

Merge, conflation, and head movement: The First Sister Principle revisited

Speas 1992 and Chomsky 1994's Bare Phrase Structure depends on a single operation for its generative power: Merge. 'Movement' is a composite of the mechanism Copy, which replicates items that have already been Merged, and Merge. For varieties of phrasal movement, this mechanism works cleanly. Head-movement, however, is deeply problematic in BPS, because it violates the Chain Uniformity condition, and for many ancillary reasons (see Brody 2000). This leads Chomsky 1995: 368 to assert that the determination of the linear position of heads is a PF-phenomenon, rather than a part of 'core' syntax. Yet, its many syntactic properties—particularly the fact that it appears to obey locality conditions—have led many to dismiss Chomsky's conclusion.

Hale and Keyser 2002 propose a mechanism called Conflation to derive a certain type of noun incorporation within their system of I-syntax. Here, we show that Conflation can be extended to true head-movement. The approach has two primary merits. First, it means that head-movement is indeed a PF-phenomenon, in the relevant sense, solving the structural problems created by any truly syntactic (adjunction or substitution) approach to head-movement. Second, the locality constraints on head movement captured by the HMC et seq. fall out as a consequence of the mechanism.

In BPS, phrase structure is built by Merging two other pieces of structure, at minimum two lexical items, and labeling the newly created unit with the features of (the label of) one of its constituents. Labels consist of both PF and LF information: a p-sig feature bundle and a morphosyntactic feature bundle. H&K 2002's Conflation mechanism works by allowing a item A with a 'defective' p-sig to acquire p-sig content from the label of an item B that Merges with A. If item A is then used to create the label of the new constituent, the p-sig features of B will also be contained within the label of the whole, since they were copied into the p-sig of A. This process is illustrated for H&K-style unergative formation in Jemez and English in (1a) in BPS set-theoretic notation and in (1b) in its tree-equivalent. Traditional category labels are used as shorthand for the bundle of syntacticosemantic features associated with each item, subscripted with the phonological features that are the item's p-sig.

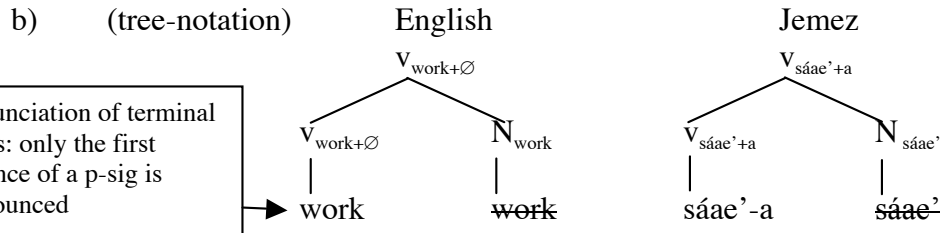
In fact, this mechanism will allow the p-sig of a head low in a tree to be passed up the tree and end up being pronounced in a head-position high in a tree, providing that the p-sig copying operation happens each time a new head is merged at the root — i.e. providing that the p-sig of every intervening Merged head is itself defective. (2) illustrates this process for a case of V2 in Icelandic.

The locality constraint on head-movement falls out in this system because the p-sig is copied up into the label of each newly merged head with a defective head in the tree. If a head without a defective p-sig is merged at any point, the copying of the p-sig of the complement's label will simply stop. Consider a situation in which an auxiliary verb whose p-sig is *not* defective is merged with a vP whose label contains the p-sig of the V itself. Because the auxiliary verb's p-sig is fine by itself, the label of the vP is not copied into the auxiliary's label, and any further head-'movement'—for instance, T-to-C—will have to be realized by the auxiliary's p-sig. There is simply no way for the V's p-sig to show up in C in this case, because neither V nor v are ever merged directly with C themselves, and V will be spelled-out at v.

This mechanism for Conflation allows the fundamental premises of BPS and the Minimalist Program to be maintained as is, without introducing additional primitives such as Telescope, Project, or Projection Lines (Brody 2000). (It also predicts Baker's Mirror Principle, although unlike Brody's system it does not force the Mirror Principle to apply suffixally). This mechanism makes other interesting predictions as well. For instance, English synthetic compounds obey what Roeper and Siegel 1978 term the First Sister Principle (Selkirk 1982 calls it the First Order Projection Condition). English synthetic compounds like *drug-pusher* may only be formed by combining a verb with an element which, in the syntax, would be its "First Sister"—i.e. would be Merged with it directly: its direct object, if transitive, as in *drug-pusher*. If a Goal argument is present as well, the verb may not form a synthetic compound with its direct object (3a). The First Sister principle is violated—the Goal, assuming a Larsonian treatment, must be the First Sister of the verb, and so the synthetic compound is no longer possible. This result falls out directly if compounds are formed in the syntax by Merge+Conflation. Conflation can only apply to two Merged elements, one of which has a defective p-sig. If a verb has a defective p-sig in synthetic compounds, it will conflate with the first thing with which it is Merged—its First Sister. Consequently, a V+O synthetic compound cannot be formed when a Goal PP is present.

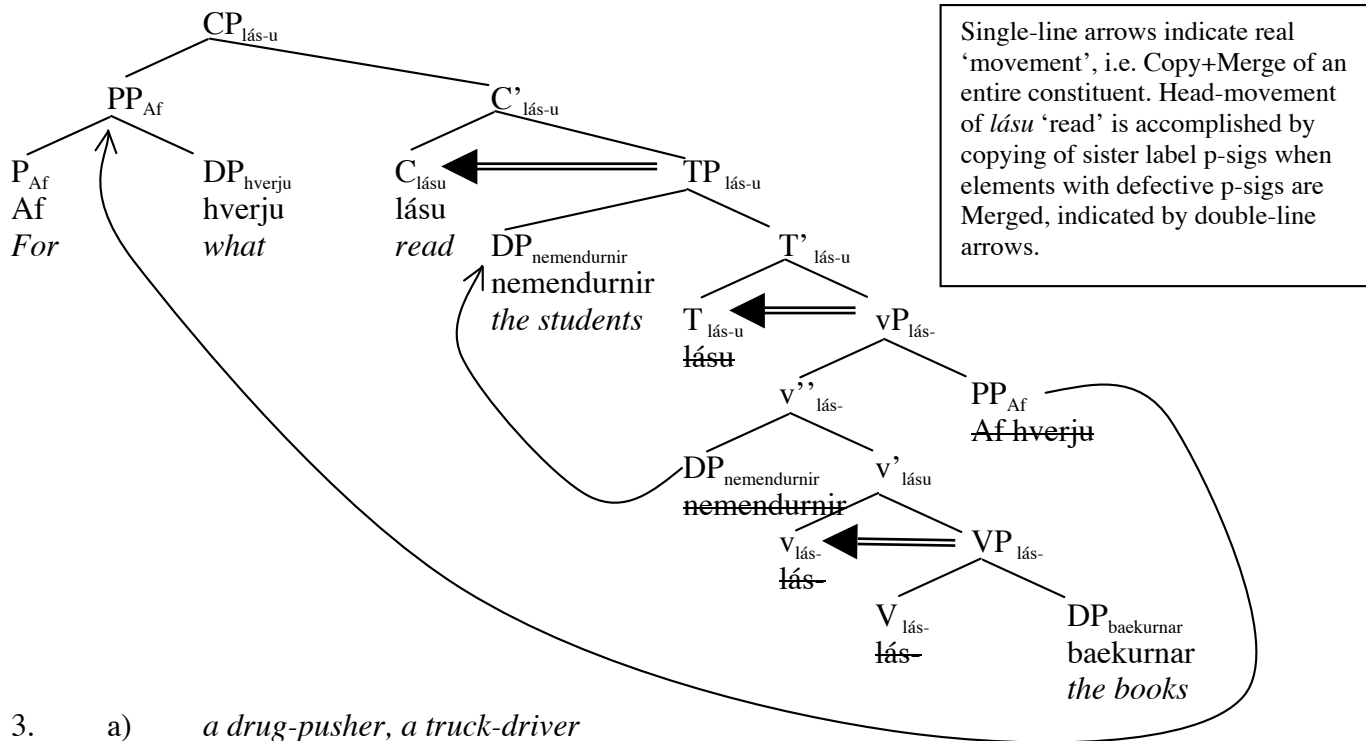
(1) Formation of the verb 'work' in English and Jemez, v with defective p-sig:

a)	(set-notation)	English	Jemez
	Numeration:	N_{work}, v_{\emptyset}	$N_{s\acute{a}ae'}, v_a$
	Merge+p-sig copying:	$\{v_{work+\emptyset}, N_{work}\}$	$\{v_{s\acute{a}ae'+a}, N_{s\acute{a}ae'}\}$
	Labeling:	$\{v_{work+\emptyset}, \{v_{work+\emptyset}, N_{work}\}\}$	$\{v_{s\acute{a}ae'+a}, \{v_{s\acute{a}ae'+a}, N_{s\acute{a}ae'}\}\}$



pronunciation of terminal nodes: only the first instance of a p-sig is pronounced

22. a. [CP Af hverju [C' lásu [TP nemendurnir [VP bækurnar]]]]
 for what read.fin the.students the.books
 "Why did the students read the books?"



3. a) a drug-pusher, a truck-driver
 b) *a drug-pusher to children, *a truck-driver to Canada.

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