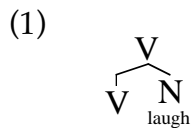


CONFLATION

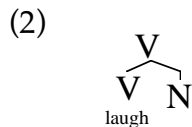
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0. Introduction.

The process which we have been calling "Conflation," extending a term introduced by Talmy (1985) for a related phenomenon, has figured importantly in our discussions of argument structure. We use this term to refer to the "fusion of syntactic nuclei" which accounts for derivations in which the phonological matrix of the head of a complement (say N) is inserted into the head, empty or affixal, which governs it, giving rise to a single word (e.g., a denominal verb, where the conflating head is N, a deadjectival verb, where the conflating head is A, and so on). Thus, for example, the verb *laugh*, we contend, is fundamentally transitive, having the structure portrayed in (1):

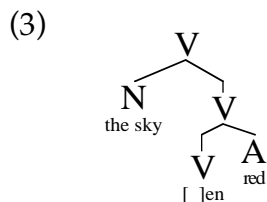


The actual pronunciation, however, has the phonological matrix (abbreviated here by means of the standard spelling *laugh*) under V, not under N, the item with which it is associated in the lexicon:

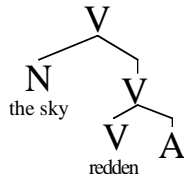


The result of Conflation is the single verbal word *laugh* which functions, in sentential syntax, as a standard intransitive verb of the type currently termed "unergative," retaining, however, the canonical transitive characteristic of not projecting a specifier.

Conflation accounts as well for an impressive store of English deadjectival verbs and transitive denominal verbs of the locative and locatum category. Deadjectival verbs often implicate overt verbal morphology, typically the suffix *-en*, as in (3) and (4), the basic and conflated representations of the unaccusative verb *red* (as in *the sky reddened*):

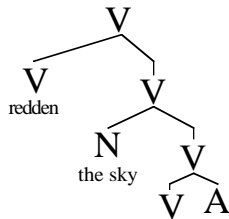


(4)



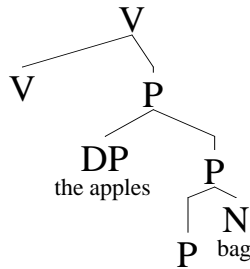
The transitive alternant of *redden* involves a second Conflation, the first being that depicted in (4), the second being the further Conflation of the primary derived verb *redden* into a matrix empty verb, as in (5), the verb of *the sunset reddened the sky*:

(5)

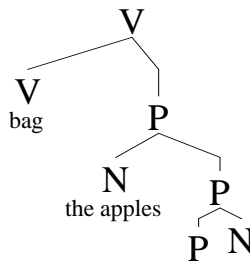


Location and locatum verbs are similarly "complex," involving Conflation of N with P and of the result of this with the matrix V, as in *bag*, of *bag the apples*, derived as in (6) and (7):

(6)



(7)



Our portrayals of Conflation are informal, purposely, since our concern in this discussion is with the very questions which must be answered before any formal representation of Conflation can possibly be given. Our questions are the following, among others. What is the precise nature of Conflation? Is it a form of Incorporation observing the Head Movement Constraint of Travis (1984; Baker, 1988)? What motivates Conflation? Does Conflation leave a trace in the position

corresponding to the conflated item? What is the nature of the trace, if there is one? Is Conflation a strictly phonological matter? Or is it visible at Logical Form?

The foregoing amounts, in effect, to just one large question, i.e., the grammatical nature of Conflation. There is another rather large question, however—namely, what is the proper analysis of so-called "cognate argument constructions" of the type represented in (8):¹

- (8) (a) They are dancing a Sligo jig.
- (b) He shelved the books on the windowsill.
- (c) Leecil saddled old Gotch with his new Schowalter.

This is a problem, presumably, because each of the verbs here is evidently the product of Conflation. The sentential syntactic object in (8a), i.e., *a Sligo jig*, co-occurs with the presumably conflated N *dance*. Unless something else is involved here, this should be impossible. It would be impossible, other things being equal, if Conflation were movement leaving a trace in complement position, under the standard assumption (perhaps incorrect) that lexical insertion cannot take place at a point occupied by a syntactic object (whether that is an empty category or not). Similarly, the location and locatum verbs of (8b-c) are the product of Conflation, by hypothesis. In (8b), for example, *shelve* has conflated first with P then with V, giving the derived verb *shelve*. Here again, this structure should be impossible, under standard assumptions, because the conflated element (the complex P resulting from the Conflation of *shelve* with the empty preposition) co-occurs with a projection of P located in the position of the presumed trace of the conflated P itself. In short, we must develop a theory of cognate arguments.

1. Some preliminary observations on Conflation.

Incorporation comes to mind as the syntactic process most like Conflation, sharing with it the property of conforming to the Head Movement Constraint (Travis, 1984) and the Empty Category Principle (Baker, 1988), as well as the property of forming a word by attaching the head of a complement to the head of its syntactic governor.

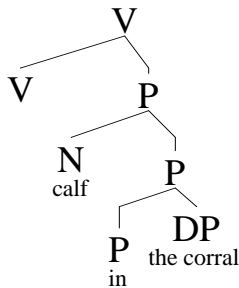
It is possible, despite the obvious similarity, that Conflation is different from syntactic Incorporation. The difference, if it exists, resides in the matter of government, a relation which plays a role in constraining both processes. In the case of Conflation, it is evident that government, while certainly implied by it, is not sufficient to constrain Conflation. This can be appreciated through a consideration of location and locatum verbs. While (9a-b) are possible, (10a-b) are not:

¹Tanya Reinhart has pointed out (p.c.) that this use of the term "cognate argument" is too broad. Eventually, we will have to distinguish the true cognate object construction (e.g., *sleep the sleep of the just*) from hyponymous or metonymous argument constructions like those in (8). We will take this issue up in section 3 below.

- (9) (a) Leecil corraled the calves.
 (cf., put the calves in the corral)
 (b) Myrtis rosined the rope.
 (cf., treated the rope with rosin)
- (10) (a) *Leecil calved in the corral.
 (b) *Myrtis roped with rosin.

The structural configuration involved in (9) is that associated with location and locatum verbs, and Conflation proceeds as in (7) above. In the case of (10), the structure is the same, as shown in (11), corresponding to (10a) and abstracting away from Conflation:²

(11)



The ill-formedness of the hypothetical location construction (10a) results from the circumstance that Conflation is from the Specifier of the P-projection, not from the head of that projection. This is what we contend, at least. Conflation of a Specifier is evidently impossible, although Incorporation under government would presumably permit this—the bare noun *calves* is governed by V in (11), but this is evidently insufficient for Conflation. Our account of the hypothetical locatum construction (10b) is parallel—*rope* is a Specifier and hence cannot conflate with V.

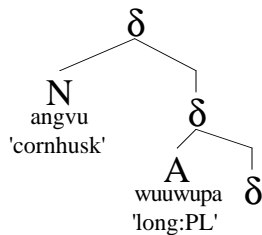
The special character of Conflation in this regard is questionable, in fact, since it might be the case that syntactic Incorporation is also subject to this constraint. Putative examples of Incorporation of a Specifier are not fully convincing. The Uto-Aztec language Hopi has a number of "incorporating verbs" which appear to permit the extraction of a head noun from a phrase, leaving a residue. In the following example (from Hopi Dictionary Project (HDP), 1998:880), an adjective remains in object position and, accordingly, in accusative case:

- (12) Pas wuuwupa-t angap-soma.
 very long:PL-ACC husk-tie:PERF
 'She bundled up really long cornhusks.'

²(10a) has a meaning, of course, but not that corresponding to (11).

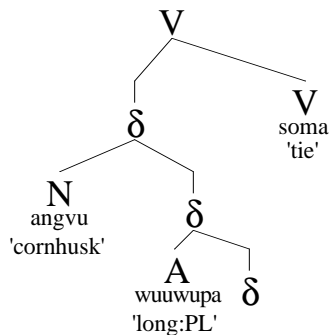
The morphological form of the adjective here is that found in predicative function, i.e., *wuuwupa* 'long, plural'. By contrast, as an attributive modifier, the adjective would appear in its shorter compounding form *wupa-* (neutral for number, as expected). It is possible, therefore, that the incorporated noun (*angvu* 'cornhusk(s)'), originates in Specifier position in relation to the adjective, the latter being the predicate of a so-called internally headed relative clause (a construction known to exist in Hopi; cf., Jeanne, 1978). If so, then this Hopi construction may be an example of syntactic Incorporation of a Specifier. Predicate adjectives presumably appear in the Delta functional projection, their subject being the Specifier of the δ -projection, as in (13):

(13)



Accordingly, the verbal projection in (12) is the structure shown in (14), in which the verb locally c-commands the Specifier of the δ -projection. If our analysis of this Hopi construction, and others like it, is correct, then Hopi permits Incorporation from a Specifier position (in this case, resulting in the derived verb word *angap-soma* 'husk-tie,' using the compound form of the nominal root, i.e., *angap-*):

(14)

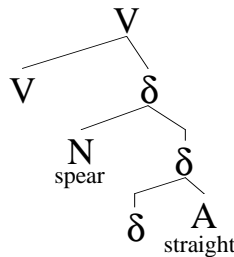


We have maintained that this sort of derivation is impossible for Conflation, not only in the case of locatum and location constructions, but also in the case of deadjectival predicates, as in (15), more closely resembling the Hopi example:

- (15) (a) *Japanangka spears straight.
(Cf., Japanangka straightens spears.)
- (b) *The north wind skys clear.)
(Cf., The north wind clears the sky.)

The verbal projection of (15a) has the structure shown in (16), abstractly the same configuration as the well-formed *J. straightens spears*:³

(16)



The ill-formedness of (15a), on the intended reading, is due, as in the Hopi example, to the illegitimacy of Conflation from Specifier position.

It does not really matter whether our analysis of the Hopi construction is exactly correct. Whatever turns out to be the correct analysis, the essential fact is that alleged Incorporation of the Hopi type is distinguishable from Conflation in certain important respects. It could be, for example, that Hopi constructions of the type represented by (12) are simply instances of the general phenomenon in that language of "leaving a residue" in an argument position from which Incorporation takes place. This is enough to distinguish the two operations. Conflation never leaves a residue of the sort seen in (17), for example (also from HDP98:880):

- (17) (a) Umu-na kaway-mu-y kuk-hep-ma.
 2PL-father horse-PL-GEN track-seek-GO:PERF
 'Your father has been to search for horses' tracks.'
- (b) Nu' pu-t ki-'yta.
 I that-ACC house-HAVE
 'I have that as a home.'

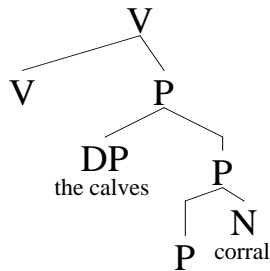
If these are also cases of Incorporation, we suppose that (17a) involves Incorporation of the nominal head (*kūuku* 'tracks,' *kuk-*) of a possessive construction, leaving the possessor behind. The type exemplified by (17b) is reasonably common in languages with noun Incorporation. It is subject to various analyses, however. On the analysis according to which it is derived through Incorporation, then the residue of Incorporation here is the determiner *pu-t* 'that-ACC' which remains in the position corresponding to the grammatical object of the verb.⁴

³Again, it happens that (15a) has a meaning, but not the one which is of interest here, i.e., that associated with the structure shown in (16). That is to say, it does not mean "Japanangka straightens spears," or the like.

⁴We equivocate for good reason—there are very credible alternative views of these matters. There is an analysis of constructions like (17), and (12) as well, which changes the nature of the problem entirely. This is the "non-incorporation" analysis which, so far as I understand, is proposed in

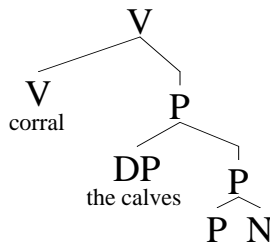
To be sure, Conflation, as we conceive it, can leave a residue—it does so necessarily in the derivation of location and locatum denominal verbs, as, for example, in the derivation of (9a), giving the denominal location verb *corral* by Conflation of *corral* with empty P and Conflation of P with V in the structure given in (18). The latter step introduces the derived item *corral*, i.e., P conflated with its complement N (*corral*), into the phonological matrix of V:

(18)



It is the Conflation of P with V that leaves a residue, namely the structure dominated by P, containing the overt Specifier *the calves*:

(19)



There is a difference between the English Conflation examples and the Hopi cases of supposed Incorporation. In Conflation, the syntactic relation between the nuclei involved is one which we will refer to here as "strict complementation":

(20) Strict Complementation:

A head X is the strict complement of a head Y iff Y is in a mutual c-command (i.e., sister) relation with the maximal categorial projection of X.

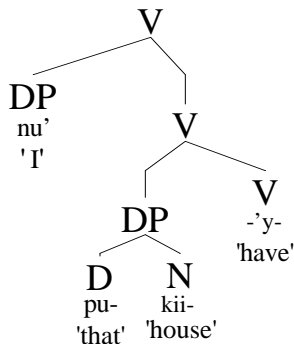
The categorial projections of N are N', and NP; of P, P', and PP; and so on—although this is not always reflected in notation, the bare categorial labels (N, V, etc.) being used for any level of projection. The maximal categorial projection is a node which does not project further. DP is not a categorial projection of N, nor is TP a categorial projection of VP, and so on, though these functional projections may be significantly related as "extended projections" (Grimshaw, 1991) to the categories they select.

Mithun (1986). There the issue becomes that of "cognate and hyponymous arguments," to be discussed at a later point.

Conflation in (19) conforms to the Strict Complementation requirement, since the maximal projection of P (also symbolized \bar{P}) is a sister to V, the "target" or "host" of the conflating head *corral*. All cases of Conflation that we know of conform to this principle, which also accounts incidentally for the fact that Specifiers do not conflate, since the categorial projection of a Specifier never stands in the sister relation to a potential target. Thus, for example, *spear* in (16) is not a sister of V, though *spear* is surely governed by V, a fact which shows that local c-command and government are not enough.

Incorporation of the type we have attributed to Hopi is not subject to (20), assuming that it does indeed permit the kinds of "stranding" exemplified in (12) and (17). Consider, for example, the structure of the verbal projection in (17b), shown here in (21):

(21)



While Incorporation of *kii-* 'house' is possible, giving the denominal possessive verb *ki-'y-* 'have a house' and stranding the determiner *pu-* (ultimately the accusative form *pu-t*) 'that', Conflation is impossible in this case because N is not a sister of the matrix verb, as would be required of Conflation in conformity with the principle of Strict Complementation.

Our task now is to determine why Conflation, unlike Incorporation, is subject to this principle.

2. On the nature of Conflation.

We would like to take seriously the idea that Conflation is a concomitant of Merge, the operation which is fundamental in defining the projection of syntax from the lexicon (Chomsky, 1995). We expect that a proper understanding of its relationship to Merge will lead automatically to an explanation of the constraints on Conflation.

To say that Conflation is a concomitant of Merge is to say that it is in some intimate manner *bound up* with Merge, that it is a *part* of Merge in some sense. To pursue this idea, let us consider the simplest case—for example, the verbal projection *make trouble*. This is formed by selecting each of the items *make* and *trouble*, and combining them by means of the Merge operation, as shown in (22):

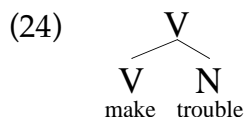
- (22) (a) Select [make]
 (b) Select [trouble]
 (c) Merge([make], [trouble]) = {[make], [trouble]}

This defines a syntactic configuration in which the two items, *make* and *trouble*, are sisters—they are Merge-partners. We customarily represent these parts by means of a "general" categorial label (e.g., V for *make*, N for *trouble*), but this no more valid a convention than the use of the spellings of the words themselves, the intent in any event being to abbreviate the set of features inherent in each of the constituents. But here we touch on an issue that is central to our investigation, namely the labels of lexical items and other syntactic objects. We say that V is the label for *make*, or alternatively that "make" itself is the label, but in either event this is clearly an abbreviation for something—presumably it is an abbreviation for the features of the item, as suggested. Parallel remarks apply for the noun *trouble*, of course.

But it is not only terminal nodes that have labels; all syntactic objects do. In particular, syntactic objects defined by Merge have labels. Thus, for example, the expression {[make], [trouble]}—whether abbreviated in this manner or by means of the customary categorial abbreviations, {V, N}—must be associated with a label, traditionally V' or VP, in this case. The label of the phrase is determined by one or the other of the two constituents, and that constituent is therefore the head of the construction. If V determines the label, then V is the head; if N determines the label, then N is the head—the choice of category labels or standard spellings is arbitrary in customary usage, and there is no need to distinguish phrasal levels:⁵

- (23) (a) {V {V, N}}
 (b) {[make] {[make], [trouble]}}

What is a label, precisely? Our standard arboreal representations of syntactic configurations give the impression, almost certainly misleading, that nodes corresponding to nontrivial projections of terminal nodes are somehow "simpler," less encumbered with features, than the terminal nodes themselves:



Thus, for example, while the terminal nodes presumably have phonological features associated with them, the same is certainly not true of higher projections of those nodes. This is at least a popular working assumption. It could be wrong, of course; it may belong rather to the category of unexamined initial impressions unsupported by any real linguistic considerations. In fact, this assumption is

⁵If N were designated the head, giving {N {N, V}}, the structure would fail, since the argument structure properties of V could not be expressed.

almost certainly wrong if, as is probably the case, the labeling of syntactic objects is automatic and simple (cf., Chomsky, 1995).

Let us consider the simplest story, i.e., that the label of a syntactic configuration is a copy of the features of the head:

- (25) Label:
The label of a syntactic object X is the feature set [F,H], where [F,H] is the entire complement of phonological, morphological, syntactic and semantic features of H, the head of X.

This is actually quite natural, given that it is trivially true in any event—it is true where X is only trivially a maximal projection, i.e., where it is unprojected X° . The principle formulated in (25) simply extends the automatic labeling to all nodes which are projections of X.

We are holding in abeyance for present purposes the question of what exactly is meant by “features” in (25). We are assuming, however, that one of the implications of this principle is that the label of a syntactic object includes information germane to its PF interpretation, i.e., to the “spell out” operation(s) affecting it. Without specifying too precisely the form in which this information is registered in the label, we will refer to it by means of the expression “p-signature,” representing a phonological feature set of some sort, possibly a set of feature matrices.⁶ It is the p-signature which is directly relevant to the theory of Conflation. For a given item, the p-signature will be symbolized by means of the standard orthographic representation of the item; thus “make” symbolizes the p-signature of the verb in (24), and “trouble” that of the nominal complement. This is merely a notational convention, of course.

If Conflation is a concomitant of Merge, as we claim, then, in theory at least, Conflation has access to the same linguistic elements that Merge itself has access to. In particular, Conflation has reference to labels, perhaps *only* to labels.

We propose that Conflation is in fact an operation on labels:

- (26) Conflation:
Conflation consists in the process of copying the p-signature of the complement into the p-signature of the head, where the latter is “defective.”

There are two cases in which a p-signature is “defective.” The first and most obvious is that in which the p-signature is entirely empty, containing no

⁶This notion of label must be reconciled with the virtually incontrovertible evidence for the Distributed Morphology principle of “late insertion” (Halle and Marantz, 1993). In short, the concept “label” embodied in (25) cannot be taken to imply that the actual phonological representation of the head is given there, since that information is dependent on morphological relations effected in sentential syntax and, hence, unavailable in the structures projected from the lexicon.

phonological features. This is the situation involved in zero derivation, so common in English. The second case is that in which the head is an affix. Here we assume that the p-signature is partially defective, being bipartite, with one part consisting of a set of phonological features (the affix) the other of an empty root.

English denominal verbs, like unergative *laugh*, *sneeze*, etc., exemplify the simplest case. The head has a defective p-signature, lacking phonological features entirely; the complement, on the other hand, has a "substantial" (as opposed to "empty") p-signature—p-signatures are cited in brackets:

- (27) Head Complement
 {V, [∅]} {N, [laugh]}

The symbols V and N stand for the lexical and syntactic features associated with these syntactic objects. The notations [∅] and [laugh] correspond to the p-signatures of the two items, the first being the empty p-signature, the second the phonologically substantial one.

When these items are selected and undergo Merge, the label of the head, i.e., the feature set {V, [∅]}, is projected to define the features of the construction as a whole. Simultaneously, we propose, the substantial p-signature of the complement is copied into the empty p-signature of the head, substantiating the latter:

- (28) {V, [laugh]}
- / \
- {V, [laugh]} {N, [laugh]}

When this is spelled out, the p-signature of the complement will be deleted, i.e., it will not be pronounced, a circumstance which we will represent notationally by eliminating the p-signature of the complement entirely, as in (29):

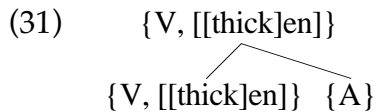
- (29) {V, [laugh]}
- / \
- {V, [laugh]} {N}

In subsequent portrayals of Conflation, we will use this more reduced representation, notationally eliminating the p-signatures of complements where those are into the head.

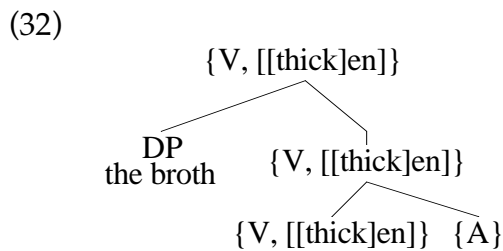
The affixal case can be illustrated by means of a deadjectival verb involving the common derivational affix *-en*, which we take to be the head verb, combined with an empty root [∅]; consider *thicken*, consisting of the following items:

- (30) Head Complement
 {V, [[∅]en]} {A, [thick]}

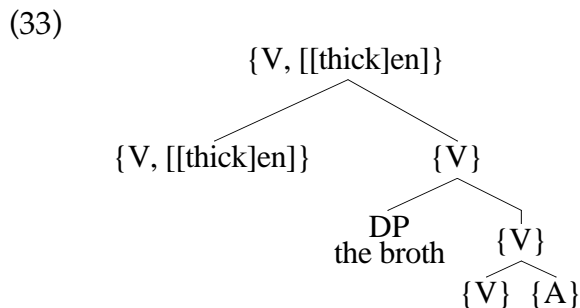
As a result of Merge and concomitant Conflation, the empty root is replaced by the p-signature of the complement, as represented in (31):



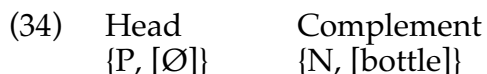
Deadjectival verbs project a Specifier, corresponding to the sentential syntactic subject of the transitive and the object of the transitive. The addition of a Specifier (e.g., the DP *the broth*), through Merge, results in (32), in which the p-signature of the head projects to determine the label of the construction, a verbal projection headed by the verb *thicken*:



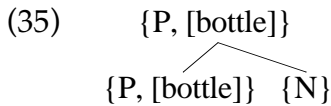
This is the intransitive, or unaccusative, alternant, as in *the broth thickened*; the transitive, sometimes called "causative," alternant is the result of Merge combining (32) and a verb, a verb whose p-signature is defective and, hence, supplied by Conflation, replacing the defective p-signature with the substantial p-signature of the complement (i.e., the p-signature of (32)), as in (33), the argument structure representation of *thicken the broth*:



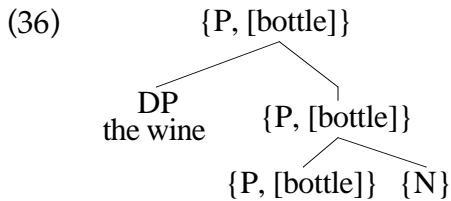
The derivation of a denominal verb of the so-called "location" type proceeds in parallel fashion. Consider the verb *bottle*, as in *bottle the wine*. The inner projection is headed by an empty P, according to our view of the matter. Its complement is the bare noun *bottle*:



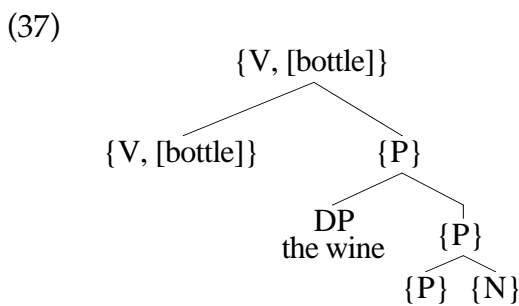
These items are selected and subjected to the Merge operation, and concomitant Conflation, giving (35):



Since the category P forces the projection of a Specifier, (35) must enter into the Merge relation with some appropriate expression, e.g., the DP *the wine*:



In and of itself, (36) will not succeed in English, inasmuch as P-headed small clauses need further lexical support in that language.⁷ This is remedied by Merge, combining (36) with a verb. If the latter is an empty verb, Conflation will supply it with a substantial p-signature in accordance with the principle embodied in (26), resulting in (37) headed by the verb *bottle*:



If this is the correct view of Conflation, it is clear why Conflation is impossible from Specifier position. The only p-signature which is, so to speak, "visible" to a head at Merge is that of the complement, a Merge-partner. Conflation is strictly a relation between the labels of two items combined through Merge. It is also clear why Conflation cannot strand a determiner, for instance. A determiner heads a D-projection, i.e., a DP. A noun internal to a DP cannot conflate with a verbal head sister to DP. This follows directly within the view being courted here, because the p-signature of the noun is inaccessible to the verb; it does not stand in the Merge relation to the verb, only DP does.⁸

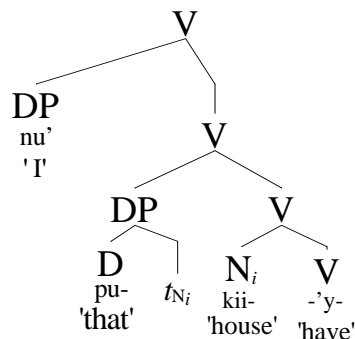
⁷Some languages allow predications of precisely this form, it should be noted. In Hopi, the sentence *pam pas-mi* (he field-ALL) 'he went to the field,' to all intents and purposes, is of this form, adjusting for the head-final organization of phrase structure in Hopi. The sentence is headed by the allative postposition *-mi*.

⁸It is possible that D itself might conflate with a head verb, of course. If this occurs in some languages (e.g., Irish, on some analyses of its agreement system), it is a language-specific possibility.

It follows from these considerations that the denominal verb formation process involved in the Hopi verb of (17b), with corresponding structure (21), cannot be Conflation. That is to say, it cannot be Conflation if the determiner is indeed a "stranded" residue of DP, resulting from the extraction from DP of the lexical head N *kii* 'house' in the formation of the derived verb *ki-'y-* 'have house.' The lexical head N is not the strict complement of V; rather, DP is the strict complement of V, in accordance with (20) and the Merge operation. The same is true of putative cases of adjectival modifier stranding (e.g., (12) *long ... husk-tie*) and possessor stranding (e.g., (17a) *horses' ... track-seek*), if the stranded elements (in their base positions) are contained in categories which "intervene" between the maximal projection of the noun and the target verb. And this would seem to be the case, in fact, as we will see.

If these examples, as well as countless other like examples which Hopi offers, involve moving a noun into an appropriately situated V, then this is not effected by Conflation, since it greatly exceeds the constraints on that process. Rather, if syntactic movement is involved in the Hopi cases, as seems impressionistically to be the case, then the process involved should probably be classed with Noun Incorporation as studied in detail in Baker (1988; and see also den Dikken, 1995:12-13, for relevant remarks).⁹ Consider again the structure depicted in (21), corresponding to sentence (17b). The noun *kii* 'house' is internal to DP, thus D "intervenes" between the noun and the target verb *-'y-* 'have.' Thus, the derived N-V compound *ki-'y-* 'have house' must be brought into existence by means of Incorporation, i.e., by head movement, extracting the noun from DP and adjoining it to the governing verb, as shown in (38):

(38)



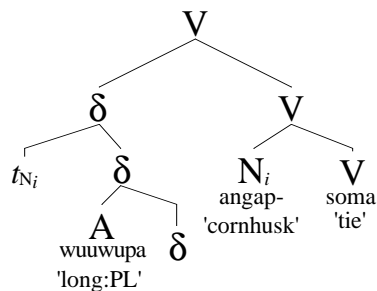
As expected in Incorporation, nuclear relations are not effected—the target (V, in this case) remains the head of the construction. It is a property of this particular verb that it projects a Specifier, having this in common with members of the category P and with possessional verbs in many languages. It also has the

⁹We agree with den Dikken's reinterpretation of Baker's example (43c)—in particular, we agree that it illustrates incorporation into V from the specifier position of the complement of V. It should be pointed out, however, that Baker's own analysis would have the incorporation proceed from the complement position itself, i.e., from the position immediately sister to V.

morphophonological property that it is dependent. It is a suffix and must attach to an incorporated nominal root.¹⁰

Consider now the stranding of an adjective, as in the Hopi sentence (12). The adjective is the lexical head of a small clause. The adjective stands in the complement relation to a functional head Delta (δ , suggesting "degree"), the true head of the small clause.¹¹ The δ -projection is itself the complement of the verb *soma* 'tie,' the target of Incorporation; and it is the Specifier of the δ -projection which is extracted in this case:

(39)



This is presumably a legitimate instance of Incorporation, inasmuch as the specifier of the δ -projection is governed by the target verb, according to an accepted conception of Government. But this would not be a possible Conflation, since the Specifier of the δ -projection is not the strict complement of V. It is not a Merge-partner of V. Rather, the δ -projection itself is the strict complement, and Merge-partner, of the target V.

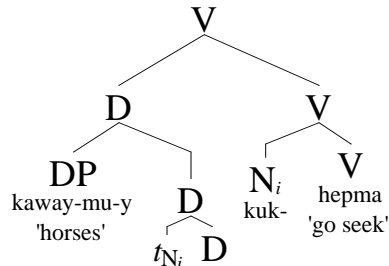
The Hopi sentence (17a) illustrates possessor stranding. Here again, the compound verb (*kuk-hepma* 'go seek track') arises as a result of Incorporation, not Conflation. This follows, by hypothesis at least, since the noun (*kiiuku*, *kuk-* 'track(s)') is extracted from a category which is not the strict complement of the

¹⁰We must assume that the government requirement of Incorporation is met in (38); this would entail that a verb can govern into the extended projection of its complement, permitting extraction of N from DP in this instance. This is questionable, but it is implied in the claim that determiners can be stranded by Incorporation. Baker discusses this phenomenon, citing it as *evidence* for incorporation (e.g., Baker, 1988:92-96), but he does so in the context of a categorial representation in which the lexical head N, not the functional head D, contributes its label to the nominal phrase as a whole. Thus, there is no extraction from DP in the representation used by Baker, so the government question, for possibly accidental notational reasons, does not arise, on the widely accepted view that a verb governs the head of its complement. The issue raises many questions, not the least of them that of the true nature and linguistic status of standard syntactic Incorporation. The outcome of this question, we assume, will leave in tact the idea that Conflation is a matter having to do with labels at Merge. It is not a movement operation.

¹¹Overt instantiations of the category \mathfrak{A} in Hopi include *-va* (interval) and *-qa* (extent), as in *tsaa-va* 'short' and *tsaa-q* 'narrow.' It is probable that the adjective of (12), *wuuupa*, *wuuwupa*, contains the interval element *-va* (hardened to *-pa*). However, I will follow the HDP in not insisting on this here, leaving \mathfrak{A} nonovert in (39).

target V (*hepma* 'go seek').¹² We assume that the functional head of the possessive construction is D, as shown in (40). The stranded possessor is the Specifier in the D-projection, and the incorporating nominal (represented by a trace in (40)) stands in the complement relation to D:¹³

(40)



Our assertions about Incorporation depend rather crucially upon a conception of phrase structure according to which extended nominal projections and adjectival small clauses are headed by functional categories, not by the lexical items which evidently undergo the process. And Incorporation, unlike Conflation, is permitted to occur between a head and an item *properly contained* within its complement. An item M is properly contained in a phrase XP if it is dominated by the maximal projection XP and the latter is not the label of M. Thus, while N is the lexical head of DP, its label is distinct from that of DP and N is therefore properly contained in DP. Similarly, A is the lexical head of its extended projection, δP ; its label is distinct from δP and A is therefore properly contained in δP . Under this assumption, Conflation could not implicate the lexical heads in these constructions because a functional projection intervenes. But it should be said, as an aside at least, that these assumptions about phrase structure are highly theoretical and could, of course, be wrong. For one thing, in the DP examples considered here, for instance, it could well be that the label (and hence the p-signature) of the relevant lexical head does indeed appear at the node which dominates the strict complement and Merge-partner of the target verb. This would be true, for example if the phrases harboring the nouns at issue here were in fact NPs projected by those very nominal heads (as assumed in

¹²Incidentally, the verb *hepma* is itself the product of incorporation, of *heeva*, *hep-* 'seek,' and the (suffixal) destinal purposive verb *-ma* 'go and.'

¹³Nuclear D in possessive constructions is the morphological locus of the number category of the possessum, possessor agreement, and Case (of the DP as a whole). It is never overt on an incorporating lexical head N. This letter is a general fact, extending to other lexical categories as well; and it is an interesting and nontrivial problem (cf., Li, 1990, for relevant discussion), strongly suggestive of an alternative analysis of Incorporation, uniting this process with Conflation. According to this alternative, a head noun Conflates (in our current sense) with its sister, an empty functional head; the projection of the latter Conflates with its sister in turn, e.g., with the verb. For example, in (40), N conflates with empty D, and the maximal D phrase, bearing the p-signature of the noun, Conflates with V (i.e., passes its p-signature on to V). This would be consonant with the fact that only "bare" lexical stems incorporate. But it would also require reconsideration of certain structures—e.g., on the face of it, Specifier Incorporation would not reduce to Conflation as we are now thinking of it.

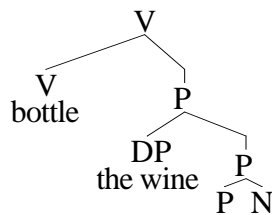
Baker, 1988, following a respected traditional view). And the small-clause structure attributed to the complement in (12), as diagrammed in (13), may not be the proper source of the putative Incorporation. The proper source might instead be the modification construction, in which the noun, not the adjective, is the lexical head. In that case, the noun would project its label to the phrase as a whole. Under these revised assumptions, Incorporation and Conflation would be identically subject to the condition of strict complementation.

For our purposes, the outcome of these considerations does not change our conception of Conflation, which we will continue to assume is a relation between Merge-partners, according to which the p-signature of a complement replaces and thereby substantiates the defective p-signature of a head. If Incorporation turns out to conform to the same strict complementation requirement, then Incorporation might actually turn out to be Conflation. This is immaterial to the nature of Conflation itself.

3. Consequences of Conflation.

Conflation is strictly a matter of labels, in particular, of the p-signature component of labels. Importantly, it has no effect whatsoever on what we might call the s-signature, i.e., the syntactic and semantic features of a syntactic node. Consider, for example, the verb phrase *bottle the wine*, repeated here as (41):

(41)



We return here to the more reduced graphic representation in which the conflated p-signature is written just once, beneath the head where it is ultimately spelled out. The essential point we wish to make here is that the syntactic structure of the verb phrase is left intact. All information necessary for the purposes of syntax and logical form is fully present in the structure (with the understanding, of course, that P and N are abbreviations of the full sets of syntactic and semantic features pertaining to those nodes). We can assume that the p-signatures of all nodes are irrelevant, and invisible, to syntax and logical form.

This answers the question concerning the traces of Conflation, posed in the introduction. Does Conflation leave a trace? In a sense, the question is beside the point, since Conflation is not a movement rule. It is rather the substantiation of a defective p-signature at Merge. In another sense, however, the answer is yes, trivially. Conflation leaves the entire structure in tact, unchanged, in respect to syntax and semantic structure.

This has consequences for another of the questions asked in the introduction—namely, the question of cognate and hyponymous arguments. We must reject the idea once floated by us that the trace of Conflation (then taken to be a movement process) could, countercyclically, be "replaced" by lexical insertion (Hale and Keyser, 1997), effecting a hyponymous relation between an incorporated nominal and the trace-displacing inserted material (as exemplified, for example, by *dance a jig*, where conflated *dance* classifies the referent of the s-structure object *a jig* as a type of dance, rather than a fiddle tune, whistle tune, musical score, or the like).

We must now make a distinction between true cognate object constructions, like that exemplified in (42a) and (42b), and another construction, exemplified in (42c) and (42d), more aptly labeled the "hyponymous" argument construction, in which the relevant argument (direct object in the first instance, prepositional object in the second) is not root-identical to the nominal component of the associated denominal verb:

- (42) (a) She slept the sleep of the just.
(b) He laughed his last laugh.
(c) He danced a jig.
(d) He bagged the potatoes in a gunnysack.

For present purposes, we will set the hyponymous argument construction aside and deal with the cognate object construction. The examples we have provided in (42a, b) might ultimately prove not to be genuine examples of the cognate object, but we will take them to be genuine examples.

Whatever the outcome in this case, we take it to be a fact that there is such a phenomenon—that is to say, a transitive verbal construction headed by a denominal verb whose object is headed by a noun which is root-identical to the verb, as in the examples cited. Further, in the true cognate object construction, the object can only be headed by a root-identical noun, not some random distinct noun, even a hyponym. Thus, if (42a, b) are true examples, as we will assume, then the following are predicted to be ill-formed:

- (43) (a) *She slept her last nap / a long winter slumber.
(b) *He laughed a surreptitious giggle / chuckle.

These verbs can, of course, occur in other transitive constructions, with a range of surface structure objects (e.g., *sleep one's life away*, *laugh them off the stage*), but these are not relevant to the issue at hand.

If verbs of the type represented by *sleep* and *laugh* are strict cognate object verbs, as we are suggesting, then not only do they not permit hyponymous objects, but they also reject pronominal versions of their cognate objects:

- (44) (a) *John slept the sleep of the just and Bill slept it too.
 (b) *John laughed the last laugh and Bill laughed it too.¹⁴
 (c) *Robin laughed the laughs of the Rat Pack, and Jonathan laughed them too.

By contrast, verbs like *dance* and *sing* readily accept pronominal objects:

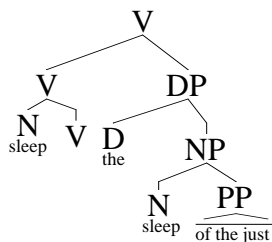
- (45) (a) John danced the tango and Bill danced it too.
 (b) Robin sang the songs of the 60s and Bill sang them too.

We must admit that sentences like (44a-c) sound better and better with repetition. However, sentences like (45a-b) need no repetition. They sound perfectly well-formed immediately. We take this difference to lend at least some credibility to the idea that strict cognate object constructions are to be distinguished from the hyponymous argument construction exemplified by (45a-b). If so, we must accommodate this difference.

To begin, we will attempt to develop an account of the strict cognate object construction. There are at least two possibilities: (i) strict cognate object verbs are by incorporation (in the technical sense of Baker, 1998); (ii) strict cognate object verbs are by conflation (in the sense suggested here, i.e., label-copying).

The incorporation hypothesis would account for the “strict cognate” relation under the reasonable assumption that incorporation—i.e., Head Movement—is a copying operation. In English, the argument would go, both the head and the tail of the movement chain would be spelled out, as seen in (46), an informal representation of the verb phrase of (42a):

(46)



The key to this account would be that the tail of the chain (the inner N here) would be spelled out, presumably because English does not allow stranding of determiners, modifiers, and the like. English differs in this regard from languages like Mohawk and Hopi which, allegedly, permit the trace of Head Movement to appear within the “residue” of a DP, for instance.

We must assume that this extraction is possible in the first place, i.e., that DP either does not constitute a barrier to extraction, or else the Empty Category

¹⁴Notice that the following is much better: *John laughed his last laugh and Bill laughed his too*. This is elipsis (cf., *Bill laughed his last laugh too*) and, hence, not a counterexample to the generalization exemplified by (44b).

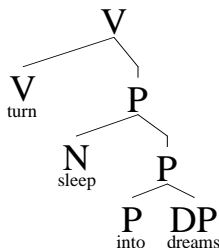
Principle is simply not obtruded here because the trace is spelled out. There is a problem here, technically, since the determiner (D) is a head which intervenes between the noun and the verb; extraction across DP is therefore in violation of the Head Movement Constraint (Travis, 1984). This is a general problem, and determiner stranding, if it actually occurs, flies in the face of it.

If the strict cognate object construction arises through Head Movement, as suggested in (46), it is to be expected that the point of origin (i.e., the tail of the chain), could be a Specifier. Thus, for example, the noun *sleep* appears in the Specifier position of the small clause complement of the verb *turn* in (47):

(47) She can turn sleep into dreams.

The structure of the verb phrase here is essentially as in (48):

(48)



Now consider the same structure with empty V. On the assumption that the Specifier can incorporate, we might assume that (49) is derived in that manner:

(49) She can sleep sleep into dreams.

We cannot rule this sentence out. While it may be somewhat strange, it is perfectly grammatical—if someone could actually turn sleep into dreams by sleeping, then (49) would describe that ability. However, this is not by incorporation—at least, it would be very difficult to argue that it is. Rather, this is the resultative construction quite generally available with transitive manner verbs based on unergatives, as exemplified by the sentences of (50):

- (50) (a) He slept the hours away.
 (b) She laughed her way through life.
 (c) I sneezed my head off.

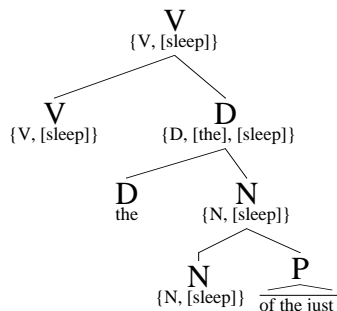
So, if (49) means anything, it means something along the lines of what was just suggested, e.g., "bring it about by sleeping that sleep becomes dreams." This is not the strict cognate object relation. Specifically, as sentences like (50a) show, there is no strict dependency between the nominal component of the verb and the nominal head in the Specifier position of the small clause complement.

In the final analysis, so far as we can see, the true cognate object relation cannot be shown to have a range of instantiations much greater than that of the canonical conflation relation seen in earlier sections. In canonical conflation, the

conflating element is consistently the head of a lexical projection sister to the target verb. Thus, in the case of the denominal verb *laugh*, for example, the noun which contributes its p-signature to the verb is not only the sister of the verb, it is also maximally a lexical projection, not an extended projection (Grimshaw, 1991); similarly, in the case of *bottle*, as in *bottle the wine* (cf. (37)), the p-signature ultimately passed on to the verb is from a lexical projection, P (itself phonologically substantiated by the p-signature of its own complement *bottle*).

By contrast, the strict cognate object relation is generally between the verb and an *extended* projection sister to it. That is to say, the nominal component of the verb is identical to the p-signature of the lexical head of the extended projection (DP) of the complement of the verb. This is portrayed in (46), the structure which results under the assumption that the cognate object relation is established by Incorporation. But suppose that this relation is brought about, in fact, by Conflation. This would involve copying the p-signature of the N into the defective p-signature of the Verb. This would be in conformity with the general sisterhood limitation on Conflation under the assumption that certain features of the label of a lexical head project to the maximal projection of the *extended projection* of the lexical head, not just to the maximal projection of the lexical head itself. If the features that project to these heights include the p-signature, in the manner shown in (51), there is a point in the structure at which the defective verb is a structural sister to a node (D in this case) bearing the p-signature of the lexical head—the nominal p-signature [sleep] is therefore copied into the defective label of V:¹⁵

(51)



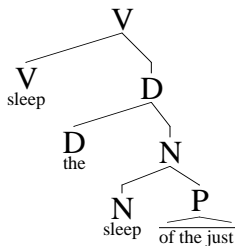
We believe that the limitations on the strict cognate object relation correspond to the limitations implicated by the notion that the phenomenon is in fact Conflation, with the provision that the critical structural node is the extended projection of the conflating noun. The strict cognate object relation can be no more distant than this. It is not necessary, however, to be committed to the idea that the p-signature of a lexical category actually projects to the dominating node

¹⁵The verb is also the structural sister to the node D, the extended projection of its complement. Any theory of the phenomenon we have given the name "conflation" must account somehow for the English fact that determiners do not conflate, just as propositions also do not conflate, except when substantiated by prior conflation (as in the case of location and locatum verbs). Whatever accounts for this selective nature of Conflation will ensure in (51) that the nominal p-signature, but not that of the determiner, will be copied into the label of the verb.

of the extended projection, as it is shown to do in (51). Perhaps it projects only to the maximal projection of the lexical head. If so, the sisterhood requirement is relaxed and it is necessary only that the conflating element be the lexical head of an extended projection which is the complement, and therefore the sister, of the target head. In the example at hand, N and V can enter into the Conflation relation because D, the extended projection of N is complement, and sister, to V. Thus, in the particular circumstance of the cognate object, Conflation operates at "long distance," but only in the sense that it by-passes the functional category superstructure of an extended projection—it is still restricted to the head-complement relation.

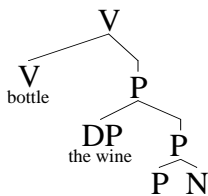
In English, stranding of determiners is not allowed. This is why the cognate object construction has the name that it has—the conflating element is necessarily represented by a copy, its "cognate," in the source head position, as shown in (52), a modified version of (51):

(52)



If this is Conflation, then it is clear from such examples as this that Conflation is a copying process. Under certain conditions, copies are realized overtly in both positions, i.e., target and source. This will be so where the source position is dominated, within its extended projection, by certain functional categories, e.g., D. Otherwise, the copy is deleted in the source position, as in the canonical Conflation relation, exemplified diagrammatically by the location verb of (41) above, repeated here as (53):

(53)



Here, there are two instances of Conflation, and accordingly two source positions—namely, N and P. In neither case is the source head contained in an extended projection dominated by a functional category. This circumstance is prominent among those in which the source copy is covert, i.e., is deleted or, perhaps, simply not spelled out at PF. Descriptively, for the cases considered here, the source copy of a conflating head is covert if the shortest "path" (of connected nodes) leading from the source lexical head to the target head passes through lexical category nodes exclusively, as is the case in (53). This probably does not constitute the actual principle involved in determining the occurrence of

overt and covert copies of conflated heads, because it sidesteps the issue of stranding, which is responsible for the basic intuition at work here—i.e., the source copy is spelled out when a determiner (and perhaps others elements as well) would otherwise be “stranded”; it would, in other words, be unsupported by a phonologically overt lexical head.¹⁶

We will leave this topic now and turn to other issues. A major question remaining is the nature and status of verbal predicates of the type involving the relation we have referred to as “hyponymous,” as in *he danced a jig* and *she hobbled the mule with clothesline*. Do these involve Conflation (of *dance* and *hobble*, in this case)? And, in general, how do we account for the presence in this populous class of verbs of the nominal component? Before taking up this question, however, we want to address a question we have about the nature of the so-called “p-signature” which plays a central role now in our conception of Conflation.

4. The p-signature.

We have said little as yet about the exact character of the p-signature and its occurrence in the nodes of the configurational structures projected from lexical items. There are two questions, essentially, one having to do with the relation of p-signatures to the phonological representation of terminal nodes, the other with their presence or absence in particular nodes.

The first question can be addressed in part by asking whether the p-signature of a head H is a complete phonological matrix of H as it appears at PF. The evidence is against this. Arguments for “late insertion” of vocabulary items, in the sense of the Distributed Morphology Theory of Halle and Marantz (1993), are extraordinarily compelling. For one thing, syntactic processes of movement and morphological processes of fusion and fission, among others, define the morphosyntactic structures, or “slots,” into which vocabulary items are inserted. And these structures are of course not present in the argument structure configurations defined by lexical items. Suppletion is a clear case. The insertion of the English form [went], for example, cannot proceed before the syntax has brought the verb together with the past tense, for it is that process that creates the environment for the suppletive element [wen]—the elements involved here are in distinct nuclear positions in the basic syntactic representations of sentences containing the form. Similarly, the insertion of Hopi *yu'tu* ‘run (plural)’, as opposed to *wari* ‘run (nonplural)’ requires information unavailable at d-structure, i.e., it requires information which is present in the structure only after the verb joins with the higher inflectional heads (tense/aspect and number agreement), heads which are demonstrably separate from and higher than the verb in the base structure of clauses. Assuming that arguments of this type are persuasive,

¹⁶Suppose, however, that the functional category dominating a noun were itself phonologically nonovert. In this case, the noun would conflate (i.e., copy its p-signature) into the empty head of the functional category, and the functional thus substantiated head would conflate into the verb. In this situation, the source copy will not be spelled out, since no overt functional head is left stranded.

we must at least reject the idea that the p-signature of a nuclear element is the phonological matrix corresponding to its actual form at PF.

The p-signature of a head H must contain information which will permit the proper association of H in syntax with the appropriate forms of vocabulary items drawn from the lexicon. We are assuming, of course, that the p-signature is present in H at all levels of syntax; this is necessarily the case in our conception of conflation. And the p-signature can be copied, we have argued, so that the p-signature of *laugh* the noun, when copied into the defective p-signature of a verb, is in an intuitively common and ordinary sense, "the same" as the "original" nominal p-signature. And when it is "spelled out," through lexical insertion, we require that it appear in the appropriate place, e.g., in the verb if Conflation has applied there. And, of course, we want the right spellings to appear in the right places, i.e., in the right slots in terminal nodes. There must be some way, therefore, to relate a p-signature to the correct vocabulary item.

One possibility is that the p-signature of a head H consists of the entire set of phonological matrices of H—that is to say, the entire register of the allomorphs of H and their contextual frames. Lexical insertion would amount to discarding all allomorphs which do not satisfy the particular environment in which H appears at s-structure, i.e., at the syntactic level relevant to PF. In this conception of the matter, the vocabulary is ever-present in the syntax, being carried around through the syntactic derivation, to be partially discarded, or "trimmed," at PF. This is probably not a possible model, because of fission, fusion and the well-known phenomenon of portmanteau morphemes, whose phonological matrices are simply not available before s-structure.

Another possibility is that the vocabulary is entirely autonomous, consulted only at PF. Items are inserted if they can be, in accordance with their allomorphy and contextual requirements; portmanteau morphemes exist as vocabulary items and are appropriately inserted into "fused" positions available at s-structure. This, as we understand it, is "late insertion." Although this is what we will assume, it is not clear in this model that there is any place for the p-signature which we have taken to be essential to our conception of Conflation. We will therefore assume that some mechanism exists to keep track of p-signature copies so that they can, so to speak, be "found" and properly spelled out when vocabulary items are inserted. Our proposal is tentative, provisional and somewhat clumsy at this point; we adopt it as a temporary convenience. We will simply assume that p-signatures are indices and that vocabulary items bear indices as well. The index of a vocabulary item VI must match that of the morpheme, or terminal node, into which VI is inserted. So the spelling [laugh]_i will appear at the terminal V node substantiated by the p-signature (index) PS_i, copied from the N *laugh* in the position of its syntactic complement.

The second question posed above can be put again as follows. Do all non-empty heads in syntax bear a p-signature? Are there categories which do not have a p-signature? We are not referring here to the question of Ø-morphemes, since zero or null is itself a possible p-signature—some alternant of an affix, a noun root, or a verb root, could have the null p-signature (e.g., the root

component arguably has the null p-signature in Spanish *ir, ido*; in Miskitu, the verbal root has the null p-signature in *ai-k-* 'give me', and *mai-k-* 'give you', consisting solely of the dative person agreement and the transitive conjugation marker *-k-*, while the verb root is overt in *yâb-* 'give him'). What we are asking here is rather whether the p-signature could be entirely and systematically missing from some head or category of heads.

A detailed argument is given in Bittner (1994), further developed in Bittner and Hale (1996), in favor of the idea that the marked structural cases (e.g., ergative, accusative) belong to a functional category K and, moreover, that these categories are "empty" at d-structure. The argument that structural K is empty revolves around the idea that its licensing can be accounted for within the independently supported theory that empty categories must be "bound," in order to satisfy the Empty Category Principle (ĒCP). At s-structure and PF, a properly bound K is "realized" as a specific Case, ergative or accusative, for example. If the language realizes these overtly at PF, they will acquire phonological substance in the course of Vocabulary Insertion. In this case, presumably, we can assume that at least a part of what it means to say the relevant heads are "empty" is that they are phonologically defective, lacking a p-signature, like the empty heads which, by hypothesis, are targets of Conflation.¹⁷

Case is a functional category, not a lexical category. And it is not unreasonable to expect other functional categories to lack p-signatures, acquiring their phonological substance through Vocabulary Insertion (possibly mediated by Conflation). We must assume also that at least one member of each of the lexical categories V and P (and perhaps one each of the other lexical categories as well) lacks a p-signature, since the entire edifice of Conflation is constructed upon that premise. We would like to go a step further, however, and propose that (in English) the "closed list" lexical category P has this property generally, a characteristic which it therefore shares with the functional category K (to which it has some affinity, as is well known, P being the historical source of K in many language families).¹⁸ If this is correct, then P acquires its phonological index in two ways: (i) through Conflation (of nominal heads), as we have seen in the derivation of location and locatum verbs (like *shelve, saddle*), and (ii) through Vocabulary Insertion directly (as in the standard PP construction, like *in the house, on the table, at the movies*).

¹⁷It is natural to ask why K does not acquire a p-signature through Conflation, of D, for example. The answer, we believe, is that this is a language specific parameter. It is perhaps a matter still to be determined, but it seems reasonable to us to propose that the often observed fusion of D and Case is in fact conflation. In Pima of Ónavas (a Tepiman language of Sonora, Mexico), the determiners *id* 'proximate' and *üg* 'distal', fuse with accusative case to give *ik* and *ük*, respectively, as in *'aan* [_{DP} *ük ban*] *nüid* 'I see the coyote', with accusative case on the object, beside [_{DP} *üg ban*] *mür* 'the coyote is running', with nominative (unmarked) subject.

¹⁸This putative property of English prepositions may not extend to adpositions generally (or to particles, see below). Moreover, it does not preclude the possibility that adpositions might incorporate in some languages (cf., Baker, 1988 and Craig and Hale, 1988, for discussions of P-incorporation).

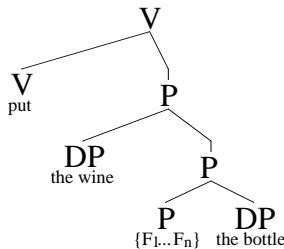
On this assumption, we explain the failure of P to conflate in English:¹⁹

- (54) (a) *We inned the calves the milkpen.
 (Cf., We got the calves in the milkpen.)
 (b) *On the bandage here.
 (Cf., Put the bandage on here.)
 (c) *She will in the horse there.
 (Cf., She will put the horse in there.)
 (d) *She onned the horse.
 (Cf., She got on/mounted the horse.)
 (e) *Jurgen inned the room.
 (Cf., Jurgen got in/entered the room.)

Since a preposition has no p-signature, it cannot pass a p-signature on to the defective V; hence the impossibility of the starred forms of (54). The overt prepositions (*in, on*) in the parenthetical examples of (54) are by Vocabulary Insertion directly, independently of any p-signature. This possibility, we assume, derives in part from the fact that prepositions belong to a relatively small list of items, each identifiable through its syntactic and semantic features. Insertion can proceed without reference to phonological features—although, of course, a morphophonological register will be carried along, if one is present in the vocabulary item.

In the derivation of (53) above, the preposition acquires a p-signature from its complement N, *bottle*, and passes it on to the verb, giving the derived verb *bottle*. By contrast, in (55b) below, no Conflation takes place:

- (55) (a) Put the wine in the bottle.
 (b)

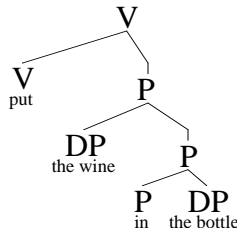


Instead, Vocabulary Insertion applies, inserting the preposition P whose s-signature matches the feature set $\{F_1...F_n\}$ associated with the terminal node P in

¹⁹Case Theory might be invoked to explain (54a); but it cannot be invoked for (54b-e). We are assuming that *on* and *in* in these cases are in fact prepositions. There is a class of particles, of course, and a few of these do have verbal uses in English, possibly by conflation—e.g., *he downed a second glass of tequila; they upped the prices*. And verbs like *enter* and *mount* might in fact be analyzed as “morphologically rich prepositions” conflated into defective V, in which case they would presumably have p-signatures in syntax.

(55b). The inserted P has the p-signature and phonological matrix corresponding to the actual preposition *in*, as part of its entry in the vocabulary, accounting for the preposition *in* in (55a). The p-signature of the inserted preposition presumably appears at all projections of P, though with no effect in this case. Since the verb is not defective, the p-signature of its complement will not be passed on to it. Thus, in the end, we have the following (simplified in the usual manner):

(56)



An alternative fate for (55b) would be that in which *bottle* conflated into P, giving the "cognate object" construction in (57):

(57) *Put the wine [_P bottle] [_{DP} the bottle].

Here the p-signature of the noun *bottle* is copied into the defective P, leaving its own copy behind in the DP complement, in accordance with the putative principles of cognate object formation. This possibility must be ruled out, perhaps by a principle according to which Vocabulary Insertion is preferred over Conflation (for some reason). In (53), and the like, Vocabulary Insertion of P is impossible, because if Insertion applied, the bare, phonologically realized noun *bottle* would be "stranded" in object position. Hence in that structure Conflation must apply. Failure of Conflation in deference to Vocabulary Insertion in (55) might be quite natural if the Cognate Object construction were "more costly" than Insertion. This might be the case, for example, if surmounting the D functional projection required a special provision, say an operation akin to Move—extraction out of the D-projection and copying into V. This combination is reminiscent of the pair "Move and Merge," naturally more costly than Merge alone. On this analogy, the Cognate Object construction, involving "Move" and Conflation would be more costly than Insertion, the latter being essentially costless.

Cognate object formation is arguably more costly than Vocabulary Insertion, as suggested, but it could simply be that Conflation is *in general* more costly than Vocabulary Insertion, a possibility which suggests itself in virtue of the relatively special nature of Conflation (e.g., the requirement that it be stipulated to apply to a restricted set of heads, differing from construction to construction, category to category, and from language to language). If so, then the following ill-formed sentence-type might also be explained in this manner:

(58) *Put the wine [_{PP} [_P bottle] [_N ∅]].

Here, the bare noun complement of P conflates with the latter (deleting the source copy, as usual). This is also impossible—(58) is not a way to say *put the*

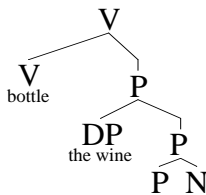
wine in a bottle or *put the wine in bottles*. Instead, Vocabulary Insertion applies to introduce the appropriate preposition, blocking (58).

When Vocabulary Insertion blocks Conflation in (56), precluding (57), the result is the desired one. As mentioned earlier, however, when the same scenario is played out in relation to (58), yielding (59), we get the wrong result, since it "strands" a bare N:

(59) *Put the wine in [_N bottle].

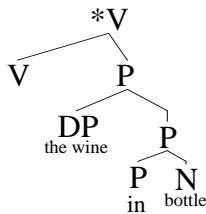
We assume that the principle involved here has to do with the matter of the licensing of an overt argument, in an argument position. Presumably, an overt argument must be a phrase, in the traditional sense, i.e., it must be an extended projection, not a bare root or stem. An overt nominal extended projection, DP, is licensed by Case and Agreement; an overt bare noun, on the other hand, is licensed by incorporation. The bare noun *bottle* in (59) is not properly licensed. The bare N in (53), repeated here as (60), does not face these licensing difficulties, by contrast, by virtue of being a nonovert complement linked to an antecedent p-signature in V:

(60)



There is a problem here, however. As matters stand, (60) will be blocked, since Vocabulary Insertion will preempt Conflation, giving (61), ill-formed on two grounds, the defective V and the overt bare N:

(61)



Clearly, Vocabulary Insertion cannot preempt Conflation in this case. There are two possibilities, at least: (i) the processes apply freely in any order within the relevant domain (this being the cycle defined by the highest implicated node, e.g., defective V in (61)); (ii) Conflation is ordered before Vocabulary Insertion, and the latter is ordered before "Complex Conflation," i.e., the process involved in forming cognate objects.

The first possibility, in some ways the most appealing, in addition to an eccentric interpretation of the principle of cyclic rule application, will require independent principles ruling out derivations that fail to converge (in the sense

of Chomsky, 1995). This last is accomplished already in the case of bare overt noun complements. It will not account for (58), however. The second possibility also fails to account for (58), and it has the added feature of divorcing Cognate Object formation from Conflation. This may or may not be desirable.

We do not have a solution to this problem, though we suspect the first possibility is the more likely to be correct. Quite apart from this question, the type represented by (58) is a problem for any analysis of the conflation phenomenon. It probably involves a local stipulation—in English a noun can conflate into P only if the latter conflates into V. There are some exceptions, like *home* (as in *she is home, take it home with you*, etc.), for example, which evidently involves the conflation of a noun into a defective preposition; other possible examples are the locatives and directionals in *a-* (*adrift, aloft, aboard*, etc.).²⁰

In concluding this section, we mention that there exists some independent evidence in favor of the notion that some prepositions, and perhaps the category as a whole, occupy a special position among lexical items. We have attributed to them the special feature that they lack a p-signature and hence do not conflate into V, unless they "acquire" a p-signature through conflation of a complement. At Vocabulary Insertion, of course, prepositions acquire phonological substance. As terminal nodes in syntax, however, they are phonologically undetermined. Suppose this lack of a p-signature is also true of functional categories as well—categories like tense, case, articles, agreement, and so on, i.e., elements whose phonological constituency is often highly dependent upon morphological context. If this is so, then, while prepositions constitute a lexical category, they share an important characteristic of the other closed class items, namely the functional categories.

Possible evidence that at least some of the members of the propositional inventory belong with the functional categories comes from a number of quarters. It is well known that in many languages elements which correspond most closely to the more case-like prepositions of English, or to the case-like postpositions of canonical head-final languages, are affixal and exhibit the same sorts of phonological dependencies that acknowledged inflectional categories do. And so far as we know, these are never treated as "full" lexical items, for example, in auxiliary languages whose proper use involves the replacement of lexical items (N, V, A, say) by items from a special vocabulary. Thus, for example, in Linngithigh and Wik Me'nh of Cape York Peninsula, North Queensland, the instrumental, elative and allative postpositions are suffixal and entirely inflection-like in their morphological behavior, and, unsurprisingly, they are not implicated in the vocabulary replacement process entailed in the special avoidance lexicon used in speaking to or about certain in-laws—cf., also, Dixon's extensive study of this linguistic practice in another North Queensland language, Dyirbal (Dixon, 1972). Similarly, in Damin, the advanced initiates'

²⁰In some languages conflation of nouns into adpositions is more common—e.g., the Navajo postpositions *-(ii)h* 'into' and *-(ii)'*, *taah* 'into water', *taa'* 'in water', *lee'h* 'into earth', *lee'* 'in earth'. Here, conflation is required where the postposition is defective, i.e., in this case, where it lacks the vocalic portion of its root.

language of the Lardil people of Mornington Island, North Queensland, Lardil lexical items in general must be replaced by items drawn from a special set of vocables of extraordinary phonological and semantic character. Again this process does not implicate the suffixal categories instrumental, comitative, or locative—these are not replaced and instead remain in standard Lardil, like all inflectional elements.

Well known also is the fact that adpositions often fuse with adjacent functional heads in nominal extended projections, typically with D, often in a manner which eliminates any vestige of the original, unfused, shapes of the individual components. Thus, the French preposition *à* fuses with the masculine articles to give *au* and *aux*, a circumstance which strongly supports the idea that these entities owe their phonological realization to Vocabulary Insertion and that the notion p-signature plays no role whatsoever in this matter. In Ulwa, a Misumalpan language of eastern Nicaragua, the locative and allative case postposition *kau* fuses with the definite article *ya* to give *yau*, not as extreme as the French case just cited, to be sure, but nonetheless illustrative of a widespread and amply documented phenomenon in morphology.

The study of certain language impairments also provides evidence that members of the P category exhibit behavior which places them with the functional categories. Agrammatism, for example, is characterized by the “widespread omission of function words and affixes and the greater retention of content words” and “studies of the production of prepositions by agrammatic patients indicate that different types of prepositions show greater or lesser susceptibility to omission (Kaplan, 1992).” Kaplan (op cit.) also notes that “Friederici (1982) reported that 12 agrammatic aphasic patients were better at supplying prepositions with lexical content (such as *under* in *The dog is under the table*) than prepositions that are entirely determined by the verb of a sentence and play little semantic role (such as *for* in *He hopes for a nice present*) in a sentence completion task.” And he concludes that “these results are broadly consistent with the view that some agrammatic patients have difficulty with the production of syntactic structures, and that the omission of function words is related to that problem: prepositions with greater semantic similarity to open class words are better produced than those that play a more syntactic role.”

Among the properties which emerge as shared by some functional heads and some P heads are the following:

- (62) (a) contextually dependent phonological realization, and
- (b) tendency toward atonicity;
- (c) membership in a closed class;
- (d) relational semantics.

The first two of these are self-explanatory and well documented; the third is also clear in the abstract, but not so clear in practice. We will assume that P is a closed class, but it is not obviously so—particularly in the many languages in which the full inventory of “relational” heads, having traditional P-like function, is filled out by so-called relational nouns (in the manner of English *on top of*, *at the side of*, *at*

the rear of, etc.). It is nevertheless arguably true that Case-like adpositions form a restricted and closed class, even in languages with a large and potentially extendable inventory of nominal adpositions (like those of the Athabaskan language Navajo, and its relatives, and the Misumalpan languages Miskitu and Sumu, for example). The fourth property, relational semantics, is intended to reflect the often cited "semantic poverty" of Case-like adpositions. This is very subjective, it seems to us, but there is perhaps some reality to the notion that the semantics of these elements is of a different character from that of lexical items which name eventualities (V, A) or entities (N). Adpositions are relational, expressing, for example, the motional or locational relation between some entity (a "figure") and another entity (a "place"). There is, therefore, an element of contextual dependency in their semantics. An adposition is interpreted by virtue of the construction in which it appears and, in that respect, shares a feature with the functional category Case. While particular adpositions have "semantic content" (like *under*, *above*, etc.), the class as a whole, like Case, includes members which are essentially empty semantically, expressing a relation pure and simple (e.g., *of* in most of its functions, and *to*, *at*, *for* in many of their functions).

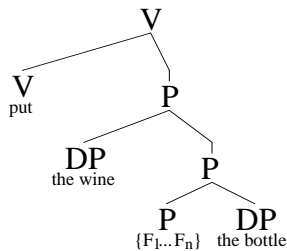
Some subset of the properties listed in (62) could well render the p-signature at least redundant, or even impossible, for functional categories and adpositions. But adpositions do not possess these characteristics uniformly. They do, however, steadfastly and uniformly resist Conflation in English, departing sharply in this respect from the other lexical categories (V, N, and A), all of which participate productively in the process. The property which might be attributed to English P as a group is (62c), membership in a closed class. Although the class of prepositions is rather large in English, exceeding in number the inventory of true verbs in some languages of the world (e.g., the Non-Pama-Nyungan Australian language Jingilu, as reported in Pensalfini, 1996), it is nevertheless arguably a closed class in the generally accepted sense. Let us assume that it is indeed a closed class, sharing this characteristic with the functional categories, like Case, Tense, Agreement, and so on. It is reasonable to suppose, it seems to us, that the members of a closed class would lack p-signatures. These would be redundant, essentially, since Vocabulary Insertion would entail locating items in a finite list of items, each identified by means of grammatical, not phonological, features. If p-signatures are redundant, then they are impossible, we would argue, explaining their failure to conflate in English.

It is possible as well that (57) and (58) are to be explained in relation to these considerations. The idea would be that Vocabulary Insertion is necessary in the P position in these cases, and it fails because the phonological signature of the P-node in syntax (i.e., the p-signature copied into P from N) and the principles of insertion for P amount to contrary instructions for Vocabulary Insertion—both *in* and *bottle* are identified for insertion at P, an impossibility. Vocabulary Insertion would be necessary, presumably, because P is otherwise not properly licensed in syntax. While it contains a p-signature, the latter is not "bound" (it is not "p-bound") by an antecedent p-signature in a c-commanding head (i.e., in V). We are making the ancillary assumption here that p-binding is a requirement for closed class items in a Conflation Chain, like that represented by the well-formed terminal sequence V-P-N in (60) above, in which the p-signature of V antecedes

and binds that of P, and the p-signature of P binds that of N. While P can, and often does, appear in a Conflation Chain, P cannot *head* one—(57) and (58) fail the p-binding requirement, and Vocabulary Insertion is also blocked, as we have seen. In (56), of course, P is licensed by Vocabulary Insertion.

In summary, in a structure like (55b), repeated here as (63), only Vocabulary Insertion can apply, giving *put the wine in the bottle* (= (56) above), assuming the relevant features of P to coincide appropriately with those of the vocabulary item *in*:

(63)



If Conflation applied here, the derivation would fail, since P would not be p-bound and Vocabulary Insertion would result in a terminal which is uninterpretable at PF.

5. Hyponymous arguments and a revision of the theory of Conflation.

Having suggested a general theory of Conflation, together with a treatment of Cognate Objects, we are left with the class of linguistic expressions which, for better or for worse, we have termed Hyponymous Argument Constructions, as illustrated by (8) above, repeated here as (64):

- (64) (a) They are dancing a Sligo jig.
 (b) He shelved the books on the windowsill.
 (c) Leecil saddled old Gotch with his new Schowalter.

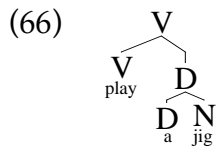
We will not reconsider here the analysis suggested in Hale and Keyser (1997), according to which hyponymous arguments, and cognate objects alike, were the result of “reinsertion” into the trace-position created by Conflation. This is an impossible notion, not only for general theoretical reasons. It is also impossible, within the theory considered in previous sections of this discussion, because Conflation is not Head Movement and hence does not leave a trace in any conventional sense.

In actual fact, any serious consideration of cognate and hyponymous arguments leads directly to the conclusion that matters would be greatly simplified if Conflation did not exist in any of the forms so far suggested. In relation to these specific constructions, the grammar would involve virtually no machinery at all beyond what is already present in any theory of syntax. The derivation of sentences of the type represented by (64) would not be different in

nature from ordinary sentences like those in (65), apart from the individual lexical items appearing at the terminal nodes:

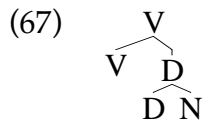
- (65) (a) She is playing a jig.
 (b) He put the books on the windowsill.
 (c) Leecil fit the mule with a new harness.

Here, of course, there is no talk of Conflation. For our purposes, Vocabulary Insertion is the relevant operation—insertion applies to the verbal projection contained in (65a), for example, to give the following:

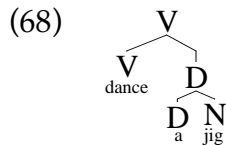


The idea that there might be a difference between the examples in (64) and those in (65) has support, so far as we can tell, only from two considerations: (i) the denominal character of the the verbs in the former, as opposed to the putative “pure” verbal character of the verbs in (66); and (ii) the semantic relation of “hyponymy” which, we have claimed, holds between the verb and the assumed nominal source, e.g., the “classificatory” relation between *dance* and *jig* in (64a). If there is in fact no difference between (64) and (66), then there is of course nothing which would force us to treat the hyponymous argument construction as in any way different from the ordinary, simple, run-of-the-mill outcome of Vocabulary Insertion.

Suppose then that *dance a jig* involves just two essential processes, Merge of V and [DP D N], giving (67):



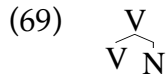
and Vocabulary Insertion, giving (68):



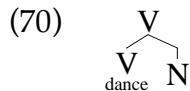
If this is correct, the item inserted in the terminal position labeled V is already supplied with a phonological matrix, as part of its lexical entry. The notion “p-signature” plays no role here, that is, it plays no substantive role beyond what is already implied in the phonological matrix of the vocabulary item.

This raises the question of the reality of the p-signature in general and, more importantly, the reality of Conflation altogether. Let us consider the superficially intransitive *dance*, as in *watch her dance*. Heretofore, we have

maintained that this involved Conflation, in order to express the evident fact that this is a “denominal verb,” representing the abstract V-Complement structure (69):



Conflation, in our most recent conception, transfers the p-signature of the noun to the verb. But if the Vocabulary contains a verb *dance*, complete with phonological matrix, what prevents us from saying that it is that item itself which is inserted in the V position, giving (70)?



If this were the situation in general, Conflation would be entirely redundant.

Conflation was motivated originally by two considerations: (i) the denominal character of verbs like *laugh*, *dance*, etc., as mentioned above, and (ii) the idea that such verbs project an abstract transitive structure. The first of these considerations must be expressible without resort to Conflation in any event. The phonological matrices which give the verbs in question their alleged denominal appearance must already be present in the lexicon, as seen in the case of (67-8). The second consideration is independent of the issue of Conflation. It has to do with the syntactic properties of these verbs, the claim being that they have a central property associated with canonical transitive verbs—namely, they do not project a Specifier; it follows that they take an external subject and consequently cannot transitivize in the simple manner of inchoative or unaccusative verbs of the type represented by *break*, *clear*, and so on.

We can retain the account of the syntactic property of simple denominal verbs, by assuming the structure verb-plus-complement structure [V N] for them, as in (69) and, at the same time rid ourselves of the machinery of Conflation (under any of its incarnations). The association of a particular phonological matrix with the terminal V-node would result from insertion of a vocabulary item already supplied with a phonological matrix, like *dance* in (68), where we see that this is necessary in this case. We might simply generalize it to all cases, including (70).

Let us pursue this possibility, ridding our selves of Conflation and its trappings, where possible. In the original, incorporation-like conception of Conflation, the empty verb needed to be licensed. This was effected by Conflation, which gave it phonological constituency, and the empty N left behind was licensed as a trace, as expected in a movement theory of the phenomenon. In our more recent, label-copying conception of the process, the licensing of empty heads is presumably through the connection established between a complement and its governing host by label-copying itself. But if we give these things up, and assume that the structure of *dance* is as in (70), derived by Merge and Vocabulary Insertion, and not by Conflation (in any version), some

other principle must be involved in licensing the empty heads. The verb is presumably licensed by Vocabulary Insertion. It is the empty nominal complement (N) that is now at issue.

Is it generally true that an empty N complement must be licensed? If so, then N in (70) must be licensed.²¹ Consider the following, by comparison:

- (71) (a) *He made.
(Cf., He made trouble / fishtraps / mistakes.)
- (b) *She did.
(Cf., She did a jig / pirouettes / the MCATs.)

Evidently, transitive light verbs cannot take an empty object. Another class of verbs which resist “object drop” of this type is exemplified in (72), where the verbs are to be understood as the transitive variants of the verbs exemplified parenthetically in their grammatical uses:²²

- (72) (a) *He cleared.
(Cf., The screen cleared. He cleared the screen.)
- (b) *Leecil tightened.
(Cf., The cinch tightened. Leecil tightened the cinch.)
- (c) *She split.
(Cf., The log split. She split the log.)

Consider (71) first. Intuitively, what is wrong here is that there is not enough information around to posit an object. The object is, so to speak, invisible, unidentified. By contrast, in a standard unergative construction, of the type which has been central to the question of Conflation, the verb itself gives information relevant to the interpretation of the verb in conjunction with its nonovert complement—the verb identifies the complement to some sufficient extent:

- (73) (a) The baby slept.
(b) Isadora danced.
(c) The colt sneezed.

What these considerations show, we think, is that the “nominal” component of these verbs is in fact real and serves to license the nonovert complement. In the movement theory of Conflation, this followed straightforwardly, since the nominal component of the verb originated in the complement. But we have

²¹We do not entertain the possibility that there simply is no complement N in *John danced*. This alternative is not well supported by a full consideration of English and, especially, by a cross-linguistic examination of unergatives of this type.

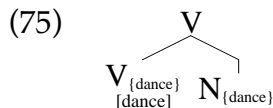
²²The verb *clear* can occur without an overt object, of course, as in *I'll clear (the dishes)*. But this is not the relevant *clear*, as is evident from **the dishes cleared*.

evidence, from many sides, that the nominal component is in the verb in any event—movement is redundant, and arguably impossible.

Suppose we say then that the relevant ingredients here are these:

- (74) (i) the relations expressed in the argument structure configuration;
 (ii) a “classificatory” relation between certain semantic features of the head and a designated argument.

The second of these is in a sense nothing more than classical semantic selection. It is the relation which is involved in what we have called hyponymy, as in (64a) and (67), where the verb itself encourages us to understand *jig* in the sense *kind of dance*—by comparison with, say, *whistle a jig*, where the verb suggests rather a *kind of tune*. In the the case of the unergatives illustrated in (73), the verbs identify the nonovert complements in an intuitively more or less obvious manner, as eventualities or entities corresponding to the English nouns *sleep*, *dance*, *sneeze*. It is this identification that licenses the nonovert complement. We might represent this special “classificatory” selectional relation by means of braced indices, linking the verb to its complement, as in (75):



This represents the structure for the verb *dance*; the braced index is notated with the standard spelling of the English noun, rather than the more usual arbitrary letter index. This notation is no less arbitrary, of course; it is chosen to suggest what is intended, namely, a semantic relation between the verb and its object—a selectional relation, or classificatory binding relation—above and beyond the purely structural relation expressed by the verb-complement configuration alone.

With this background, we can say something now about the verbs of (71). We propose that their inability to take a nonovert object follows from the fact that they are “light verbs,” i.e., verbs utterly without any semantic component which could enter into a classificatory binding relation capable of licensing an empty complement. At the risk of being redundant, the difference between (71) and (73) resides thus in the *lexical semantics* of the verb. The two types share the *structural semantics* of “production” generally associated with the verb-plus-complement configuration of unergatives. But the verbs of (71) lack the lexical semantic component present in the verbs of (73); it is this component, represented by the braced index in (75), that licenses the nonovert nominal complement.

Here we have appealed to the second part of (74), on the assumption that semantic features of lexical items are relevant to the licensing of nonovert complements. The first part of (74) has to do with structure. As a first approximation, we propose that the licensing function expressed in the indexing relation shown in (75) and the like can only hold between a head and an

argument selected by it, the clearest case being that of a head and its complement. This structural consideration is the most likely factor involved in the verbs of (72). These verbs are certainly not lacking in lexical semantic content—they are not “light verbs” in any sense. But the hypothetical nonovert nominal—i.e., the argument omitted in the ill-formed sentences—is not selected by the verb and hence does not enter into the right structural relation with it. The hypothetical nonovert argument in (72) is the specifier of the inner V-projection. As we have maintained in other contexts (cf. (9-11) *et passim*) the specifier of the inner projection bears no direct argumental relation to the upper verb. Thus, it is not eligible to be linked to the upper verb in the manner expressed informally by means of the brace-coindexation, and hence, that position must be overt, as it is in the parenthetical examples cited in (72).

Another contrast with which we must deal is found in the domain of location and locatum verbs, as in (76) and (77):

- (76) (a) *John put the books.
(Cf., John put the books on the top shelf.)
- (b) *Leecil fit the horse.
(Cf., Leecil fit the horse with a new Schowalter).
- (77) (a) John shelved the books.
(Cf. John shelved the books on the top shelf.)
- (b) Leecil saddled the horse.
(Cf., Leecil saddled the horse with a new Schowalter.)

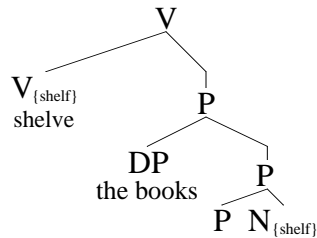
The verbs of (76) are too “light” to license a nonovert argument. The sole semantics associated with *put* and *fit*, in these uses, are those of the construction itself, the meaning corresponding approximately to the idea of effecting an relation between two entities, one (the internal Specifier) functioning as a “figure” the other (the Complement of P) as a “place or endpoint.” This is the meaning sometimes described in terms of bringing about a change of location (in the case of *put*) or of possession (in the case of *fit*)—and it is the canonical “meaning” of argument structure configurations of the form [V PP].

The much cited fact that *put* has both an object (DP) and a prepositional phrase (PP) in its “subcategorization frame” is, in our conception of the matter, that same as the fact that *do* and *make* must have overt complements. The verb *put* simply does not “have what it takes” to license a nonovert argument in the syntactic position corresponding to the “place or end point,” i.e., the prepositional complement position. And similarly for *fit*.

By contrast, the verbs of (77) freely permit omission of this constituent. In fact, its omission is the normal state of affairs for these verbs. Sentences in which this item is overt (exemplified parenthetically in (77)) are somewhat contrived, though perfectly grammatical. Evidently, then, verbs like *shelve* and *saddle*, and other members of the Location and Locatum types, have the lexical semantic

features required to licence a nonovert [P N] which or hypothesis assumes to be structurally present in the sentences of (77). Thus, by hypothesis, the verb *shelve* must be brace-coindexed with the nominal complement of the preposition, as shown in (78):

(78)



This is intended to capture the idea expressed in conventional and successful uses of the verb *shelve*, e.g., that it is brought about by some agent (person or machine) in some appropriate manner that books come to be on a shelf or shelves in a manner satisfying the definition of ‘shelving.’ The verb alone does not express all of this, the structural configuration is also implicated. The lexical semantic features of the verb “make visible” certain properties of the nonovert nominal with which it is coindexed, and for this reason, the nominal is licensed in its nonovert form.

Assuming that something of this sort is correct, or at least reasonable, there is an additional detail which must be dealt with. Strictly speaking, the verb in (78) does not bear a direct relation to the object of the preposition. The preposition intervenes—from the structural point of view, it is P that selects N in (78). So how is it that the verb can license the nonovert N? The answer probably has to do with the fact that the verb selects the preposition (structurally, and probably semantically as well, where that is relevant) and the observation widely made, and discussed briefly in a previous section, that P belongs to the functional system, as much as, or more than, to the lexical inventory. There is, thus, a chain of selection extending from the verb to the object of the preposition, and one of the links, the P, might be especially porous in relation to semantic selection.

Be this as it may, there *is* a special semantic relation between V and the object of the preposition in configurations of the type represented by (78). It can be seen in sentences like those in (79) and (80):

- (79) (a) I corralled the calves in the milkpen.
 (b) He boxed the apples in a gunnysack.
 (c) They armed the trap with teeth.
 (d) They saddled us with responsibilities.

- (80) (a) We armed the priest with a lawyer.
 (b) We armed the lawyer with a priest.

In (79a) there is a coherence between the verb and the object of the preposition—a milkpen qualifies as something that could be used to contain calves in the manner of a corral. This congruity is lacking in (79b), at least it is lacking in the

ordinary understanding of the meanings of the verb *box* and the noun *gunnysack*. While *bag apples in a gunnysack* is congruent, *box apples in a gunnysack* is not, and the congruence, or lack of it, is a matter having to do with the verb and the object of the preposition, bypassing the linearly adjacent specifier *apples*. We understand (79c) as figuratively "classifying" teeth, not the trap, as a kind of armament; and in parallel fashion, the verb *saddle* in (79d) attributes to responsibilities the property of being a burden—again, the special semantic relation holds between the verb and the object of the preposition, bypassing the inner specifier. And in (80), the quality of being something like supportive armament is attributed to the lawyer or to the priest, depending upon the appearance of the corresponding nominal argument as the object of the preposition; this attribute is not attached to either referent when the corresponding nominal is in the specifier position projected by the preposition.

We conclude from this that a location or locatum verb bears a selectional relation to the nominal object of its prepositional complement. If the latter is nonovert, it must be licensed; it will be licensed if it can be brace-coindexed with the verb (as in (78)). The verbs of (76) stand in the proper structural relation to the nominal at issue, but the required coindexing cannot take place, because the verb is semantically empty in the relevant sense.

This system is not quite right, however. Licensing of an empty argument evidently requires something more. If the verb can "semantically select" the object of its prepositional complement, and if this were enough to license an empty nominal in that position, then the following might be expected to be grammatical, contrary to fact:

- (81) (a) *We shelved the books on.
 (b) *She saddled Gotch with.

The preposition must be "neutralized," by itself being empty. In this respect, the relation between the semantic features of the verb and the empty nominal made visible by them has the character of a strictly local binding relation. In the simplest case, i.e., of a verb and its nominal complement (e.g., in the structures attributed to *laugh*, *dance*, and the like), the structural relation is absolutely local. In the more complex case of a verb and the object of its P-complement, the relation is not local if an actual P intervenes, in the sense that it is closer to V than N is (i.e. PP contains N but not V). This is the effect seen in (81), where P blocks the required "binding" relation between V and N. This blocking effect, we suggest, is absent if P is sufficiently empty. The blocking effect requires that certain features be present in P—only then is it visible as an intervening head.

Let us suppose that the relation holding between the coindexed verb and noun in (75) is Antecedent Government, continuing the thought that this is a binding relation and that an empty N must be antecedent governed. In (78), the relation between the verb and empty noun is also Antecedent Government, let us assume. If so, the structure projected by an empty preposition is not a barrier for this relation. In (81), however, a contentful preposition evidently projects a barrier to Antecedent Government, hence the empty N is not licensed. In (79) and

(80), however, the post-prepositional overt nominal projection is licensed, since it does not need to be antecedent governed. The binding requirement of an empty nominal complement is reminiscent of the requirement that an anaphor must be locally bound. A contentful preposition sets up a barrier for binding of an empty nominal complement, in much the way that a "specified subject" defines a barrier for unproblematic anaphoric binding (cf., Chomsky, 1981, 1986).

Our conclusion is this. So called Conflation, where that involves a nominal argument, is simply the situation in which a verb, endowed with certain semantic content, is coindexed with a nominal argument standing in a structural relation which permits the verb to "antecedent bind" the noun. The noun can therefore be nonovert, i.e., an empty category, by virtue of antecedent government.

Observationally, it is not enough to say that a verb capable of antecedent binding a nonovert noun has certain semantic content. The original motivation for Conflation, especially in its earlier incarnation as "incorporation," derived from the idea that verbs like *laugh*, *dance*, *saddle*, and so on, are "denominal" verbs. This idea comes, no doubt, from the fact that most of the verbs at issue here are morphologically related to nouns, typically, but not always, to the extent of being phonologically identical to them—*dance* (V), *dance* (N); *laugh* (V), *laugh* (N); etc. Moreover, this relationship, to a greater or lesser extent, carries over to the meaning—modulo the meanings of *perform* and *produce*, it seems to us correct to say that *John danced* entails *John performed a dance*, and that *Mary laughed* entails that *Mary produced a laugh*.

What, then, is the relation between the noun and the verb, in those cases in which the two are clearly "related"? Our suggestion, at this point, is that the question is not one of a noun being related to a verb, but rather of an indeterminate item, a root, as it were, which is not inherently either a noun or a verb. Rather, its alleged categorial affiliation is contextual—it is a verb if it heads a "verbal" extended projection, and therefore enters into inflectional relations conventionally associated with the category V, tense, mood, and the like; it is a noun if it heads a "nominal" extended projection and, depending on the details of the language, takes on case inflection, and the like.²³ Thus, it is not correct, on this view, to say that *dance*, whether in the simple unergative construction or in the phrase *dance a jig*, is a "denominal verb". Rather, the element at issue is simply the categorially indeterminate vocabulary item *dance*, with its phonology, selectional features, and (encyclopedic) meaning. By means of the process of Vocabulary Insertion it assumes the "verbal" position in these cases, that is to say, the position corresponding to the head of a verbal extended projection, in accordance with local requirements (e.g., principles of allomorphy, and the like).

²³This might be true in general; i.e., roots might always be categorially indeterminate, the notions N, V, and the like being "contextual" in the manner suggested (cf., Marantz,). English and the Salish languages are particularly supportive of this, but languages like Warlpiri, of Central Australia, and most Uto-Aztecan languages, for example, show highly rigid class cleavage, the heads of verbal extended projections, and the heads of nominal projections likewise, are systematically distinct and category-faithful. In the case of Warlpiri, there is no cross-over, so far as we are aware.

As a verb with appropriately classificatory semantic content, *dance* imposes a selectional claim on its object, licensing the empty N in the first case and establishing the hyponomous relation (a *jig* is a *dance*) with the overt complement in the second.

The essential features of conflation, in relation to so-called “denominal verb formation” at least, appear to us to have evaporated. The special relation which holds between a verb like *dance* and its non-overt object N, or between *shelve* and the non-overt object of its PP complement, is properly subsumed in the general relation of semantic selection, and hence not evidence for conflation. And the alleged cross-categorial relation, accounting for such terms as denominal, deverbal, etc., is simply an appearance, a consequence of categorial indeterminacy. Consequently, we take the position now that conflation, as we have been using the term, is not a part of the theory of argument structure. There is, however, one issue that remains to be discussed.

6. Incorporation.

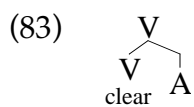
The foregoing remarks relate to constructions involving verbs that suggest that they might be derived, by zero-morphology, from nouns. We have dismissed this idea for English, eliminating both incorporation and conflation from consideration in the theory of their structure and origins.

But there is another verbal type which must be considered in this discussion. This is the class of deajdectival verbs of the type represented by *clear*, as in:

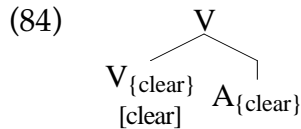
- (82) (a) The sky cleared.
 (b) The wind cleared the sky.

The question here is whether this type should also be analyzed as cases of selection and coindexation, like the denominal verbs we have been considering heretofore. The alternative would be to say that verbal *clear* is derived by incorporation or conflation. This has been our position on this matter up to this point, in fact—and in this context, furthermore, the supposed distinction between incorporation and conflation is baseless, and we can assume that the question at hand is whether or not *clear* and other deajdectival verbs are derived by incorporation.

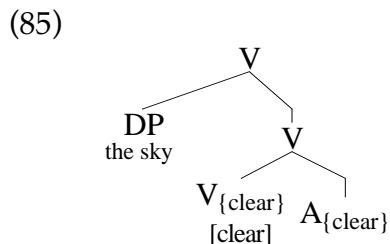
The selection alternative would maintain that, in the case of *clear*, there is a root element in the vocabulary which, in addition to appearing in the head position of an adjectival (A) projection, also appears in the position heading a verbal extended projection. As a verbal head, it selects a complement, as depicted in (83):



In parallel with our analysis of denominal verbs like *dance*, we assume that the complement is an empty category A linked by selection with the verb, in the same manner as the verb *dance* is linked to the empty N complement in (75) above. Thus:



By virtue of the properties inherent in its complement A, the verb would necessarily project a specifier, e.g., *the sky* in (85):



By general rules of interpretation, the verb projects a structure corresponding to the semantic relation "change of state" and the adjective denotes the state; the entity denoted by the specifier corresponds to the "theme."

It is necessary, in our framework, to maintain that verbal *clear* involves a structure of the form [_v V A]. It must have the V component, because it enters in to a verbal extended projection; and it must have a complement (A) which forces the projection of a specifier. This follows, because of the transitivity alternation which it freely enters into, i.e., (82) above.

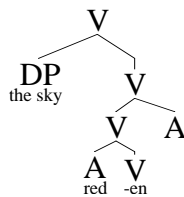
There are at least two reasons to doubt the likelihood that the story just sketched is correct. One of these is so to speak a "negative reason." Denominal verbs of the type represented by *dance*, and denominal location and locatum verbs like *shelve* and *saddle* likewise enter productively into cognate object and hyponymous argument relations, discussed for example in section 3 above and exemplified by such constructions as *dance a wild dance*, *shelve it on the top shelf*, *saddle the colt with an English saddle*, and so on. By contrast, deadjectival verbs do not enter into this relation productively. Thus *clear it very clear*, *redde[n] the cloth bright red*, *lengthen the road two miles long*, and the like, do not seem to us to be grammatical. If this is true, then it is a fact that does not follow from the selection theory sketched above and embodied in the structure modeled by (85).

The unacceptability of cognate and hyponymous complements in the case of deadjectival verbs might be explained, on the other hand, by a theory in which the process involved in their derivation is in fact incorporation, the very process ruled out for denominal verbs. According to the incorporation theory of deadjectival verbs, the adjectival complement would move from its base position into the verb (adjoining to it) in accordance with the principles constraining Head Movement. The process would create a chain relation between the base

position of the adjective (the tail of the chain) and its landing site, i.e., the adjunction site at V (the head of the chain). Two additional and generally accepted assumptions will account now for the failure of the cognate object construction with deadjectival verbs—i.e., (i) the trace of Head Movement, like movement traces generally, blocks reinsertion at the position of the trace (this in turn follows from the cycle), and (ii) a chain is spelled out at its head alone.

Another observation which casts doubt on the selection theory of deadjectival verbs is the manifestly composite morphological makeup of most of them, e.g., the type represented by *red*, *widen*, *lengthen*, *strengthen*, *tighten*, *darken*, and so on. There is, so far as we can see, no natural account of these in which the composite verb (e.g., *red*) appears in the V-position of a structure corresponding to (85) and selects an adjectival complement (A), as in hypothetical (86) below. Without additional machinery, the features associated with *red* in *red* cannot antecedent bind the adjective, since *red* in *red* does not c-command the empty adjective in complement position, assuming *red* to be in fact composite:

(86)



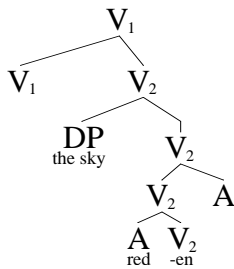
On the other hand, the incorporation theory of deadjectival verbs accounts for the composite verbs straightforwardly. The adjectival complement moves to V in conformity with the Head Movement constraint, adjoining to the left of V, in conformity with the prevailing word-internal headedness arrangement of the languages of the world. Accordingly, (86) above is the correct structure for *the sky reddened*, if empty A is the trace of head movement and *-en* is the verb hosting the incorporated adjective. According to this scenario, *red* in V antecedent governs and binds the empty A, being the head of the chain defined by incorporation. The zero-derivation cases, like *clear*, *narrow*, *thin*, and the like, differ from the *red*-type only in that the V component is empty.

Deadjectival verb formation is part of a more general process of predicate raising, of course. Simple transitivity, as exemplified by (87), is likewise defined by incorporation:

- (87) (a) The setting sun reddened the sky.
 (b) The fall in prices narrows our options.

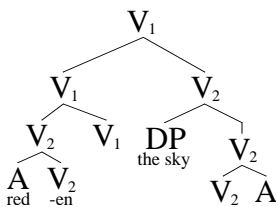
According to our general assumptions, the verb phrase of (87a) is abstractly as depicted in (88):

(88)



Verb raising and incorporation, forming the final transitive construction, raises the complex derived head V₂ and adjoins it to V₁, giving the configuration in (89), corresponding to the verb phrase of (87a):

(89)



The empty categories V₂ and A are the traces of the two applications of incorporation, each properly governed by a head—A by V₂ and V₂ by V₁. In the derived structure, the DP *the sky* is governed and case marked by the complex verbal head V₁ *red -en*.

7. Concluding remarks.

Our purpose in this paper has been to explain why Conflation, as opposed to incorporation, fails to access the specifier position. That is, why is it that a verb cannot “conflate” with the specifier of its complement.

Our explanation is this. Conflation is not a “process,” i.e., not a movement operation. Rather, the phenomenon which we have heretofore called by that name is in reality merely the binding relation which holds between the semantic features of a verb (phonologically overt now) and features of the nominal head of its complement. This in turn is a result of the selectional relation between the verb and its complement. Selection holds between the verb and the *head* of its complement; selection is *not* a relation that holds between the verb and a specifier that might be present in the complement of the verb. We have had the intuition throughout that Conflation is closely associated with Merge and have sought to identify it more and more closely with that process. Since Conflation is a matter having to do with selection and, therefore, the relation between a head and its complement, it is, in effect, to be identified with Merge, the desired result of this inquiry.

By contrast, incorporation is constrained by government, a relation which subsumes selection but is not confined to that. Since a head governs the specifier of its complement, there is no barrier to incorporating from that position.²⁴

²⁴This cannot be the entire story, however. Not all presumed specifiers can incorporate, for reasons which are only partially understood. The grammatical object in the Double Object or Dative construction steadfastly resists incorporation in languages that have fully productive incorporation processes (see Baker, 1988, for discussion).

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