Revue québécoise de linguistique

θ-Theory and Configuration

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Volume 31, numéro 2, 2002

Hiérarchies et géométries

URI : https://id.erudit.org/iderudit/009315ar
DOI : https://doi.org/10.7202/009315ar

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Éditeur(s)

Université du Québec à Montréal

ISSN

0710-0167 (imprimé)
1705-4591 (numérique)

Découvrir la revue

Citer cet article

Kawai, M. (2002). θ-Theory and Configuration. *Revue québécoise de linguistique*, *31*(2), 157–170. https://doi.org/10.7202/009315ar

Résumé de l'article

Chomsky 1993, 1995, 2000, 2001a, 2001b, suivant Hale et Keyser 1993, présume que les rôles θ sont assignés en forme logique (FL) en fonction de la configuration structurale, ce qui est appelé ici théorie configurationnelle de la légitimation thématique (TCLT). Cette approche élimine la nécessité de la structure argumentale (θ) dans la syntaxe pure (SP), rendant ainsi la structure D superflue. La présente étude examine comment la structure argumentale (θ) et d'autres propriétés de base (associées traditionnellement à la structure D) peuvent être saisies en minimalisme, sans postuler la structure D. Bien que Chomsky adhère à la TCLT, la théorie θ continue de jouer implicitement un rôle prépondérant en SP : les propriétés associées à la structure D ne sont pas strictement du domaine de la FL, et donc ne peuvent pas être pleinement assumées par l'interface conceptuelle-intentionnelle.

Revue québécoise de linguistique, vol. 31, nº 2, 2002, © RQL (UQAM), Montréal

Θ-THEORY AND CONFIGURATION*

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1. Introduction

In the Extended Standard Theory (EST) framework (Chomsky 1981 and references cited there), the computational system (CS) has three interface levels with "some other system of the mind/brain" (Chomsky 1991: 418): D-structure, Phonetic Form (PF) and Logical Form (LF). D-structure is the pure representation of GF-θ, interfaced with Lexicon, or, what I call the 'lexico-conceptual system'[1]. θ-Criterion (1) and the Projection Principle (2) preserve the θ-structure throughout the D-structure-to-LF mapping.

(1) Every argument must be assigned a θ-role, and every θ-role must be assigned to an argument.

(2) Representations at each syntactic level are projected from the lexicon, in that they observe the subcategorization properties of lexical items.

LF interfaces with the 'logico-intentional' (L-I) system. Minimalism (Chomsky 1993, 1995, 2000, 2001a, 2001b, Chomsky and Lasnik 1993), on the other hand, does not recognize D-structure as an interface level and therefore eliminates the role of θ-Criterion and the Projection Principle. Instead, Chomsky

* This paper was presented at the 5th Annual Bilingual Workshop of Theoretical Linguistics at Huron University College and University of Western Ontario (December 2001), but has undergone substantial changes since. I am greatly indebted to the workshop participants: in particular, Oxana Borzdyko, Joyce Bruhn de Garavito, David Heap, Svetlana Kaminskaïa, Jacques Lamarche, Ileana Paul, Yves Roberge, Nicole Rosen, Yahor Tsedryk and Barbara White. I am also indebted to Howard Lasnik and Timothy J. Vance, the two RQL reviewers and Jami B. Kawai.

1 See Brody 1995, Jackendoff 1997, Kiparsky 1997, Manzini and Roussou 2000, Uriagereka 2000, Wunderlich 1997, among others, for more discussions on the interface of CS and Lexicon (Lex). Therein, one finds attractive alternative approaches to the CS-Lex interface. In this study, however, I will remain within the overall architecture of Chomsky 1995, 2000, 2001a, 2001b.

embraces Hale and Keyser's 1993 treatment of θ-role licensing, to be referred to as the Configurational Theory of θ-role Licensing (CTTL henceforth)[2]:

(3) A θ-role is assigned in a certain structural configuration at LF.
Chomsky 1995: 313

Under the minimalist architecture, LF subsumes the role of D-structure, interfacing with the 'conceptual-intentional' (C-I) systems. In a sense, LF assumes the role of D-structure in the Standard Theory (Chomsky 1965), simultaneously representing argument structure and logical (semantic) form. Chomsky sees the elimination of D-structure as a reduction of the theory; the existence of the C-I interface is a "virtual conceptual necessity" whereas D-structure is internal to the theory of language. Note that this presumes a particular kind of mind/brain architecture: viz., the C-I systems as a single unit. This is yet to be motivated empirically, however. It is therefore equally plausible – at least conceptually – that there is another level interfacing with thematic knowledge, as assumed in the EST framework. Certainly, an analysis with fewer interface levels is preferred over others, insofar as its empirical coverage is comparable. Thus, it is paramount for minimalism to show that with (3), all the properties associated with D-structure, to be referred to as "D-structure effect", can be captured without D-structure and the GB-theoretical apparatus associated with it. This has not been satisfactorily done in the past, as Uriagereka 2000 demonstrates.

This study does not argue for the reinstitution of D-structure as an interface level. With Larson's 1988 VP shell analysis, all-at-once evaluation/licensing of θ-roles at D-structure has become untenable. Nevertheless, the elimination of D-structure as a level does not necessarily entail that θ-roles **must** be licensed at LF; alternatively, each θ-role may be evaluated at the time of Merger in-situ[3]. Chomsky 1993 cites *tough*-constructions as counterexamples to this possibility. The matrix subject of the construction is arguably inserted in-situ, even though it

2 Exactly how committed Chomsky is to Hale and Keyser's 1993 analysis is not entirely clear. For example, in Hale and Keyser's 1993 analysis, lexical/thematic structure is represented in terms of 'lexical relational structure' (LRS), which is not mentioned in Chomsky's 1995, 2001a, 2001b exposition. LRS representations appear to include D-structure properties (in particular, argument (θ-) structure) in a phrase-structure-like hierarchical form. Hale and Keyser are not fully committed to LRS representations either, speculating that LRS representations may be derived. How this can be done is not clear to me. What may be comparable to LRS representations in Chomsky's exposition is 'lexical arrays' LAs and 'subarrays' LA_i. It is an open question as to whether or not LAs (and LA_i) covertly 'fill in' D-structure's job.

3 This does not stop the C-I (or L-I) system from reading off the θ-roles in the syntactic object at the interface, which is exactly parallel to the role of OCC (or, Peripheral) feature creating a new configuration to be appropriately interpreted.

is assumed by Chomsky to be a non-θ position; thus, external Merge (or lexical insertion) cannot be strictly limited to argument positions; therefore, licensing of θ-roles must wait until LF (Chomsky 1981, 1993). However, as argued by Lasnik and Fiengo 1974, Jones 1985, and Kawai 1992, 2002b, the matrix subject position of a *tough*-construction is thematic. If so, the θ-role of the subject of a *tough*-class predicate can be licensed in-situ at the point of merger.

This exploratory study investigates how D-structure effect is captured in minimalism. Given that Chomsky's treatment of the base properties has undergone changes from 1993 to the present, this study will specifically focus upon Chomsky's 1995 and 2000, 2001a, 2001b treatment. I show that Chomsky presents two distinct versions of the CTTL: one with strong commitment to the CTTL ('stronger CTTL'), and the other covertly preserving θ-properties within narrow syntax ('weaker CTTL'). It is argued that neither version is attractive. With the stronger CTTL, θ-properties have no roles in 'narrow syntax' (NS), resulting in overgeneration; this is counter to the kind of economy observed in NS. Under the weaker CTTL, θ-properties covertly play a role; this approach is contrary to the CTTL. The implications of the treatments will be discussed briefly in Section 4.

2. Chomsky 1995

In this section, I will examine Chomsky's 1995 treatment of θ-properties and the CTTL. θ-configurations are recognized (evaluated) at LF, as stated in (3); an argument without a θ-role offends Full Interpretation, making the derivation crash (p. 347). Under the CTTL, Merge of arguments is not "aware" of argument (θ-) structure; given the prohibition against term erasure and Strict Cycle, repair strategies are not available for ill-formed θ-configurations. Thus, for LF convergence, Merge must create well-formed θ-configurations beforehand. Thus expressed, this has the flavor of a "look-ahead". Another way to put it is that any representations containing an ill-formed argument (θ-) structure will be filtered out at LF by Full Interpretation.

This is not particularly "minimalist" in spirit, since the structure-building process does not proceed in a very economical fashion, which is quite uncharacteristic of the natural language design. The potential problem with derivations via unconstrained Merge at base is that they could result in a combinatorial explosion. Some of these derivations could crash immediately, while others could survive up to the C-I interface, only to be filtered out. In short, this view of the CTTL captures the D-structure effect, although it does not seem to be

the optimal solution to LF convergence. I will call this approach the 'stronger CTTL'.

Chomsky does not appear to adhere strictly to the CTTL, however, as seen in (4).

(4) θ-relatedness is "restricted to configurations of lexical insertion"
Chomsky 1995: 314

The intention of (4) seems clear: Chomsky consistently rejects movement into a θ-position. It is difficult to see how (4) can be stated under the CTTL, since Merge is not sensitive to θ-properties. Chomsky 2000: 103 gives an alternative in (5) as a θ-theoretic principle.

(5) Pure Merge in θ-positions is required of (and restricted to) arguments.

This "principle" appears to be too descriptive to be a principle. Puzzling is the fact that the reference to argumenthood remains in (5), even though the argument/θ-hood is presumably not relevant until LF. (5) plays the partial role of θ-Criterion, creating the D-structure effect; thus, if anything, it is an argument against the CTTL. I will call this approach the 'weaker CTTL'.

An alternative approach to (4)-(5) is available in Chomsky 1995: 312-314; consider (6).

(6) a. *John [$_{VP}$ t′ [HIT t]]
b. *John [$_{VP}$ t′ [BELIEVE [t to be intelligent]]]

According to Chomsky, the "deviance" of (6a-b) is due to the failure of proper θ-role licensing of the trace in (6a) and (6b). If α [*John* in this case] raises to a θ-position *t'* (a predicate internal subject position in this case), forming the chain CH = (α, t), the argument that must bear a θ-role is CH, not *t* (the trace of *John*). But, CH is not in any configuration, and *t* is not an argument that can receive a θ-role (Chomsky 1995: 313). Chomsky thus concludes that "in a configurational theory of θ-relations [CTTL], it makes little sense to think of the head of a chain as [receiving] a θ-role" (p. 313). In (6a-b) the argument is without a θ-role, which is not eligible for LF. This way, movement cannot create a new θ-configuration, deriving (5).

Although this account is attractive since it derives the effect of (5) from the interaction of the principles of grammar, it has broader consequences than intended, as noted by Lasnik 1999. He points out that the assumptions necessary for this alternative account will ban A-movement altogether. Consider (7a-b), standard examples of A-movement.

(7) a. **John** is hit **t** by the car.
b. **A solution** seems [**t** to be available].
c. The car hit John.

A-movement of the bold DPs from their D-structure position, denoted by t, creates a chain without a θ-role, since it does not constitute a "θ-configuration" at LF. If so, the bold arguments must be base-generated (pure-Merged) in-situ; given (4) and (5) the matrix subject positions in (7) must be θ-positions. This misses the well-known generalization on θ-structure captured by the A-movement analysis: viz., *hit* in (7a) and (7c) share identical θ-structures[4]. Consequently, (5) cannot be independently motivated in Chomsky 1995.

To sum up, Chomsky 1995 seems to offer two distinct treatments of CTTL: the stronger and the weaker. The former may result in unconstrained overgeneration at the base. In the latter, the base is restricted by (5), a problematic assumption for the CTTL.

3. Chomsky 2000, 2001a, 2001b

In this section, I discuss Chomsky's 2000, 2001a, 2001b treatment of θ-roles and the CTTL. Unlike Chomsky's 1995 approach, the new one allows A-movement (section 3.1); yet, it still carries over both the stronger and the weaker CTTL. After a brief outline of the new architecture of minimalism in Chomsky 2001b (section 3.2), I will examine the two versions closely (section 3.3).

3.1 A-movement and the CTTL

In Chomsky 2000, 2001a, 2001b, A-movement is allowed, due to the following new view of the chain. A chain now is short-hand for a list of "occurrences" of a single syntactic object, rather than an independent theoretical object. "Dislocation of α yields a chain (α, t) — more accurately, a chain {X, Y}, where X and Y are occurrences of α" (Chomsky 2000: 120). Strictly speaking,

4 Banning A-movement itself is not necessarily a defect. Non-movement analyses of 'A-movement phenomena' are available (Brody 1995, Kawai 1999, Manzini and Roussou 2000, among others). On the other hand, any non-movement analyses of 'A-movement phenomena' must account for the evidence for cyclic A-raising (Lasnik 2003), a difficult task.

dislocation no longer creates a chain as a new syntactic object[5]. Consequently, an A-trace can be evaluated in-situ for the CTTL, being an occurrence of a single α, not a member of an independent object CH. The problem with Chomsky's 1995 approach with respect to A-movement is thus avoided, a desired result[6].

3.2 Phase-based approach

Before I discuss Chomsky's 2000, 2001a, 2001b treatment of θ-roles and the CTTL, a brief overview of the architecture therein is in order. Due to space limitations, I will only present the proposals most relevant for our discussion; I will proceed assuming the reader's familiarity with the cited works.

According to those references, the language L generates a set of derivations, yielding a pair <PHON, SEM>, which are accessed, respectively, by the 'sensorimotor' (SM) and 'conceptual-intentional' (C-I) systems. Within L, 'narrow syntax' (NS) maps a 'lexical array' (LA) — elements of the lexicon one-time selected for a derivation to a derivation — D_{NS}; the phonological component Φ maps D_{NS} to PHON; the semantic component Σ maps D_{NS} to SEM (Chomsky 2001b: 4). NS, Φ, and Σ are cyclic in the sense that an operation TRANSFER cyclically hands D_{NS} to Φ and Σ. For brevity, I will exclude the D_{NS}-to-PHON mapping from our discussion.

The relevant unit for the cyclical TRANSFER is a 'phase' of a derivation; phases (PHs) are syntactic objects (SOs) that are 'propositional' (*v*P, CP, or possibly DP).

(8) PH (H) = $[_X\ \alpha\ [\ H\ \beta\ ]\ ]$, where X is either *v*P or CP, and H, its head.

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5 This solves another problem. That is, chains in Chomsky's 1995 approach violate the Inclusiveness Condition: any structure formed by the computation (in particular, π and λ) is constituted of elements already present in the lexical items selected for N [numeration]; no new objects are added in the course of computation apart from rearrangement of lexical properties (Chomsky 1995: 228). How to keep track of occurrences of α is not very clear in Chomsky's presentation, however. If an additional registering mechanism, not unlike a chain, is necessary, then the redundancy between chains and movement will remain; an alternative is, as usual, to shift the interpretive burden of occurrences to the C-I systems.

6 Another interesting consequence is that the theory now predicts the existence of A-reconstruction, which is challenged by Chomsky 1995 and Lasnik 1999, among others. In Chomsky 2001b, there is no way to state the A/A´-distinction; thus the question of whether or not A-reconstruction — as opposed to A´-reconstruction — exists, cannot be properly formulated. Yet, the fact remains that many — if not all — cases of A-movement do not appear to exhibit reconstruction effects; therefore, some account is in order for the apparent lack (or rare occurrence) of A-reconstruction phenomena. Lasnik 1999 proposes that A-movement does not leave a trace. If this is correct, we must allow term erasure.

α-H is referred to as the 'edge' of PH, and β as the 'domain' of H. Further, a phase defines the domain of a syntactic operation, as stated in the Phase Impenetrability Condition (PIC):

(9) In phase α with head H, the domain of H is not accessible to operations outside α, only H and its edge are accessible to such operations
Chomsky 2000: 108

That is, once embedded into another phase PH_2, only the head H of the phase PH_1 and its specifiers are accessible for syntactic operations. Henceforth, I will refer to the architecture of grammar just described as the phase-based approach.

The phase-based derivation and cyclical TRANSFER have an obvious consequence for the CTTL. Chomsky 2001b: 5 remarks that:

> *In this conception there is no LF: rather, the computation maps LA to <PHON, SEM> piece-by-piece cyclically. There are, therefore, no LF properties and no interpretation of LF, strictly speaking, though Σ [...] interpret[s] units that are part of something like LF in a non-cyclic fashion.*

Under the new architecture, there is no level of LF for interpretation; phases are cyclically sent to SEM. The ultimate interpretation SEM_D of a convergent derivation (CD) arises as the sum of SEM_{PH}'s. The CTTL must therefore be modified to one of the options in (11).

(11) a. The θ-configuration of a convergent derivation is licensed at SEM_{CD}.
b. The θ-configuration of a given phase is licensed at each SEM_{PH}.
c. The θ-configuration of a given phase is licensed at the "next relevant phase PH_2" (Chomsky 2001a: 11).

(11a) is more or less equivalent to the CTTL in the 1995 approach: the evaluation of θ-configuration is done at the final convergence. Under (11b) or (11c), the interpretation (licensing) of θ-structure is done cyclically. Of the two alternatives, (11b) appears to be conceptually more natural within the phase-based approach, although Chomsky endorses (11c).

3.3 Two approaches to the CTTL

Below, I will consider the treatment of argument (θ-) structure and the CTTL in the phase-based approach. As in his 1995 approach, Chomsky continues to take two — seemingly — incongruent positions. For the stronger CTTL,

Chomsky 2001b advocates an even stronger position than that of 1995, whereas for the weaker CTTL, θ-roles continue to play a covert role in NS.

Consider the stronger CTTL first. Chomsky 2001b: 10 states that there are "no s-selectional features or [θ]-grid distinct from [the] semantic properties SEM(H) of the head (label)." Consequently, the CTTL is further strengthened:

(12) θ-theoretic failures at the interface do not cause the derivation to crash; such structures yield "deviant" interpretations of a great many kinds.
Chomsky 2001b: 10

Unlike the 1995 system where θ-theoretic failures offend Full Interpretation (a filter at the interface), θ-properties are irrelevant to economy considerations. Taken literally, (12) excludes any thematic considerations from NS; external Merge can therefore be entirely free from considerations of argument (θ-) structure. This seems to result in overgeneration at base.

Interestingly, Chomsky does not seem to be fully committed to the stronger CTTL when he states in (13) (which is reminiscent of (4) and (5), repeated as (14) and (15), respectively):

(13) Argument structure is associated with external Merge (base structure); everything else with internal Merge (derived structure)
Chomsky 2001b: 9

(14) θ-relatedness is "restricted to configurations of lexical insertion"
Chomsky 1995: 314

(15) Pure Merge in θ-positions is required of (and restricted to) arguments.

Under the CTTL, the reference to 'argument structure' appears odd in a statement regarding Merge, a core operation of NS, if 'argument structure' plays no role in NS. Perhaps (13) should be understood as an observational generalization about the co-occurrence of the properties associated with internal- and external-Merge, even though it is far from clear what lies behind this generalization.

It turns out that argument (θ-) structure appears to remain relevant in NS, casting further doubt on the stronger CTTL. Close examination of the notion of phase reveals that in the phase-based approach θ-roles indeed play an important role in NS. Consider the definition of phase more closely. Earlier, I noted that phases are 'propositional': that is, *v*P, CP, or, perhaps, DP. In addition, Chomsky 2000: 106 states (emphasis mine):

> *On the "meaning side," perhaps the simplest and most principled choice [for a phase] is to take [syntactic object] SO to be the closest syntactic counterpart to a proposition: either a verb phrase in which* ***all*** *θ-**roles are assigned** or a full clause including tense and force. Call these objects* ***propositional****.*

That is, for SEM a phase PH(H) is a proposition: *v*P with all θ-roles assigned therein, or a CP including Tense, event structure, and force indicator (Chomsky 2000, 2001a, 2001b). A question immediately arises as to how to identify whether or not a given phrasal category is a phase-inducing syntactic object. Recall that under the CTTL with (11), evaluation of the θ-role configuration is at SEM, and, thus, it must wait until after TRANSFER. Given that a phase is the relevant unit of TRANSFER, by implication, the application of TRANSFER crucially relies upon the definition of a phase. This is circular, at least as it is described here. One might avoid this apparent circularity by eliminating the notion of 'proposition' from the preceding quotation, as pointed out by one of the reviewers:

(16) A phase is either *v*P, CP, or DP.

With (16), whether or not a given *v*P (or CP) has all of its θ-roles licensed/assigned before TRANSFER is immaterial to NS; instead, a phase will be interpreted as a proposition at SEM. Thus, TRANSFER can apply without any thematic consideration.

It turns out that (16) is not without problems, however. The difficulty with (16) is that defining *v*P is not straightforward in minimalism. Under the EST framework, the phrasal status of a syntactic object SO is easily identifiable, for example, in terms of the features [+ max, -min] (Muysken 1982). Under minimalism, on the other hand, minimal and maximal projections are contextually determined; i.e., "they must be determined from the structure in which they appear" (Chomsky 1995: 242). Given that *v*P may be a complex shell with multiple *v*'s therein, a *v*P shell is complete when all the relevant argument structure is built. In other words, the phrasal status of a *v*-complex is closely related to the argument (θ-) structure of V. Here lies another problem: without any guidance of argument (θ-) structure, NS would not know when the relevant *v* shell fully discharges the θ-roles of V, thus completing its *v*P shell. Is there any other mechanism that could help NS with regard to thematic properties?

Perhaps, 'subarrays' (LA_i) might be such a mechanism. As discussed in section 3.2, a lexical array (LA) is one-time selected from Lex. Chomsky 2000: 106 describes subarrays as follows:

> *[...] at each stage of derivation a subset LA_i is extracted, placed in active memory (the "workspace"), and submitted to the procedure L. When LA_i is exhausted, the computation may proceed if possible; or it may return to LA and extract LA_j, proceeding as before. The process continues until it terminates.*

Chomsky is rather opaque regarding how LA is extracted from Lex, and LA_i from LA. It is conceivable that LA_i is sensitive to the argument (θ-) structure of the lexical items within. It is thus not out of the question that LA_i contains the necessary information for creating *v*P for a given V. This may be intended to contribute to NS by providing a step-by-step creation of argument (θ-) structure. I argue, however, that this alone is inadequate without some mechanism to code the thematic information present in LA_i in such a way that it is accessible to Merge. In other words, the phase-based approach needs a syntactic way to encode the thematic information.

To sum up, we have seen that Chomsky's 2000, 2001a, 2001b presentation suggests two distinct approaches to the CTTL. The weaker CTTL departs from the CTTL by letting θ-properties covertly play roles in NS; it is therefore not a reduction in the true sense. Further, it obscures the relevance of the properties traditionally associated with the base by complicating the mechanisms in NS without conceptual or empirical motivation. The stronger approach, on the other hand, is best summarized in (12): thematic properties are solely and fully handled by the C-I system. This approach is attractive because it simplifies NS by eliminating any thematic consideration. On the negative side, it simply shifts the explanatory burden of θ-related properties to the C-I system.

Further, both approaches appear to miss the generalization captured by D-structure effects: that is, step-by-step creation (by Merge) of a D-structure-like object will economize the derivational process by only allowing thematically well-formed derivations, thereby reducing the number of possible derivations to be evaluated. Under the EST framework the unconstrained application of rules (Affect α) results in massive overgeneration, to be filtered at the interface. A problem with this approach is that there may be infinitely many alternative derivations to consider. The CTTL of both kinds has a flavor similar to this. In minimalism, on the other hand, (local) economy considerations block unconstrained overgeneration with regard to movement. Likewise, thematic considerations on Merge can prevent ill-formed argument structures from entering into derivations. In other words, we may take D-structure effects as evidence for derivational economy with Merge. Therefore, I conclude that neither the stronger nor the weaker CTTL successfully captures the D-structure effects entirely.

4. An Alternative: θ-Roles as Features

Let us consider the implications of this preliminary study. First, θ-theory and its place in grammar must be further examined. Contrary to the standard minimalist claim, θ- and other base properties would not be fully eliminated under the CTTL. Thus, it is possible to separate the C-I interface into two levels (as it was in the EST architecture): one interfacing with the lexico-conceptual system (i.e., representation of "concepts" through argument (θ-) structure), and the other with the logico-intentional system.

Given that D-structure must be abandoned, what could be an alternative to the CTTL? I support the featural view of θ-roles, following the proposals by Bošković 1994, Hornstein 1999, 2001, Lasnik 1995, 1999, and Manzini and Roussou 1999[7]. Let us acknowledge θ-properties as an integral part of natural language, and the lexico-conceptual system as a relevant 'interface'. Suppose that θ-role licensing involves checking of uninterpretable θ-features (of V, A, etc.) at Merge; viz., NS has a mechanism to monitor the argument (θ-) structure, the information passed on from LA_i[8]. This mechanism can also be used to define a phase (i.e., the phrasal status of *v* or C). For example, a complex *v* shell becomes phrasal when the relevant θ-features of V are exhaustively checked. In other words, checking of θ-roles is done to ensure the successful interface between the lexico-conceptual system (via Lex and LA) and NS.

Three counterarguments can be anticipated immediately. First, Chomsky 1995: 312 insists on the complementarity of base (thematic) properties and movement, stating that uninterpretable features trigger displacement whereas θ-relation does not. Thus, "there should be no interaction between θ-theory and the theory of movement" because θ-roles are assigned "in the internal domain", not in checking domains. Recall that this bans a movement into a θ-position; however, this view lacks independent motivation. As we saw in Section 2, this assumption demands a questionable stipulation on chains. It is therefore more desirable to abandon the strict separation of θ-theory and movement, and allow movement into θ-positions.

Once we allow movement into θ-positions for θ-feature checking, the complementarity of pure- and internal-Merge disappears; i.e., movement into a θ-position is both internal- and pure-Merge. Both cases involve placement of a syntactic object. I, therefore, suggest that we regard "displacement" as a

7 Chomsky 2001b mentions this possibility in passing, although he does not elaborate on it.

8 Under this view, θ-features trigger syntactic operations, as well (see Bošković 1994, Hornstein 1999, 2001 and Lasnik 1995, among others). I do not subscribe to Hornstein's "construal as movement" (Kawai 2000, 2002a), although the idea is rather attractive.

subcase of "proper placement". Pure Merge places DPs according to argument structure, resulting in the relevant interpretation at SEM. As for displacement, it is standardly assumed that uninterpretable features trigger displacement of a syntactic object already in the structure, resulting in "new interpretations" at SEM (Chomsky 2001b). In short, pure- and internal-Merge can be understood as two descriptive terms for a single process (motivated by the need for feature checking) of proper placement of syntactic objects.

The second objection points out the redundancy of θ-feature checking, since θ-properties must be read off at the interface level (by the C-I system). I do not consider this as redundant, however; licensing of θ-roles (i.e., checking of uninterpretable θ-features of V against the interpretable features of DPs) and their interpretations are two distinct processes.

The third objection is that under the architecture of grammar suggested here, the lexico-conceptual system 'interfaces' with NS not as a single level, as in D-structure, but in steps. However, this is not a problem; quite the contrary, I believe that this is a more natural assumption. Recall that in the phase-based approach, 'LF' (the C-I/L-I system) also cyclically interacts with NS; therefore, neither D-structure nor LF remains as an interface level in the phase-based approach. This might even be taken as support for Chomsky's overall approach, in that, stated metaphorically, both the base properties ('D-structure') and the surface semantic properties ('LF') cyclically interact with NS.

5. Conclusion

This study argued that the configurational theory of θ-licensing is not desirable; as an alternative, the featural treatment of θ-roles was suggested. This involves the reintroduction of another interface level with the lexico-conceptual system. If the conclusion of this study is on the right track, then it supports a specific architecture of grammar proposed in the EST-framework, known as the T-model. NS interfaces with the lexico-conceptual systems, as well as with the SM- and CI-systems. Or, differently put, this study suggests that thematic properties expressed in D-structure are integral parts of NS. I do not consider the result of this study a problem for, or a drawback to, minimalism; rather, the austere architecture of minimalism has helped me positively confirm the need for an interface with lexico-conceptual structure in L.

References

Bošković, Ž. 1994. "D-structure, θ-Criterion, and movement into θ-positions", *Linguistic Analysis* 24: 247-286.

Brody, M. 1995 *Lexico-logical Form: A Radically Minimalist Theory*, Cambridge (Mass.), MIT Press.

Chomsky, N. 1965 *Aspects of the theory of syntax,* Cambridge (Mass.), MIT Press.

Chomsky, N. 1981 *Lectures on Government and Binding*. Dordrecht, Foris.

Chomsky, N. 1991 "Some notes on economy of derivation and representation", in R. Freidin (ed.), *Principles and Parameters in Comparative Grammar*, Cambridge (Mass.), MIT Press, p. 414-454. Reprinted in Chomsky 1995.

Chomsky, N. 1993 "A Minimalist program for linguistic theory", in K. Hale and S. J. Keyser (eds.), *View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, Cambridge (Mass.), MIT Press, p. 1-52. Reprinted in Chomsky 1995.

Chomsky, N. 1995 *The Minimalist Program*, Cambridge (Mass.), MIT Press.

Chomsky, N. 2000 "Minimalist Inquiry", in R. Martin, D. Michaels, and J. Uriagereka (eds.), *Step by step: Essays in honor of Howard Lasnik,* Cambridge (Mass.), MIT Press, p. 89-155.

Chomsky, N. 2001a "Derivation by phase", in M. Kenstowicz (ed.), *Ken Hale: A Life in Language,* Cambridge (Mass.), MIT Press.

Chomsky, N. 2001b "Beyond explanatory adequacy", ms., Cambridge (Mass.), MIT.

Chomsky, N. and H. Lasnik. 1993 "The theory of principles and parameters", in J. Jacobs, A. von Stechow, W. Sternefeld, and T. Vennemann (eds.), *Syntax: An International Handbook of Contemporary Research,* Berlin, Walter de Gruyter, p. 506-569. Reprinted in Chomsky 1995.

Hale, K. and S. J. Keyser. 1993 "On argument structure and the lexical expression of syntactic relations", in K. Hale and S. J. Keyser (eds.), *The view from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*. Cambridge (Mass.), MIT Press, p. 53-109.

Hornstein, N. 1999 "Movement and control", *Linguistic Inquiry* 30: 69-96.

Hornstein, N. 2001 *Move!: A Minimalist Theory of Construal*, Oxford, Blackwell.

Jackendoff, R. 1997 *The Architecture of the Language Faculty*, Cambridge (Mass.), MIT Press.

Jones, C. F. 1985 *Syntax and Thematics of Infinitival Adjuncts*, Doctoral dissertation, University of Massachusetts at Amherst.

Kawai, M. 1992 *Missing Object Constructions and Null Operator Predication,* Doctoral dissertation, Storrs, University of Connecticut.

Kawai, M. 1999 "A-movement and θ-theory", talk presented at the 3rd annual bilingual workshop Kingston, Queen's University.

KAWAI, M. 2000 "Reflexives and A-movement", in N. M. Antrim, G. Goodall, M. Shulte-Nafeh, and V. Samiian (eds.), *Proceedings of the 28th Western Conference on Linguistics (WECOL 1999)*, Fresno, Department of Linguistics, California State University.

KAWAI, M. 2002a "Reflexive and reflexivization", in R. Rapp (ed.), *Linguistics on the Way into the Third Millennium: Proceedings of the 34th Linguistic Colloquium, Germersheim 1999,* Frankfurt, Peter Lang.

KAWAI, M. 2002b "*Tough* subjects are thematic", talk presented at the 2002 annual meeting of Canadian Linguistic Association. To appear in *The Proceedings of 2002 Canadian Linguistic Association Meeting*.

KIPARSKY, P. 1997 "Remarks on denominal verbs", in A. Alsina, J. Bresnan, and P. Sells (eds.), *Complex Predicates,* Stanford University: CSLI Publications.

LASNIK, H. 1995 "Note on pseudogapping", in R. Pensalfini and H. Ura (eds.), *Papers on Minimalist Syntax*, MITWPL 27: 143-163. Reprinted in H. LASNIK. 1999 *Minimalist Syntax,* London, Blackwell.

LASNIK, H. 1999 "Chains of argument", in S. D. Epstein and N. Hornstein (eds.), *Working Minimalism*, Cambridge (Mass.), MIT Press, p.189-215.

LASNIK, H. 2003 "On the Extended Projection Principle", *Studies in Modern Grammar* 31: 1-23.

LASNIK, H. and R. FIENGO. 1974 "Complement object deletion", *Linguistic Inquiry* 5: 535-571. Reprinted in H. LASNIK. 1989 *Essays on Anaphora*, Dordrecht, Kluwer.

MANZINI, M. R. and A. ROUSSOU. 2000 "A minimalist theory of A-movement and control", *Lingua* 110: 409-447.

MUYSKEN, P. 1982 "Parametrizing the notion Head", *Journal of Linguistic Research* 2: 57-75.

URIAGEREKA, J. 2000 "In defense of D-structure", ms., College Park, University of Maryland.

WUNDERLICH, D. 1997 "Cause and structure of verbs", *Linguistic Inquiry* 28: 27-68.