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Mapping Discourse Functions onto Syntactic Domains, Part I

> *The autonomy of syntax cuts off [sentence structure] from the pressures of communicative function. In the [formalist] vision, language is pure and autonomous, unconstrained and unshaped by purpose or function.* (Bates and MacWhinney, 1989: 5)
>
> *Surely there are significant connections between structure and function; this is not and has never been in doubt. ... Searle argues that 'it is reasonable to suppose that the needs of communication influenced [language] structure'. I agree.* (Chomsky, 1975: 56-58)

1. Formalism and Functionalism in Linguistic Theory

Functional linguistics is functional in the sense of concerned with external factors, e.g. with non-linguistic effects caused by linguistic utterances:

(1)   *Functional grammar: a linguistic theory which was devised in the 1970es as an alternative to the abstract formalized view of language presented by [generative] grammar, and relying instead on a pragmatic view of language as social interaction. The approach focuses on the rules which govern verbal interaction, seen as a form of co-operative activity, and on the rules which govern the linguistic expressions that are used as instruments of this activity.* (Crystal 1997: 161-162)

Formal linguistics (including generative linguistics) may be formal in one or both senses of the word (cf. Newmeyer 1998: 8). One sense is concerned with the form of language, i.e. its internal structure. The other sense of "formal linguistics" is "formalized linguistics":

(2)   *Formalize/Formalization: A characteristic of formulations in linguistics - and especially a primary goal of generative analyses - whereby the rules, principles, conditions etc. governing an analysis are capable of being specified in a precise and rigorous way.* (Crystal 1997: 156)

In other words (more or less those of Newmeyer 1998: 6):

(3)   a.   **Formalism:**
             Linguistic form can be characterized independently of communicative function

        b.   **Functionalism:**
             Communicative function can determine linguistic form

It is thus **POSSIBLE** to believe in one and reject the other. In other words, it is possible to adhere to one of the two extremes:

(4)   a.   **Extreme formalism:**
             Communicative function has no relevance whatsoever for the characterisation of linguistic form. ("It is not the case that (3)b.")

        b.   **Extreme functionalism:**
             No aspect of linguistic form can be characterized independently of communicative function. ("It is not the case that (3)a.")

Extreme functionalism in general is exemplified by the following quotation from B. F. Skinner (emphasis added):

(5)   *The practice of **looking inside the organism** for an explanation of behavior has tended to **obscure** the variables which are immediately available for a **scientific analysis**. These variables lie outside the organism, in its immediate environment and in its environmental history.* (Skinner 1953: 31)

In other words, science should not waste its time trying to find out what is going on inside the organism…

Extreme functionalism in linguistics is exemplified by the following quotation from Joanna Nichols (emphasis added):

(6)   *[Functional grammar] analyzes grammatical structure, as do formal and structural grammar, but it also analyzes the entire communicative situation: the purpose of the speech event, its participants, its discourse context. Functionalists maintain that the communicative situation motivates, constrains, explains or otherwise determines grammatical structure and that **a structural or formal approach [...] is inadequate even as a structural account**.* (Nichols 1984: 97, cited in Newmeyer 1998: 10)

While there probably are also adherents of extreme formalism around, it is worth noting that Chomsky and most other generative linguists are not among them (cf. also Newmeyer 1998: 154-157), even though certain linguists, e.g. Esa Itkonen, see Chomsky as an adherent of extreme formalism (emphasis added):

(7)   *The possibility of **any functional explanations** for Chomskyan universals has been **ruled out explicitly**:*

> *To account for or somehow explain the structure of UG, or of particular grammars, on the basis of functional considerations is a pretty hopeless prospect, I would think; it is, perhaps, even 'perverse' to assume otherwise. (Chomsky 1975: 58)*

(Itkonen 1996: 494)

It is worth noting that Chomsky uses 'perverse' as a reference to a statement he is discussing. This statement is one in favour of extreme functionalism made in Searle (1974), in which it is called "pointless and perverse" to study the structure of language "independently of function".

It is also worth noting that Chomsky only describes as "hopeless" the enterprise of explaining **all of grammar** in functional terms; cf. that a page later, he goes on to say (emphasis added):
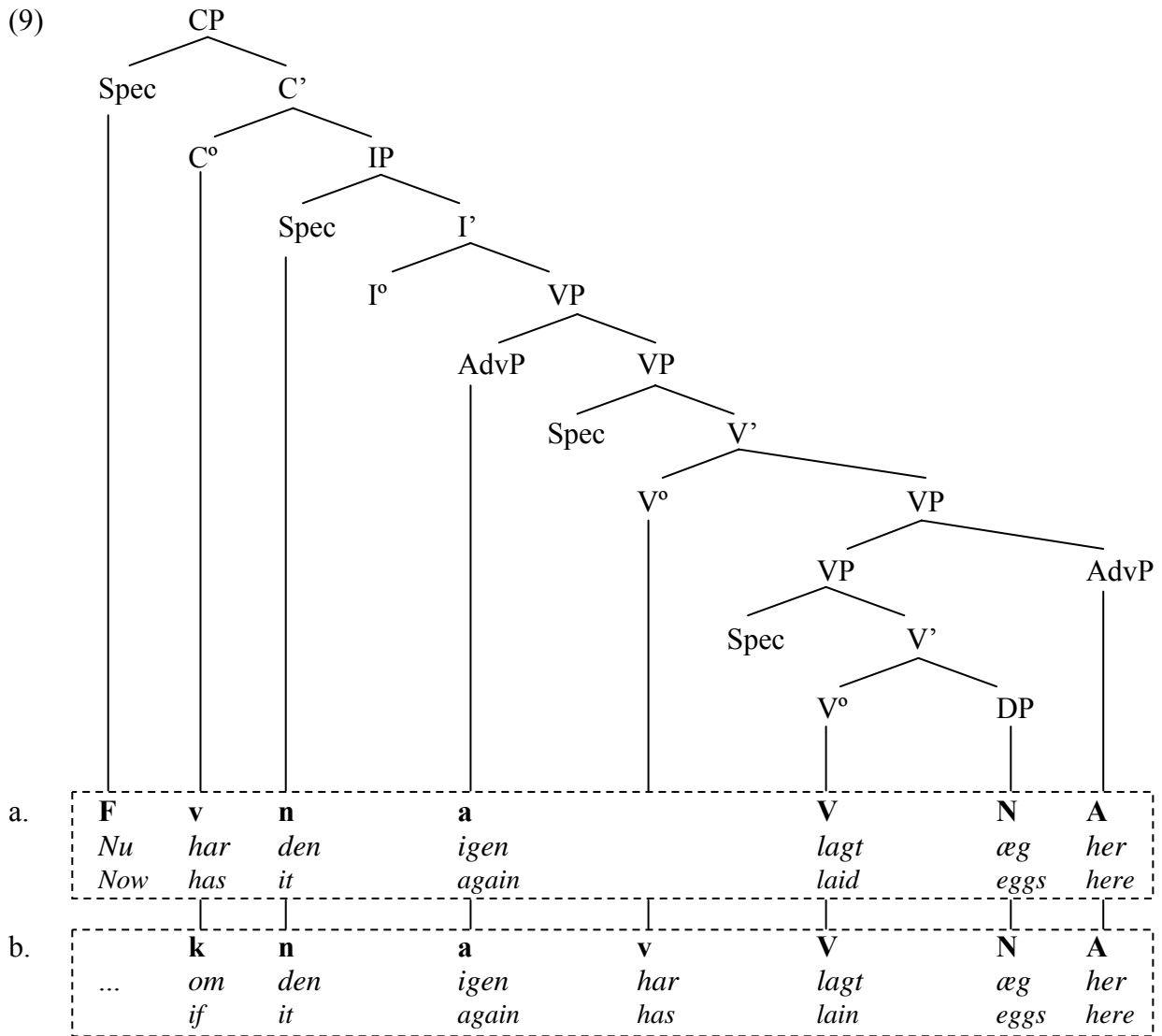
(8)   *When Searle says that "in general an understanding of syntactical facts requires an understanding of their function in communication since communication is what language is all about," I agree only in part. If we take communication to include expression of thought, as he does, then the statement becomes at least a half-truth; thus **we will have only a partial understanding of syntax if we do not consider its role in the expression of thought, and other uses of language**. This much should arouse no controversy.* (Chomsky 1975: 59)

It should therefore be underlined that formalism and functionalism in their non-extreme variants are not incompatible.

In our opinion, it is ultimately an empirical question whether a given property of a language or a given difference between two languages is best accounted for with (functionalism) or without (formalism) reference to communicative function. The word "ultimately", however, highlights that this matter is not necessarily particularly easy to decide. In many cases, it therefore becomes something close to a matter of personal taste whether one turns first to one side or first to the other when searching for an explanation for a newly discovered empirical linguistic fact.

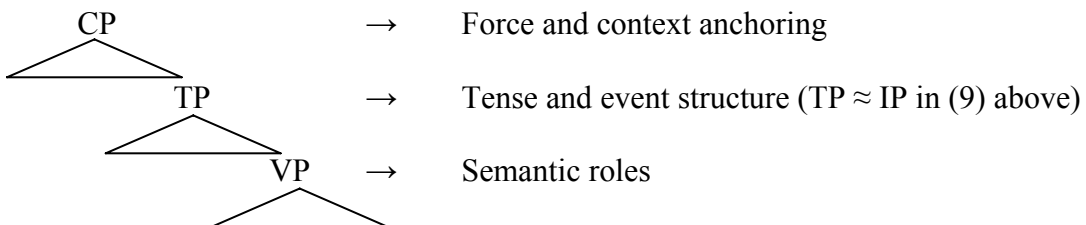## 2. The Generative Tree Structure and the Field Analysis

(See Vikner 2005: 384, Christensen 2005: 52, and references cited there.)

(9)

	F	**v**	**n**	**a**		**V**	**N**	**A**
a.	*Nu*	*har*	*den*	*igen*		*lagt*	*æg*	*her*
	Now	*has*	*it*	*again*		*laid*	*eggs*	*here*

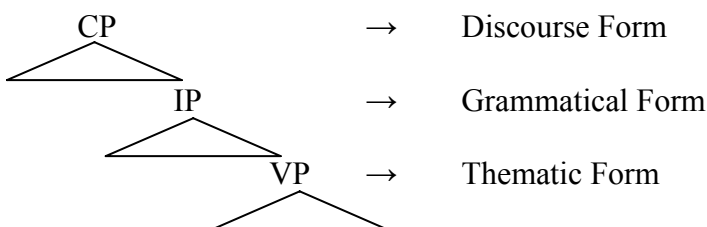|	**k**	**n**	**a**	**v**	**V**	**N**	**A**
b.	*om*	*den*	*igen*	*har*	*lagt*	*æg*	*her*
...	*if*	*it*	*again*	*has*	*lain*	*eggs*	*here*

3. Functions and Projections

Holmberg & Platzack (2005):

(10) *VP is the domain where deep **semantic roles** are assigned (the Agent and Patient of an event, e.g.), TP is the locus of **tense and event structure**, including sentence adverbials, and CP is a domain where the clause is **anchored to the context** and the speaker's here and now, and where **sentence force** is indicated, distinguishing declarative, interrogative, etc. For the Scandinavian languages the structure [...] is mirrored in the word order of the clause, in the sense that **the topic, as well as force indicators, are usually found at the left edge of the clause, and semantic roles not expressed by the subject are usually found at the end of the clause**, together with event modifying content adverbials.* (Holmberg & Platzack, 2005: 6-7; emphasis added)
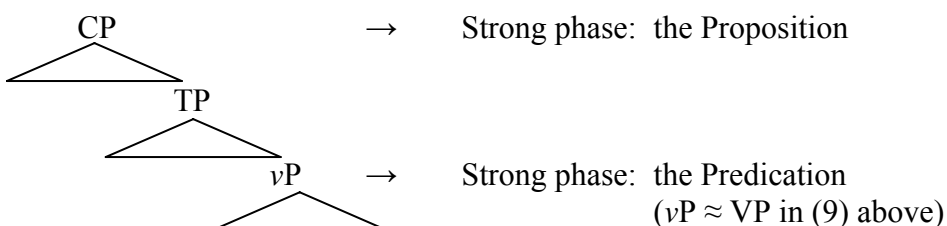
(11)   CP   →   Force and context anchoring

              TP   →   Tense and event structure (TP ≈ IP in (9) above)

                    VP   →   Semantic roles

Platzack (2001) divides the tree structure into three levels, Thematic Form (TF), Grammatical Form (GF), and Discourse Form (DF).

(12) *Roughly speaking, the information present at VP concerns the **predicate/argument structure** (theta-structure) of the clause, the information present at IP concerns the purely **grammatical aspects** of the clause, and the C-domain contains **information that links the propositional content of the clause to the discourse**.* (Platzack 2001: 3; emphasis added)
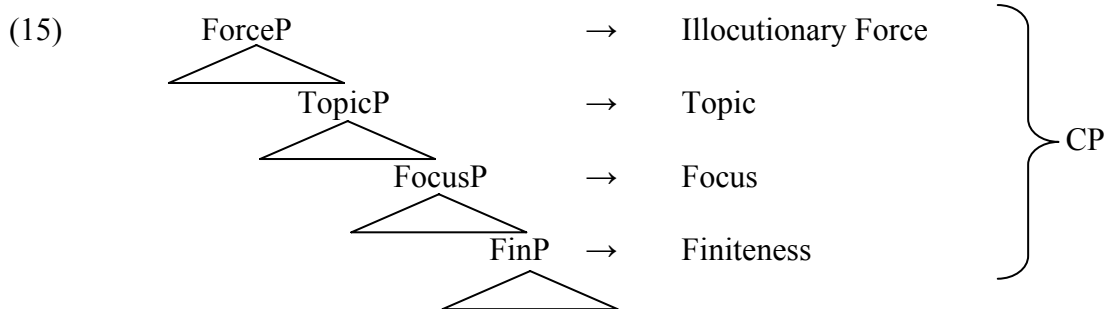
(13)   CP   →   Discourse Form

              IP   →   Grammatical Form

                    VP   →   Thematic Form

According to Chomsky (2001 and subsequent), there is mapping between syntax and other cognitive systems at two stages of the derivation, namely, after the completion of CP and *v*P:

(14)   CP   →   Strong phase: the Proposition

              TP

                    *v*P   →   Strong phase: the Predication
                                    (*v*P ≈ VP in (9) above)

4. Articulated Domains

Rizzi (1997) argues that the CP-domain (*the Left Periphery*) is in fact an articulated domain consisting of several projections all of which link the clause to the universe of discourse:

(15) ForceP   →   Illocutionary Force ⎫
         TopicP   →   Topic   ⎬ CP
            FocusP   →   Focus   ⎪
               FinP   →   Finiteness   ⎭

An example arguably involving the articulated left periphery comes from Tromsø Norwegian (Westergaard & Vangsnes 2005) where V2 is not obligatory; the finite verb moves to Focusº, signalling that the sentence contains new information. In other words, there is only movement if there is new information, and if the verb remains in Vº, there is no new information (as is the case in embedded clauses; maybe because the whole embedded clause itself is (part of) the new information?).

(16)   a. **Vº→Focusº movement**: The sentence contains new information.
       b. **Verb in situ**:   The sentence does not contain new information.

This is illustrated in the following piece of dialog (taken from Westergaard & Vangsnes 2005: 127, (27)):

(17)   OLE: xx mjau mjau sir pusekattan.
                  miow miow say kitty:DEF/PL
       INV: ja:
             yes
       INV: <ka sir>[/] ka   sir hunden da?   (Vº→Focusº, V2:
             what says / what says dog:DEF then   *hunden* → new)
       OLE: voff voff:
             (imitating a dog)
       INV: og   eselet   da # ka   det sir?   (Verb in situ:
             and donkey:DEF then # what that says   *det = eselet* → given)

       A few lines later:
       INV: hanen   ja:
             rooster:DEF yes
       OLE: hanen   # og   den + /.
             rooster:DEF # and that
       INV: ka   hanen   sir?   (Verb in situ:
             what rooster:DEF says   *hanen = hanen* → given)

Furthermore, the subject can occupy one of two positions depending on its status as either given or new information; if the subject precedes sentential adverbs, it is given; if it follows sentential adverbs, it is new information:
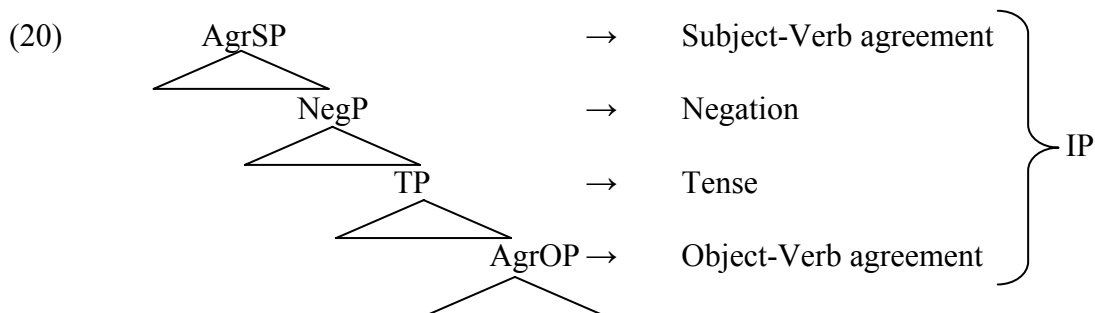
(18)　　a. **Subject > Adverb**:　　　The subject is **given** information.
　　　　　b. **Adverb > Subject**:　　　The subject is **new** information.

In (19)a, *med det der*, for example, is new information, i.e. focus (illustrated with underlining), and the verb *mente* is moved to Focus°. In (19)b, the subject is new information, and the verb is in Focus°. In contrast, there is no new information (focus) in (19)c; the subject precedes the adverb and the verb does not move to Focus°:
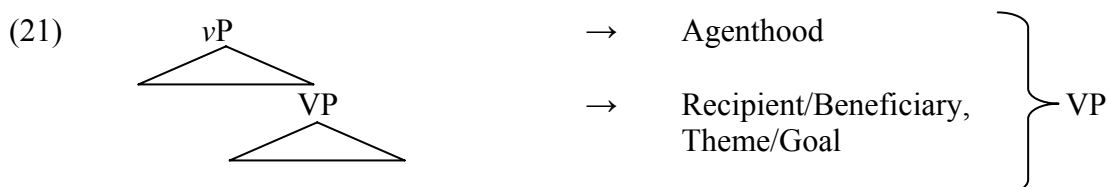
(19)　　a.　[$_{ForceP}$ Ka [$_{FocusP}$ **mente** [$_{FinP}$ **han Ola** [$_{TP}$ egentli　　　　　<u>med det der</u>]]]]
　　　　　b.　[$_{ForceP}$ Ka [$_{FocusP}$ **mente** [$_{FinP}$　　　　　[$_{TP}$ egentli <u>**han Ola**</u>　　　med det der]]]]
　　　　　c.　[$_{ForceP}$ Ka　　　　　[$_{FinP}$ **han Ola** [$_{TP}$ egentli　　　**mente** med det der]]]
　　　　　d. * [$_{ForceP}$ Ka　　　　　[$_{FinP}$　　　　　[$_{TP}$ egentli <u>**han Ola**</u> **mente** med det der]]]
　　　　　　　　What　　(meant)　(him Ola)　really (him Ola) (meant) with that there

The reason why (19)d is impossible is that, one the one hand, the verb is in its base-position, signaling that there is **no new information**, (16)b, while on the other hand, the subject follows the adverb and thereby signals that it is, in fact, **new information**, (18)b.
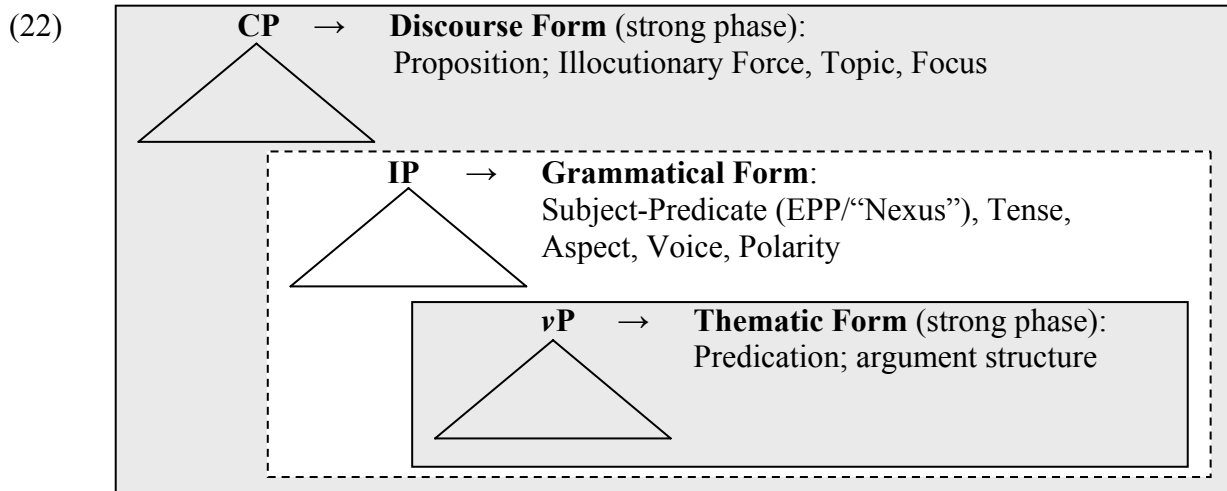
Belletti (1990), Pollock (1989), and many others have argued for an articulated IP-domain:

(20)　　　AgrSP　　　　　　　　　→　　　Subject-Verb agreement
　　　　　　　　　NegP　　　　　　→　　　Negation
　　　　　　　　　　　　TP　　　　→　　　Tense　　　　　　　　　　IP
　　　　　　　　　　　　　　　AgrOP →　　　Object-Verb agreement

Chomsky (1995), Larson (1988), and Vikner (1989) have argued that the VP-domain also has a more articulated structure:

(21)　　　*v*P　　　　　　　　　→　　　Agenthood
　　　　　　　　　VP　　　　　　→　　　Recipient/Beneficiary,　　VP
　　　　　　　　　　　　　　　　　　　　　Theme/Goal

In summary (from Christensen 2005: 30, (22)):

(22)

CP → **Discourse Form** (strong phase):
Proposition; Illocutionary Force, Topic, Focus

IP → **Grammatical Form**:
Subject-Predicate (EPP/"Nexus"), Tense,
Aspect, Voice, Polarity

***v*P** → **Thematic Form** (strong phase):
Predication; argument structure

5. Scope and Information Structure

Different scope interpretations derive from different structural positions:

(23)   **The Scope Principle**
α scopes over β if α c-commands[1] a member of the chain containing β
(cf. Aoun & Li 1989: 141)

(24)   **The Mapping Hypothesis**
a.   VP maps into the Nuclear Scope (the domain of existential closure)
b.   IP maps into the restriction (of an operator)   (Diesing 1997: 373, (5))
(Syntactic domains map into relative scope relations)

(25)   CP   →   Operators

   IP   →   Presupposition (given/old information)

      VP   →   Focus (new information)

(Christensen 2005: 137, (271))

In Diesing's model, operators move to spec-CP (*wh*-operators) or to adjoin to IP, and DPs that are considered old information undergo OS/Scrambling out of VP.

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[1] Node A c-commands node B iff (i) A ≠ B, (ii) A does not dominate B and B does not dominate A, and (iii) every X that dominates A also dominates B.

In particular, definite DPs must move out of VP, as definiteness signals that the referents are part of the universe of discourse, i.e. old information. DPs can be ranked on a scale depending on their relative definiteness (cf. Aissen 2003):

(26)   **The Definiteness Scale**:
         Pronoun > Name > Definite > Specific indefinite > Nonspecific

Note how the Scope Principle, the Mapping Hypothesis, as well as the relation between syntactic projections and discourse functions can be combined into / subsumed under the much less specific Prominence Hierarchy:

(27)   **The Prominence Hierarchy**
         Discourse Prominent > Not Discourse Prominent

6. Conflicting Mappings

There are two different but compatible mapping strategies, namely, *syntactic domain-to-function mapping*, as in (22) above, and *structural position-to-information structure mapping*, as in (25) above. This is illustrated in (28) below:

(28)   a. Information   b. Syntactic   c. Semantic Roles and
                 Structure   Structure   Discourse Functions
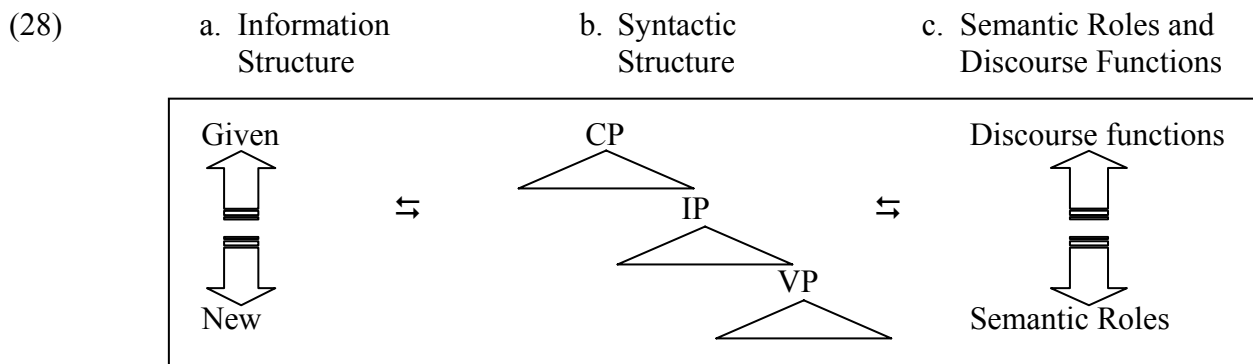
The two strategies are sometimes in conflict, as for example, with focus which on the one hand is a discourse function mapped in the CP-domain (cf. (15) and (22) above), and on the other hand is new information, which is mapped low in the VP-domain (cf. (25) above).

(29)
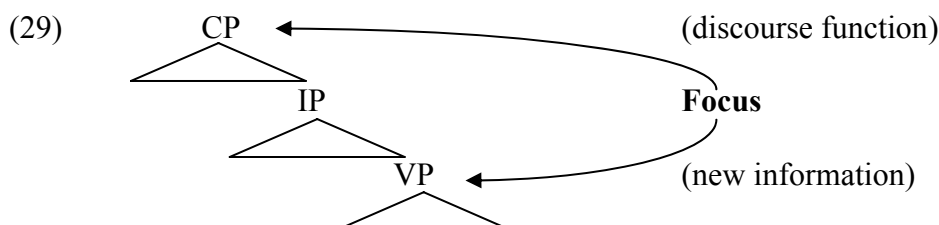
(Similar conflicts arise within the domain-to-function mapping when, for example, an argument with, e.g., the semantic role THEME also has the discourse function of Topic.)

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