistently word-final morpheme, and a feature @ on a head which is the site of linearization of a word. The distribution of w's in an extended projection span partitions it into domains for lexical matching (L-matching, in Bye and Svenonius 2012), domains which we can call insertion spans. Insertion spans with a w at the top are w-spans, which will spell out as prosodic words, and insertion spans without a w at the top may spell out as light function words or clitics (like the copular s in English). In both kinds of insertion span, portmanteaux can compete with discrete morphemes.

A w-span linearizes as a unit, with the higher heads mapping to exponents further to the right (following Brody 2000a;b). It can be called a linearizable unit. The material in an insertion span which is not a w-span may linearize independently, depending on the distribution of @'s. We can say that each independent exponent in an insertion span without w, for example a preposition or a determiner, is also a linearizable unit.

Each linearizable unit is linearized at a local @. If there is only one @ in an extended projection span, then all the material in the extended projection span will linearize there. Only those exponents which are in a w-span can be consistently expected to appear in mirror order; light elements not contained in any w-span may surface in left-right order from top to bottom. If there are multiple @'s and multiple linearizable units, then linearizable material will associate according to some possibly language-specific principles.

English modals and auxiliaries can easily be seen to linearize independently of their associated main verbs, since they are frequently separated from them by adverbs. This will induce the learner to posit distinct @'s in the English verbal extended projection, one for the main verb and additional one for each auxiliary. In other words, there are heads which are present only when modals or periphrastic tenses are present which bear @, something along the lines of the tree representations below.

(20) English modals and auxiliaries introduce @

Fin
T
DP@   Mod@
    modal   Asp^w
        AdvP@   v@
            t_DP   V
                infinitive DP@

Fin
T
DP@   Aux@
    aux   Asp^w
        AdvP@   v@
            t_DP   V
                participle DP@

Norwegian offers an interesting comparison, because the system of modals and periphrastic tenses is similar; there are modals taking an infinitive and a perfect and a passive which involve an auxiliary and a participle. Norwegian is also basically VO, like English. However, controlling for V2, the extended projection span consisting of a combinations of modals and/or auxiliaries and a main verb linearizes together; it is not separated by adverbs in the standard dialect but forms a cluster (Nilsen 2003, Bentzen 2005). This is illustrated below with an example from Nilsen (2003).

(21) *at   det ikke lenger   alltid helt   kunne ha   blitt   ordnet*
     that it   not anymore always completely could have become fixed

'... that it could no longer have always been completely fixed'
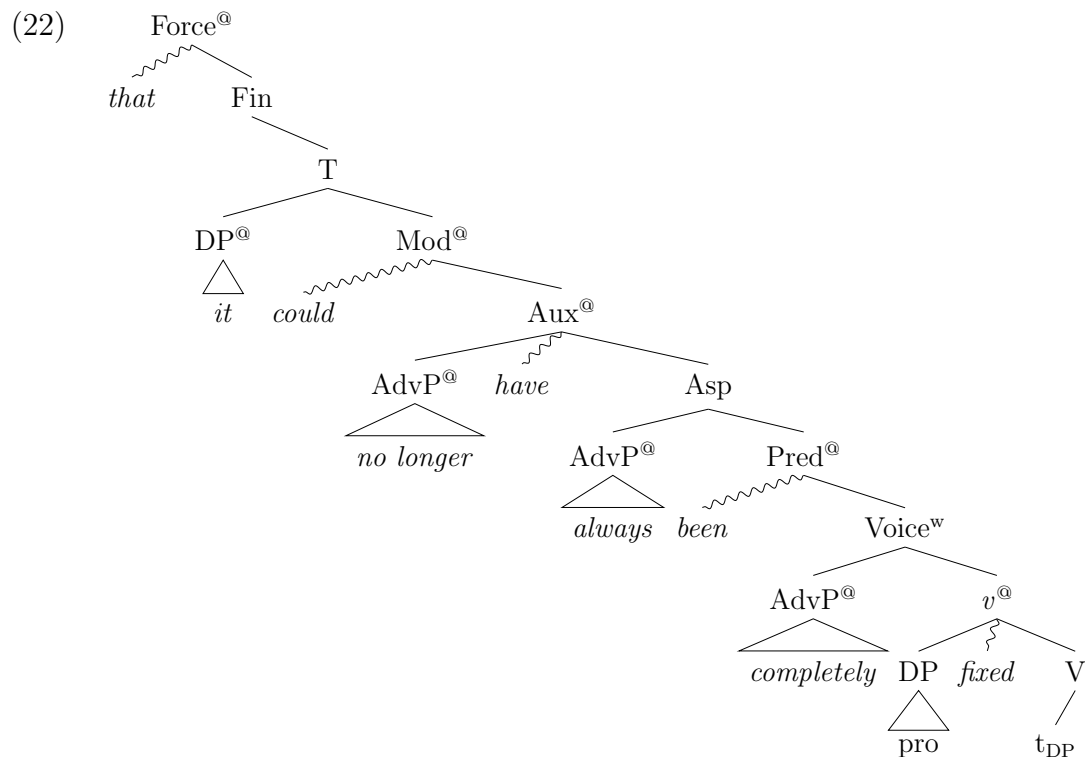
This suggests that the heads expressed by modals and auxiliaries and their associated morphology do not introduce additional @'s, in Norwegian. Instead, the entire extended projection span linearizes where the main verb does, at v (preceding all internal arguments).

Another difference between English and Norwegian is that the inflectional morphology on the modals and auxiliaries is more transparent and regular; modals have both finite and non-finite forms, unlike English, and the auxiliaries have regular present and past tense endings to a greater degree than in English (e.g. perfect auxiliary *ha-r* 'have-PRES,' passive auxiliary *bli-r* 'become-PRES'). In addition, the auxiliaries in Norwegian do not reduce phonologically to the degree that they do in

English, but surface more regularly as prosodic words. I tentatively suggest that the inflectional heads introduced in the periphrastic verbal forms in Norwegian introduce w's, unlike in English.

This mean that a two-part verb like *had arrived* or *is fixed* in English corresponds to an extended projection span with one w (on the inflectional ending of the participle) and two @'s (one on v and one in T), while the equivalent two-part verbs in Norwegian, *hadde ankommet* 'had arrived' and *blir reparert* 'becomes fixed' correspond to an extended projection span with one @ (on v) and two w's (one for the participial ending and one for the tense ending on the auxiliary).

This is illustrated for Nilsen's example and its English equivalent in the trees below.

(22)

Force@
 — *that*
 — Fin
   — T
     — DP@
       — *it*
     — Mod@
       — *could*
       — Aux@
         — AdvP@
           — *no longer*
         — *have*
         — Asp
           — AdvP@
             — *always*
           — Pred@
             — *been*
             — Voice^w
               — AdvP@
                 — *completely*
               — v@
                 — DP
                   — pro
                 — *fixed*
                 — V
                   — t_DP

(23)

Force@
- *at*
- Fin
  - T^w
    - DP@
      - *det*
    - Mod
      - AdvP@
        - *ikke*
      - Inf^w
        - Aux
          - AdvP@
            - *lenger*
          - Asp^w
            - AdvP@
              - *alltid*
            - Pred
              - Voice^w
                - AdvP@
                  - *helt*
                - v@
                  - DP
                    - pro
                  - *kunne ha blitt reparert*
                  - V
                    - t$_{DP}$
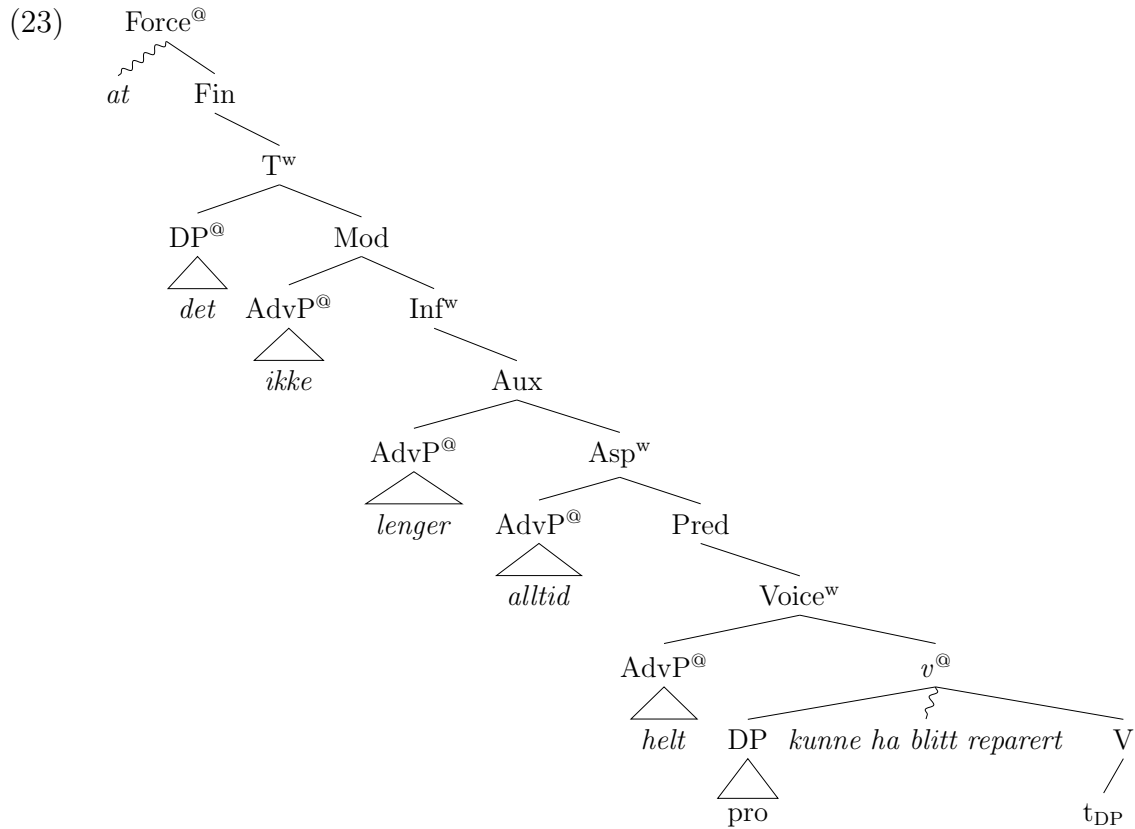
The Norwegian extended projection of V is parsed into several distinct w-spans which share a single @. Based on the linearization behavior of such cases, I conclude that a w-span which takes another w-span as a complement forms a *cluster* with it, if there is only one @, but the availability of a second @ in the same extended projection span allows the span to be discontinuous.

In contrast, when a defective specifier includes a w but no @, and is contained inside another w-span, the two form a compound or incorporation structure. These are not separable. A higher @ in the same extended projection cannot serve as the linearization point for a w-span which is within another w-span.

(24) Cluster $[_\omega$X-W$]$ $[_\omega$Z-Y$]$ Compound $[_\omega[_\omega$ Z-Y $]$ X-W$]$

```
      W^{w@}                        W^{w@}
        \                          /     \
         X                       Y^w      X
          \                       \
           Y^w                     Z
             \
              Z
```
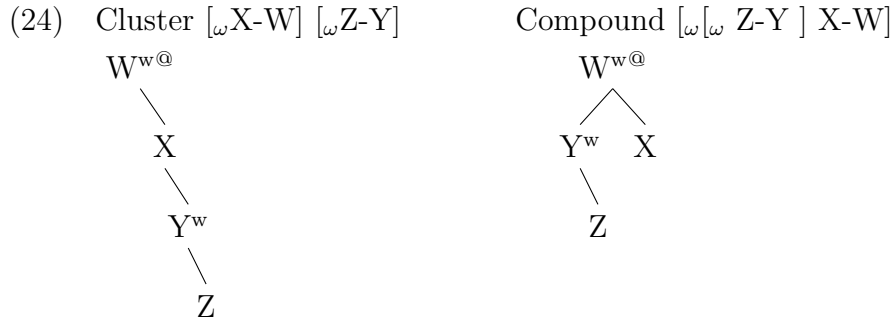
Thus, for the purposes of prosodic word formation, w-spans do not contain w-span complements, only w-span specifiers. This allows a technical definition of the difference between a cluster and a compound (namely, that in a compound, one w-span contains another, while in a cluster, two independently linearizable w-spans are linearized under one @). Within a w-span, the order of morphemes is governed by the mirror principle, but the order of words in a cluster is often left to right from top to bottom; see Wurmbrand (2005) on variation in the order of verb clusters in West Germanic.

7   V2, V-to-T, and the trigger problem

I mentioned earlier that the head movement theory has a 'trigger problem,' in that it is difficult to find a principled account of the distribution of the triggers necessary to get the facts right. I want to show now that the direct linearization alternative developed here does not suffer from any analogous problem.

To review, the trigger problem is the problem that there are intermediate steps of head movement which are not motivated; it is unclear what their 'trigger' is, and movement is normally taken to be triggered by the presence of a feature. The Head Movement Constraint, already mentioned, requires that head movement take place in local steps, so that in an extended projection span C–T–Asp–Voice–v–V, the verb would have to move to v before it could move to Voice, and to Voice before it could move to Asp, and to T before it could move to C.

In Norwegian, Swedish and Danish, this poses a conundrum, because the verb surfaces in v in embedded clauses and in C in otherwise identical main clauses, as illustrated in (25).

(25) a. *at   de   alltid   lytter*
          that they always   listen

     'that they always listen'

  b. *Derfor   lytter de   alltid.*
      therefore listen they always

     'Therefore they always listen'

Consider a derivation in which Voice is merged with *v*. At this point, if the clause is destined to be embedded, the verb should not move. But if the clause is destined to be a matrix clause, the verb should move. However, there is no difference between main and embedded clauses in the featural specifications of T, Asp, or V.

To anticipate a later stage of the derivation is called 'look-ahead,' and is generally assumed to be ruled out by principles of efficient computation (Chomsky 1995b). The alternative, it seems, would be to wait for the relevant information: once matrix C is merged, the verb then makes the move to Asp. But this violates another principle of efficient computation, strict cyclicity: the derivation should not tamper with previously completed structures (Chomsky 1965).

Successive-cyclic movement of phrases is different. Consider an example like *What do you think they eat?* Here, there is an embedded clause which is not interrogative, and so provides no independent trigger for wh-movement. Yet there is substantial evidence that the wh-expression must move to the embedded CP edge before moving on to the matrix. At the crucial stage of the derivation, there is a complete non-interrogative phase containing a wh-expression, e.g., a vP phase like [*they eat what*]. Before this phase spells out, *what* must evacuate to the edge. This can be motivated by the fact that *what* is an operator with uninterpretable features, and cannot be interpreted in this vP. In other words, this vP could not be interpreted at LF as is, so a feature must be inserted to evacuate the wh-expression. Analogous considerations can be assumed to hold for relative clause operators and moving topics and foci.[6]

Thus it seems that successive-cyclic A-bar movement can obey the Extension Condition, the No Tampering Condition, and strict cyclicity, under reasonable assumptions. Verb movement in Mainland Scandinavian is different, since what is moving is not an operator; it could clearly remain in situ, since it does in embedded clauses which have no special properties that relate to the interpretation of the verb

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[6]In the case of multiple wh, where a wh may remain in situ, we might assume that a different feature is inserted at the edge of the embedded phase, one which will eventually require a higher wh to be merged.

(unlike the way multiple questions have special properties that relate to the interpretation of the in situ wh, for example). Furthermore, the late-triggered steps of movement are not to a phase edge, but to phase-internal heads like Voice and Asp and T.

Direct linearization, in contrast, has no trigger problem. The extended span corresponding to the inflected verbal word contains at least T and V and all the heads in between. This linearizes in v in embedded clauses, so there must be an @ feature on v. This @ provides a linearization point for any auxiliaries in the T-domain, as discussed above.

In a typical embedded clause, C is either filled with a complementizer, so has @, or is null. In a matrix clause (as well as in certain kinds of embedded clauses with matrix-like properties), the finite verb linearizes in C. This means that there must be an @ feature in matrix C. There are three different situations to consider: a finite main verb, a case with a finite auxiliary and a non-finite main verb, and a case with a finite auxiliary and more than one nonfinite verb.

In case there is just a finite main verb, it linearizes in C, as already seen in (25). This can be described in terms of 'relinearization'; the verb first linearizes in v (perhaps when the vP phase is spelled out), but then when C is merged, it relinearizes there (perhaps made possible by the fact that v is part of the 'edge' of the lower phase, so still accessible to the CP phase). In case there is an auxiliary, both verbs surface in v in an embedded clause, and when C is merged, relinearization affects the upper w-span but not the lower one. Thus the upper w-span is a potentially linearizable unit, which can linearize independently if given the opportunity.

(26) a. *at   de   alltid   har   lyttet*
        that they always   have   listened

        'that they have always listened'

     b. *Derfor   har   de   alltid   lyttet.*
        therefore have   they always   listened

        'Therefore they have always listened'

As already noted, a compound involves a word within a word, and the subparts are not normally linearizable. A compound verb can move to second position together, unlike a cluster.

(27) Compound verbs in second position in Norwegian

a. *Her leke-slåss   jeg med valpen.*
   here play-fight.PRES I   with puppy-DEF

   'Here [in this picture] I'm play-fighting with the puppy'

b. *Derfor   sitte-danse-r   jeg og   bare veiv-er   litt   med*
   therefore sit-dance-PRES I   and just wave-PRES a.little with
      arm-ene
      arm-PL.DEF

   'That's why I sit-dance and just wave my arms a little'

A compound verb has a different configuration from an auxiliary plus main verb: the lefthand member of the compound is subordinate, a left branch w dominated by the w of the word as a whole. This does not constitute a distinct w-span in the extended projection span of the verb.

In the case where there is more than one auxiliary, the empirical fact is that only the finite one linearizes at C, the rest at v (as in (25). Again relinearization affects the least material possible that could linearize independently.

8 Conclusions

I criticized four other positions as inadequate. Here I briefly summarize why my alternative account does not suffer from the same inadequacies.

The ALEXIST position failed to account for the systematic correspondences between structural and referential deficiency; in my framework, heads with @ confer content as well as linear independence, and heads with w confer content as well as prosodic prominence; lack of either will result in both phonological and semantic deficiency.

For example, take the observation that incorporated nouns are normally referentially deficient. What prevents referential independence of an incorporated noun, on my framework? Suppose that whatever heads a referential expression is a D. If D is syntactically independent, as observed by word order alternations, then a learner knows it has @. The simplest combination of these two observations is that the @ feature is a property of D itself, rather than some head below D; this is especially clear if there is an overt determiner or case morpheme lexicalizing D, as in English, but will also be the null hypothesis in a language with no overt D in lexical noun phrases.

Now, when the learner encounters an incorporated N, being trapped linearly inside the verb will suggest immediately that it lacks @; if it lacks @, and D has @, then it is a simple inference that it probably also lacks D. If no evidence to the contrary emerges, then incorporated Ns will be assumed to lack D systematically.

Clitics might be a case where a referential element, by definition D, lacks @. In the presence of clitics, then, a learner must also posit a way for D to lack @. On the other hand, Cardinaletti and Starke (1999) show that a strong pronoun *must* be referential, and cannot be, for example, expletive; while weak and clitic pronouns may have a lower degree of referentiality (for example they may be expletive), so the loss of @ is not unrelated to referentiality.

The LEXICALIST position failed to account for the syntactic nature of word structure; in my account words are built up of heads, just as on the X^0 account.

The X^0 THEORY relied on a problematic assumption about head movement (namely, that it exists), which my account doesn't. The X^0 THEORY furthermore required an undermotivated distinction between projection as a phrase (under merge with a phrase) and projection as a head (under merge with a head); my theory requires no such distinction.

The PHRASAL WORD theory required irrationally exuberant remnant movement, including evacuation movements which according to Cinque (2005) must not exist, and still didn't provide a workable characterization of those phrases which surface as heads and those which don't, like the ALEXIST position.

I would like to stress that I am not positing a "PF" theory of syntactic words or of head movement. PF is where phonological words are formed and linearized, influenced by features which are present in the syntactic tree independently of their phonological expression.

The simplest definition I can offer of a syntactic word is that it is the unit which maps at spell-out to a prosodic word in the input to the phonological computation. In my system, that is a w-span, including any rootless defective specifiers which lack both w and @ (normally surfacing as light prefixes). A w-span which contains a defective w-span as a specifier (defective in lacking @) will be mapped to a recursive word (a compound or incorporation structure). If two w-spans share a single @, but neither is contained in the other, they will also spell out together, as a cluster.

A free function word is a portion of an insertion span that lacks a w and spells out at an @ independently of any w-span. Some elements which are traditionally thought of as free function words may on my analysis turn out to be clusters, for example it is not clear that the French P-D sequence *de la* with feminine nouns has more than a single @.

I said at the beginning of this talk that the lack of a consensus concerning the

syntactic word is an embarrassment, but where there used to be four positions, now there are five; so unless people are willing to abandon two of the old positions, we're no better off than where we started.

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