

Title: A Phase Theory of Information Structure

Keywords: interfaces, information structure, prosody, syntax, semantics

One of the most persistent features of the architecture of generative grammar has been the “T-model”, which maintains that representations of phonology (PF) and logical structure (LF) must be mediated by syntax (Chomsky & Lasnik 1977, Chomsky 1981, Chomsky 1995). This paper defends this model by proposing a theory of Information Structure (IS) in which the recent notion of derivational *phase* maps isomorphically onto IS constituents such as Topic and Focus.

Jackendoff (1972) observed that intonation can affect scope judgments, as shown in (1). Such data suggest a direct PF-LF interface, *contra* the T-model architecture. However, most analyses of these data (e.g. Jackendoff 1972, Kadmon & Robert 1986, Büring 1997, Krifka 1998) implicate IS (i.e., Focus) as the mediator between prosody and semantics. But without an explicit theory of how IS is represented in the architecture, it is unclear whether such analyses are able to preserve the T-model. This paper argues that in fact, previous models of IS (e.g., Chomsky 1976, Vallduví 1992, Büring 1997, Zubizarreta 1998, Erteschik-Shir 2006) violate key Minimalist principles such as Inclusiveness (Chomsky 1995, Zubizarreta 1998), which amounts to discarding any meaningful PF-LF distinction. Our primary argument is that the ubiquitous notion of “F-marking” is essentially a “backdoor” mechanism to achieve the effect of a direct PF-LF interface, because it allows non-lexical features to be introduced into the derivation with arbitrary effects at both PF and LF.

As a solution, our proposal co-opts the notion of derivational phase (Chomsky 2000, 2001) to provide a means of “packaging” sentential structure into IS constituents such as Focus. Namely, we propose the Informational Cycle Hypothesis (ICH):

ICH: the derivational cycle (i.e., phase articulation) corresponds isomorphically to informational structure constituents (e.g., Topic, Focus)

This hypothesis follows the notion that the syntactic and phonological cycles are linked (Bresnan 1971, Chomsky 2000), but that these cycles themselves correspond also to IS units, and are thus much more variable than typically portrayed.

A sample derivation under this theory is illustrated schematically in (2). As per standard Minimalist assumptions, lexical items are Merged into successively larger categories. At some point in this process, the syntactic “workspace” is cleared when the constituent under construction is packaged and sent to PF and LF for interpretation. Our proposal is that *contra* Chomsky (2000, 2001), the point of packaging (i.e., the phase) is not at some predetermined functional head, but instead assigned freely. At LF, these packages are mapped to IS partitions such as Focus. Interface conditions on IS provide the means for ruling out “impossible” phase articulations. Our theory further hypothesizes that implication and pragmatics operate on these IS partitions, not on LF *per se*. We show how such implications lead to the observed semantic judgments of data like (1), as well as “association with focus” phenomena (Rooth 1985, 1992) as shown in (3), ultimately preserving the analysis that IS provides mediation between PF and LF.

This hypothesis has a number of wider implications. For one, it offers an attractive and parsimonious explanation for the apparent links between phases and tripartite semantic structures such as in Diesing’s (1992) Mapping Hypothesis (cf. Carnie 2005), as well as between tripartite structures and IS (cf. Hajičová, Sgall, & Partee 1998). It also presents a novel and well-formulated motivation for the identity of phases. Finally, it offers a coherent way to represent IS within core grammatical structure, while still preserving the core T-model assumption of the last 30 years of generative syntactic theory.

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Data

- (1) All of the homes weren't wiretapped. (ambiguous)



- (1a) ALL of the homes weren't wiretapped. (= "none of the homes were wiretapped", $\forall \neg$)

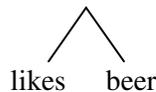


- (1b) ALL of the homes weren't wiretapped. (= "not all of the homes were wiretapped", $\neg \forall$)

- (2) John likes BEER.
(where "likes beer" is the Focus, as an answer to the question "What do you know about John?")

Numeration {John, likes, beer}

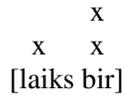
Merge



1st Phase Spell-Out



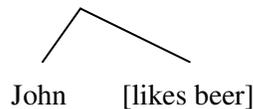
PF



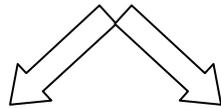
LF

λx [likes (x, beer)] \Rightarrow Focus

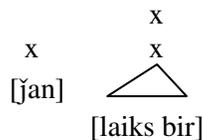
Merge



2nd Phase



PF



LF

$\lambda y \lambda z$ [z (John, y)] \Rightarrow Topic

λx [likes (x, beer)] \Rightarrow Focus

\Downarrow
"Full" LF
likes (John, beer)

- (3) John only eats meat on Tuesdays.
(3a) John only eats meat on TUESDAYS (he's a vegetarian every other day).
(3b) John only eats MEAT on Tuesdays (his diet is more varied on other days).
(3c) John only EATS meat on Tuesdays (he refuses to sell it then).