

## Remarks on Newmeyer (2005) and Roberts and Holmberg (2005)

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### 1. Introduction

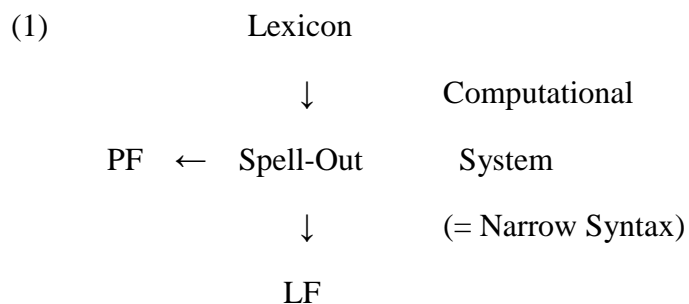
A debate has occurred on accepting or rejecting the parameter-setting approach, which has been developed in generative grammar in the 1980s. Newmeyer (2005) rejects the parameter-setting approach, claiming that there is no motivation and justification to set parameters. Arguing that a theory setting parameters is not workable, he prefers the rule-based approach. He recommends the processing/usage-based theory proposed by Hawkins (2004). Roberts and Holmberg (R&H, 2005), on the other hand, defend the principles-and-parameters theory, refusing Newmeyer's claim.

Aside from the debate on which theory is superior to the other, I would like to discuss some points to be considered on each side. The paper is organized as follows. In Section 2 I briefly summarize the theory of generative grammar. In Section 3 I discuss the change in the notion of parameters from Chomsky (1981), through Chomsky (1995), to Chomsky (2000). On the assumption that the syntactic and the semantic components are uniform (Chomsky 2001), I claim that in the current theoretical direction of generative grammar, parameters will result in lying not in syntax, but in the phonological component/morphological realization. In Section 4 I turn to the processing/usage-based approach Newmeyer recommends. I also introduce Lambrecht's (1994) information structure theory, which is engaged in associating the components other than syntax with sentence structuring more specifically than in the processing/usage-based theory. I claim that those theories are not incompatible with generative grammar, but rather one can compensate for the other. I mention that taken Lambrecht's view into account, a new syntactic model should be devised. In Section 5 I briefly conclude the paper.

## 2. Generative grammar

I briefly summarize the theory of generative grammar in this section. The study of generative grammar has been concentrated on clarifying the *faculty of language* FL of human beings. From the fact that a child can acquire a language in a quite short term without being taught, it has been claimed that human beings are inherently endowed with FL (Chomsky 1965). Departing from the rule system that yields specific constructions (Chomsky 1965), it was claimed that the apparent rules are deduced from general *principles* of *Universal Grammar* UG, with language variation reduced to different values of *parameters* (Chomsky 1981). Structural properties of some languages can systematically differ from those of other languages (Greenberg 1963). For instance, a verb comes before a complement in the languages like English (e.g. *eat fish*), whereas the verb comes after the complement in those like Japanese (e.g. *sakana-o taberu* (fish eat)). To account for the fact, the head parameter can be assumed; the value of the parameter in the former is head-initial, whereas the value in the latter is head-final. It is seen that the parameter is extended to the other facts that systematically distinguish the former from the latter: a preposition comes before a complement in the former languages (e.g. *at the shop*), whereas the preposition comes after the complement in the latter languages (e.g. *mise-de* (shop-at)), and so forth.

The syntactic model assumed in Chomsky (1995) is as follows:



Lexical items are selected from *lexicon* (*Numeration*); they combine to form a syntactic object. At *Spell-Out*, the object is sent to the *phonological component* PF, on the one hand,

and to the *semantic component* LF, on the other. The *derivation* that starts from lexicon and leads to LF is called *human language computation*, that is (*narrow*) *syntax* NS. It is claimed that PF (=PHON) and LF (=SEM) are the *interfaces* with the external systems, sensorimotor systems and systems of thought respectively, which are independent of FL. The sensorimotor systems use informations like temporal order, prosodic and syllabic structure, phonetic properties and relations, whereas the systems of thought require informations like semantic features, event and quantificational structure, and so on. FL has to be usable to those systems: FL must satisfy *legibility conditions* that those external systems impose, providing legible representations at the interfaces (Chomsky 2000:94).

### 3. Notion of parameters to be reconsidered

R&H (2005) defend the principles-and-parameters theory, claiming that the principles-and-parameters approach appears to i) be descriptively simple, ii) have binary settings, iii) be small in number, iv) be hierarchically related, thus appropriately account for acquisition and language typology, v) predict clustering of morphological properties, vi) be innate and universal, vii) be easily learnable, and viii) change in a diachronically directional way from marked to unmarked setting, all of which Newmeyer (2005) rejects, though. Taking the Scandinavian languages for example, they claim that clustering of a series of properties is appropriately predicted in terms of the principles-and-parameters approach.

I would like to point out that the notion of parameters should be reconsidered along the theoretical change in generative grammar. Take *wh*-movement for example. A *wh*-phrase of English moves to the sentence-initial position (2a), whereas that of Japanese does not need to move (2b).

(2) a. What did you eat ~~what~~?

- b. Kimi-wa nani-o tabemashi-ta-ka?  
 you-TOP what-ACC eat -past-Q  
 ‘What did you eat?’

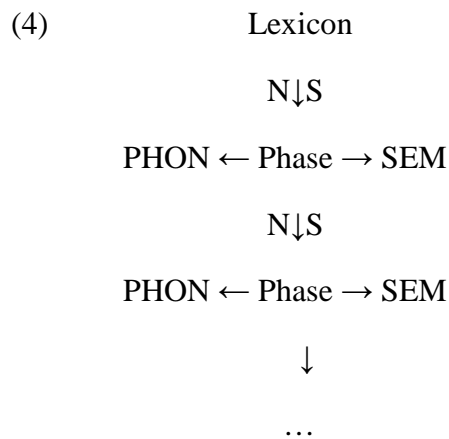
The difference was accounted for within the checking theory (Chomsky 1995) as follows. The economy condition requires only feature movement, not categorial movement; overt feature movement will crash a derivation at PF; in that case a feature pied-pipes a full category. A *wh*-phrase has [wh] to be checked. By assumption, [Q] of C in English is strong, which causes overt movement of [wh]; [wh] moves pied-piping an entire category *what* (2a). Checking of [wh] may be covert by Procrastinate as in Japanese; only [wh] moves leaving a category *nani-o* in situ (2b) (Chomsky 1995:261-272). This is illustrated as below with the details omitted:

- (3) a. [CP [wh] + what ... [VP ... ~~what~~]]  
 b. [CP [wh] ... [VP ... nani-o]]

From the view, the parameter that distinguishes English from Japanese lied in the lexical property of C that is strong in English and weak in Japanese, which property directly affected syntax of both languages, namely presence or absence of overt movement of the *wh*-phrase. In other words, the parametric difference between English and Japanese started from lexicon and existed in NS in the illustration (1), with each derivation assumed to reach the same LF.

Though the Minimalist spirit has not yet changed, there appears to me to be a great difference in the theoretical direction between Chomsky (1995) and Chomsky (2000). The overall assumption since Chomsky (2000) is represented by the Uniformity Principle: “[i]n the absence of compelling evidence to the contrary, assume languages to be uniform, with variety restricted to easily detectable properties of utterances” (Chomsky 2001:2); “Σ (SEM) is assumed to be uniform for all L; NS is as well, if parameters can be restricted to LEX

(lexicon) ... ;  $\Phi$  (PHON), in contrast, is highly variable among Ls (Chomsky 2004:107). A more radical view is that of Sigurðsson (2003). Given that language A selects property  $\alpha$  from the universal properties  $\{\alpha, \beta, \dots\}$  and makes the lexicon whereas language B selects property  $\beta$  and makes the lexicon as Chomsky assumes, language A could not access property  $\beta$  whereas language B could not access property  $\alpha$ . However, the languages that do not have articles (e.g. Russian and Finnish), for instance, do not mean that they lack definiteness. Thus, the languages that lack some properties should access the universal properties, but only do not express them by ‘physical’ grammatical means (Sigurðsson 2003:5-6). Sigurðsson radically claims that “language has innate semantic structures that are independent of their physical exponents; [t]hus, language variation, including parameter setting, is strictly confined to PF (including morphology)” (Sigurðsson 2003:8). The syntactic model (1) is now modified as follows, with multiple Spell-Out assumed:



It is assumed that a syntactic object is spelled out and sent to SEM and PHON at each phase, vP and CP (Chomsky 2000). According to Chomsky, lexicon and PHON differ among languages with NS and SEM remaining the same; according to Sigurðsson, only PHON differs among languages, with the other components remaining the same.

Let us see how the view above is reflected on the way of derivation. *Wh*-movement is accounted for roughly as follows (Chomsky 2000, 2004). C has [u-Q], whereas a *wh*-phrase has the interpretable [Q] and [u-wh]; [u-Q] is valued and deleted by [Q]; the *wh*-phrase

moves to delete its own [u-wh], either before Spell-Out of v\*P in English or after Spell-Out of v\*P in Japanese:

(5) a. [CP what ... [v\*P ... what]]

b. [CP nani-o ... [v\*P ... nani-o]]

Nothing differs in the syntactic operation between English (5a) and Japanese (5b): the operation proceeds in a cross-linguistically parallel way. Timing of Spell-Out does not affect the syntactic operation itself. Since it is assumed that the *wh*-phrase moves to delete its own [u-wh], the *wh*-phrase results in being cross-linguistically located in [Spec,CP]. It appears to me that the parameter will amount to which position the phonological features are assigned to, as has been developed in the literature (Groat and O'Neil 1996, Pesetsky 2000): they are assigned to the highest position in English (5a), but to the lowest position in Japanese (5b). The component in which the phonological features are assigned is PHON; therefore, the consequence the theory leads to is that parameters lie not in NS, but in PHON.

I feel as if the theoretical direction were accelerated in the recent proposals. The mechanism of movement introduced above concerning *wh*-movement is more or less accepted as a generalized mechanism in the literature since Chomsky (2000): a head with [u- $\phi$ ] probes a goal that has the interpretable counterpart [ $\phi$ ], which possibly has some [u-F] too; [u- $\phi$ ] is valued and deleted by [ $\phi$ ]; the goal activated by its [u-F] may move and delete the EPP on [u- $\phi$ ]. Though Case-agreement (Agree) is included in TP/v\*P systems but not in CP systems, a distinction between A-/A'-movement has no status with movement constructions derived in a similar way (Chomsky 2004:125,ft.30).

Along with the theoretical change, a focus of the study has fallen on how empty categories, which have long been discussed associated with movement (Chomsky 1981, 1995), can be dealt with in the new system. Four types of empty categories were assumed, DP-trace (6), *wh*-trace (7), PRO (8), and pro (9), which were unspecified nominal categories without

$\phi$ -feature values and introduced in the course of a derivation (Chomsky 1981, Rizzi 1982, 1986).

(6) a. John kissed Mary.

b. [TP John [VP <sup>t<sub>John</sub></sup> kissed Mary]]

(7) a. What did you eat?

b. [CP what did [TP you [VP eat <sup>t<sub>what</sub></sup>]]]

(8) a. John hopes to win the race.

b. [TP John [VP hopes [PRO to win the race]]]

(9) a. Ha telefonato. (Ita.)

has-3sg telephoned

‘He/she telephoned.’

b. [TP pro ha [VP <sup>t<sub>pro</sub></sup> telefonato]]

On the assumption of the Inclusiveness Condition that no new features are introduced by human language computation (Chomsky 2000:113), DP-trace and *wh*-trace are problematic, violating the condition. They are now assumed to be occurrences identical with each other that are generated by remerging a moved category and form a chain (e.g. <what,<sup>what</sup>> (5a) and <<sup>nani-o</sup>,nani-o> (5b)) (Chomsky 2000). An attempt has been made to derive PRO by

movement of a controller (e.g. Hornstein 2001)<sup>1</sup>:

(10) [TP John [VP hopes [~~John~~ to win the race]]]

The last remaining category is *pro*, which was assumed to be licensed and valued by a head with rich agreement. The languages like Italian can, but those like English cannot, have such a licensing head. Namely, a parameter setting on lexical property of a head directly affected availability of *pro* (Chomsky 1981, Rizzi 1982, 1986). *Pro*, without  $\phi$ -feature values, is problematic in the current system, though. It is assumed that T has [u- $\phi$ ] that must be valued: uninterpretable features are unvalued, though interpretable features are already valued. A syntactic object that contains the uninterpretable features cannot be spelled out as it is illegitimate (Chomsky 2000). A consequence is that a category that has unvalued features cannot be spelled-out. That is, since T cannot value *pro*, (the chain of occurrences of) *pro* without  $\phi$ -feature values could not be spelled out.

Refuting the claim that *pro* does not need to be present as agreement morphology carries a subject  $\theta$ -role (Alexiadou and Anagnostopoulou 1998, Manzini and Savoia 2002), Holmberg (2005) proposes that *pro* is a pronoun that is interpretable and values [u- $\phi$ ] of T; *pro* cross-linguistically moves to [Spec,TP] to delete the EPP, but may not be pronounced at PHON. According to this view, *pro* differs from an overt pronoun only in whether the former does not, but the latter does, have phonological features.<sup>2</sup> In (9) a pronoun values [u- $\phi$ ] of T and moves to [Spec,TP] to delete the EPP on T; occurrences of the pronoun may not be pronounced in any positions at PHON, not being assigned the phonological features, which results in the chain  $\langle \text{pro}_i, \text{pro}_i \rangle$ . Note that there is no difference in the way of derivation between the case of *pro* in Italian and that of an overt subject in English (6): the subject that is

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<sup>1</sup> It is argued that PRO in obligatory control as in (8) is anaphoric and derived by movement; PRO in non-obligatory control, on the other hand, is claimed to be pronominal (Hornstein 2001):

i) John hopes that [PRO winning the race] will be fun.

<sup>2</sup> Holmberg proposes a typology of pronouns: pros in 'full' Null Subject languages like Spanish and 3rd person pros in Finnish are  $\phi$ Ps; 1st and 2nd person pros in Finnish are DPs, and so on. The difference in the types of pronouns does not affect the discussion here: whether a relevant pronoun is pronounced or not is a matter of PHON, as Holmberg (2005) says in the conclusion.



valued and interpretable moves to [Spec,TP] in both languages; the only difference is that the phonological features are assigned to the subject in English, but not in Italian. Namely, a consequence of the analysis is that the parameter that distinguishes null subject languages from non-null subject languages does not lie in NS but in PHON.

Let us see the analyses above from the point of view of chain formation. One will expect to find four types of chains: i) a chain in which the highest position is assigned the phonological features,  $\langle \alpha, \emptyset, \emptyset \rangle$ , ii) a chain in which the lowest position is pronounced,  $\langle \emptyset, \emptyset, \alpha \rangle$ , iii) a chain in which positions are multiply, if not all, assigned the phonological features,  $\langle \alpha, \alpha, \emptyset \rangle$ , and iv) a chain in which none of the positions are pronounced,  $\langle \emptyset, \emptyset, \emptyset \rangle$ . The first case is DP-movement (6) and *wh*-movement (7) as in English:  $\langle \text{John}, \text{John} \rangle$ ,  $\langle \text{what}, \text{what} \rangle$ . This also includes Object Shift in Scandinavian, which is assumed to be object movement to [Spec,v\*P] (Chomsky 2001):

(11) a. Jag kysste henne inte. (Swe.)

I kissed her not  
‘I didn’t kiss her.’

b. Jag kysste [<sub>v\*P</sub> henne [<sub>v\*P</sub> inte [<sub>VP</sub> kysste henne]]]  $\langle \text{henne}, \text{henne} \rangle$

The second case is *wh*-in-situ as in Japanese (5b):  $\langle \text{nani-o}, \text{nani-o} \rangle$ . The third case is multiply realized *wh*-movement as in German:

(12) a. Wen denkst Du wen sie meint wen Harald liebt?

who think you who she believes who Harald loves  
‘Who do you think that she believes that Harald loves?’

(Fanselow and Mahajan 1995)

- b. [CP wen denkst Du [CP wen sie meint [CP wen Harald [<sub>v\*P</sub> wen<sub>EN</sub> liebt]]]]  
 <wen,wen,wen,w~~en~~>

The fourth case is a pro chain (9) based on Holmberg (2005): <pro<sub>CP</sub>,pro<sub>TP</sub>>. Note that from the view of chain formation, there will actually be possibility that CP/TP/v\*P systems are unified: all movement constructions are derived in a similar way by the generalized mechanism introduced previously; occurrences of a moved category form a chain. With difference reduced to which position(s) in the chain the phonological features are assigned to, difference appears to lie not in NS, but in PHON.<sup>3</sup> The only difference between the systems is that the feature matching operation between T/v\* and a category contains Agree, which enables the category to delete the EPP on the head, whereas the operation between C and a category does not contain Agree, which makes the category move to delete its own [u-F] (Chomsky 2004). I leave for future research the issue of whether the CP/TP/v\*P systems are entirely unified.

After all, the current theoretical direction of generative grammar leads one to argue that parameters do not lie in NS, but in PHON and/or physical morphological realization (Sigurðsson 2003) (and possibly in lexicon as claimed by Chomsky (2004)). This is why discussions of parameters is all but absent in the recent literature, as Newmeyer (2006:7,ft.6) notes. Claiming that parameters lie in NS appears to me to result in rejecting the uniformity of NS, thus the uniformity of SEM assumed in Chomsky (2001, 2004). Argument for presence of parameters in NS should either reject the Uniformity Principle in NS and SEM, or need to devise a mechanism to maintain both parameters in NS and the Uniformity Principle.

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<sup>3</sup> Note incidentally that the same result is obtained whether or not one assumes Distributed Morphology, according to which phonological features are inserted only when a syntactic object is sent to PHON (Halle and Marantz 1993). Assuming Distributed Morphology, one obtains the four types of chains by inserting phonological features into the highest position (i), into the lowest position (ii), into the positions except the lowest one (iii), and into none of the positions (iv); not assuming the view, on the other hand, one obtains the chains by deleting phonological features at PHON except from the highest position (i), except from the lowest position (ii), only from the lowest position (iii), and from all the positions (iv).

#### 4. The processing/usage-based approach and related theories – Incompatible with generative grammar?

I turn to the processing/usage-based approach that Newmeyer (2005) recommends. Newmeyer cites Hawkins' (2004) Performance-Grammar Correspondence Hypothesis, which states that grammars have conventionalized syntactic structures in proportion to their degree of preference in performance (Hawkins 2004:3). One of the predictions from the hypothesis is that if a structure A is preferred over an A' of the same structural type in performance, A will be more productively grammaticalized, in proportion to its degree of preference. It is claimed that this is illustrated by the tendency that heads consistently precede or follow complements. It is claimed that speakers of head-initial languages tend to put a shorter constituent before a longer one, whereas those of head-final languages tend to put a longer one before a shorter one. According to Newmeyer, grammars have been shaped by processing considerations, that is, by language use (Newmeyer 2005:120-121). Newmeyer also claims that usage is separated from grammar. He claims that speakers mentally represent full grammatical structure on a fragmentary utterance, but not vice versa (Newmeyer 2005:145-149).

In his *information structure* theory, Lambrecht (1994) is engaged in associating the components other than syntax with sentence structuring more specifically than in the processing/usage-based approach. Distinguishing discourse pragmatics from conversational pragmatics represented by Grice (1975), Lambrecht claims that the former, which is the concern here, is engaged in the question of why one meaning can be expressed by more than one sentence form. This reminds me of Newmeyer's remark that "(Hawkins') P(erformance-) G(rammar) C(orrespondence) H(ypothesis) is manifested in a number of ways; [f]or example, one might find a language or languages in which speakers have different structural means for expressing the same content" (Newmeyer 2005:120). Lambrecht defines information structure as follows:

(13) INFORMATION STRUCTURE: That component of sentence grammar in which propositions as conceptual representations of states of affairs are paired with lexicogrammatical structures in accordance with the mental states of interlocutors who use and interpret these structures as units of information in given discourse contexts.

(Lambrecht 1994:5)

Information structure of a sentence is the formal expression of structuring a proposition in a discourse; the relationship between a given sentence form and the function of the sentence in discourse is directly determined by grammatical convention. There are no sentences that do not have information structure. Among the most important categories of information structure are *topic* and *focus*, which are related to a speaker's assessment on whether the relations between propositions and the given discourse situations can be predicted. Information structure enters, and is formally manifested in, all levels that have meanings like morphology, syntax including lexical selection and word ordering, and prosody (Lambrecht 1994:5-6).

Specifically, one finds different ways of expressing an information among languages as below:

- |  |  |
|--|--|
| <p>(14) a. What's the matter?</p> <p>i) My NECK hurts.</p> <p>ii) Mi fa male il COLLO.<br/>me makes ache the neck</p> <p>iii) J'ai le COU qui me fait MAL.<br/>I have the neck that me makes ache</p> <p>iv) KUBI-ga ITAI.<br/>neck-NOM hurt</p> | <p>b. How's your neck doing?</p> <p>i) My neck HURTS.</p> <p>ii) Il collo mi fa MALE.<br/>the neck me makes ache</p> <p>iii) Mon cou il me fait MAL.<br/>my neck it me makes ache</p> <p>iv) Kubi-wa ITAI.<br/>neck-TOP hurt</p> |
|--|--|

The answers in (14a) are sentence-focus: nothing is presupposed in the question; the answer is event-reporting or presentational, containing only new information. Those in (14b) are

predicate-focus: the constituent that is already presented in the question (i.e. *your neck*) makes a topic in the answer; the predicate makes a comment on the topic. Lambrecht accounts for the difference among the languages as follows. English (i) has a flexible prosodic system, whereas it has a rigid order system; English expresses different informations by changing the position of the accent. Italian (ii), on the other hand, has a flexible order system, whereas it has a rigid prosodic system that puts prosodic prominence on the sentence-final position; Italian represents different informations by changing word order. French (iii) does not have a flexible word order; prosody of French is not flexible either in that the accent comes at the sentence-final position; French expresses different informations by reorganizing syntactic structures, preserving the sentence-final accent position and the sentence-initial subject position. Japanese (iv) lexicalizes a marker attached to new information (i.e. *-ga*) and a marker attached to old information/topic (i.e. *-wa*), which contribute to express different informations (Lambrecht 1994:318-321).

I would like to discuss whether the theories introduced above are incompatible with generative grammar. It can be seen that neither the processing/usage-based approach nor information structure theory can account for why the grammar of a language is formed in that way, which is the central aim of study in generative grammar. For instance, the fact that English has VO, and Japanese has OV, as a basic word order is not accounted for in the processing/usage-based approach; presence of such a difference in syntax is presupposed, as shown in the phrase of Hawkins' (2004) definition *in proportion to [the] degree of preference [of the syntactic structures] in performance*. Lambrecht (1994:26) acknowledges that information structure cannot explain, for instance, why only Italian can invert a subject with a predicate while English and French must locate the subject in the sentence-initial position as illustrated in (14). He claims that though the specific forms of constructions in particular languages cannot be predicted from the communicative needs, it can be shown that they are motivated within the grammatical system of the languages (Lambrecht 1994:29). Lambrecht appears to take a more moderate standpoint than Newmeyer, who argues that grammar is formed by language use.

What aspect of grammar is motivated by the components other than syntax and to what extent the aspect is motivated by the latter? As R&H state, syntax appears to have two aspects: '[w]e recognize the importance of distinguishing linguistic variation which is due to extragrammatical factors from variation which is parametric and thus predictable from properties of UG' (R&H 2005:551). The linguistic facts like head-initial or head-final appear to belong to the latter, being determined for a grammar-internal reason independent of the components other than syntax. Such aspects of grammar do not appear to me to be motivated by the components outside syntax. The linguistic facts like order change of constituents, on the other hand, appear to partly belong to the former in their statement, being affected by the other components to a certain extent. It is often difficult to see to what extent such facts are affected and motivated by the components outside syntax. *Wh*-movement, for instance, obligatorily moves a *wh*-phrase to the sentence-initial position in English (15a), which is determined for an internal reason of the English grammar; the movement, on the other hand, resembles focus movement (e.g. Brody 1990, Rizzi 1997) (15b), which appears to be motivated by the other components than syntax.

(15) a. What did you eat ~~what~~?

b. JOHN, I like ~~JOHN~~.

The study in generative grammar is concentrated on that of FL, that is the study of the mechanism that derives a syntactic object, specifically a sentence construction. Contrastive focus construction like (15b) will be analyzed in generative grammar as follows. A feature [+Focus] enters in the course of a derivation; the constituent that is assigned [+Focus] (i.e. *John*) moves to the sentence-initial scope position [Spec,CP] either overtly (16) or covertly (17) (details are omitted).

(16) a. JOHN, I like (, not Bill).

b. [CP JOHN [TP I [<sub>v\*P</sub> like<sup>JOHN</sup>]]]]

(17) a. I like JOHN (, not Bill).

b. [CP<sup>JOHN</sup> [TP I [<sub>v\*P</sub> like JOHN]]]]

The constituent with [+Focus] is assigned the interpretation of focus at SEM and the accent at PHON. What is focused here is the mechanism in which the constituent moves to delete the EPP on C, and so forth. It is unclear under what condition [+Focus] enters a derivation and why the feature is assigned to *John* in (16-17). The point is not taken into account in generative grammar, as it is assumed that FL provides a syntactic object that satisfies the interface conditions the external systems impose: before theoretical analyses of the sentences are made, it is predetermined that [+Focus] enters the derivation and is assigned to *John*. This means that the question of what the factors are that decide under what condition [+Focus] enters and why it is assigned to the constituent neither can be answered nor is addressed in generative grammar.

With the contexts provided, it is possible to specify the condition under which [+Focus] enters and the reason why *John* is assigned the feature in (16-17).

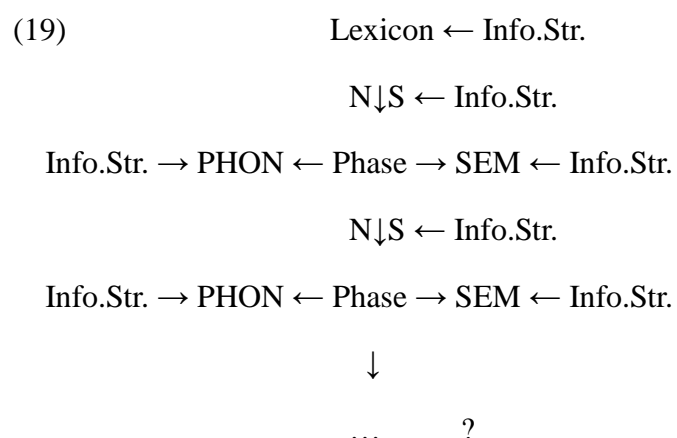
(18) a. Do you like Bill? – No, I like JOHN/No, JOHN, I like.

b. Who likes John? – I like John/him.

*Bill* in the question is denied and corrected in the answer as *John* in (18a): [+Focus] enters to manifest contrastive focus between *Bill* and *John*, and *John* is assigned the feature, being contrasted with *Bill*. In (18b), on the other hand, it is presupposed in the question that

someone likes *John*: [+Focus] cannot be assigned to *John* as the latter makes part of presupposition/topic in the answer. Namely, with the contexts provided, in other words, under information structure theory, the questions of under what condition [+Focus] enters the derivation and why the feature is assigned to *John*, the questions generative grammar is blind to, are addressed and can be provided possible answers. Therefore, information structure theory (and possibly the processing/usage-based approach too) does not appear to me to be incompatible with generative grammar; rather, the former can compensate for the latter, and vice versa. The reason why generative grammar is blind to the questions above is that the questions belong to the interface conditions with the external systems and/or the external systems themselves. Thus, information structure theory and the processing/usage-based approach will be located as the study of the interface conditions and/or the external systems themselves in generative grammar.

I would like to mention a point. A consequence of Lambrecht's theory is that all properties of a particular language, lexicon, morphology, syntax, and phonology, interact with each other under a certain information structure, and construct a sentence, thus make the particular language. To adopt and formulate his view within a grammatical theory, however, will mean that the syntactic model, say (4), must at least be modified as below:



Under Lambrecht's system, information structure enters all levels of linguistic components: information structure will be involved in lexical selection, syntactic operations, the



phonological component, and the semantic component. Or, an entirely new model may be devised.

After all, it appears to me that information structure theory and the processing/usage-based approach are not incompatible with generative grammar; rather, one can and should compensate for the other. This is already suggested in Lambrecht's remark that '[i]n my view, the most promising ... approach to grammatical analysis is one in which the different components of grammar are seen not as hierarchically organized independent subsystems but as interdependent forces competing with each other for the limited coding possibilities offered by the structure of the sentence' (Lambrecht 1994:11-12). To give shape to his view, a new syntactic model may be required.

## 5. Conclusion

In this paper I firstly discussed the change in the notion of parameters along the theoretical change from Chomsky (1981), through Chomsky (1995), to Chomsky (2000). On the assumption of the Uniformity Principle that NS and SEM are uniform (Chomsky 2001), I claimed that in the current theoretical direction of generative grammar, parameters result in lying not in NS, but in PHON/physical morphological realization (Sigurðsson 2003) (and possibly in lexicon too (Chomsky (2001))). I secondly turned to the processing/usage-based approach. Also introducing Lambrecht's (1994) information structure theory, which is engaged in associating the components other than syntax with sentence structuring more specifically than in the processing/usage-based theory, I claimed that those theories are not incompatible with generative grammar, but rather the former can compensate for the latter and vice versa. I mentioned that taken Lambrecht's view into account, a new syntactic model should be devised.

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