Interface Strategies: Introduction

1. Background

A series of fundamental questions to be faced by any linguistic theory concern the identification of the different components of the human language system, the way they interact, and the principles governing their division of labour.

As Reinhart (forthcoming) puts it, it is strictly impossible to derive the properties of the grammar (the computational system in the sense of Chomsky (1995, 1998)) from any functional considerations of the system of use/interpretation. Systems of use/interpretation and communication are consistent with many possible languages, and they cannot explain why human language as we know it got selected. On the other hand, it is a crucial fact about human language that it can be used to argue, communicate, think, etc. If our formal analysis of the computational system turns out inconsistent with basic facts of language use/interpretation this cannot be the correct analysis, since the actual sentences of human language can be used/interpreted for such purpose. Capturing correctly the interface between the formal system and the systems of interpretation/use is, therefore, a crucial adequacy criterion of any theory of language.

Over the last few decades, the endeavours to expand the empirical basis of linguistic theory have lead to a substantial accumulation of theoretical devices. These endeavours did in fact lead to a considerable increase in empirical coverage and to remarkable descriptive successes. Yet, on the down side, what resulted was a theoretical language so rich that the theories it allowed to be formulated decreased in heuristic power. Due to its lack in restriction this apparatus became less well suited to guide our attempts to uncover distinctions between the mental faculties that might be involved in language.

Given some domain of inquiry it is generally non-trivial to find evidence bearing on how precisely such a domain is articulated. Given a theoretical machinery that is too general, models of subdomains need not reveal systematic differences that may actually be there. Only by formulating strong and restrictive hypotheses may we discover that such models are adequate for one, but cannot be extended to another subdomain. Within the context of the minimalist program as put forward in Chomsky (1995, 1998) questions concerning possible differences between the various components of the linguistic system acquired a new prominence.

2. The position of the language faculty

Part of the value of the minimalist program can be characterized as therapeutic (Chomsky 1995), i.e. to check how much of the theoretical machinery developed over the years is minimally necessary to reach accepted descriptive and explanatory goals. If with a reduced theoretical apparatus one is able to reach the same goals as with a richer machinery, the latter clearly contains redundancies which should be eliminated, in the end yielding a richer deductive structure. However, a far more substantive and fundamental goal is to characterize anew the boundaries of grammar, or, more specifically, the *computational system of human language* (C_{HL}). Precisely by its restrictiveness it renders impossible overly general solutions to intricate problems. Thus minimalism has been providing an important stimulus for research focussing on the distinctions between components of the language system.

This goal of the minimalist program is lucidly illustrated by the evolutionary fable presented in Chomsky (1998:6), which develops the image of a primate with the human mental architecture and sensori-motor apparatus in place, but not yet a faculty of language (FL). I.e., it has no means to express its thoughts by linguistic expressions. One can now formulate the question of what specifications some language organ FL will have to meet if upon insertion it is to work properly. FL will have to provide a systematic mapping between perceptible elements (sound, gesture), and states of the system of thought. To be usable such an organ will have to be accessible by the other cognitive systems involved in language in a broad sense. It must provide information to the sensori-motor system, which this system can effectively use as instructions. It also must provide information to the systems of thought in a manner which that system can "read". In Chomsky's words, any such organ will have to satisfy the "legibility conditions" imposed by these systems. An interesting hypothesis is, then, that the language faculty (C_{HL}) constitutes the optimal solution for this task.

Note, that this way of introducing the issue is not without the risk of some confusion. Clearly, our pre-theoretical conception of language is intricately tied to the phenomenon of human communication as such, where form, content, communicative effects, and attention, etc., are very often not easily separated. Language phenomena do not carry their proper characterization on their sleeves. Yet, it should be clear that much of our common sense notion of language will not fall under the language faculty understood as C_{HL} . In fact, C_{HL} in the minimalist program is intended to capture considerably less of our common sense notion of language than many linguists understood GB theory to do. The theoretical claim is that the operations of the computational system are driven only by purely formal and mechanical considerations, like checking morphological features. Indices of the various types so freely used in GB-type theories, are not part of the vocabulary of C_{HL} . The appearance of functional structure and the application of movement operations are determined by lexical and morphological features. Inflected

lexical element/constituents may only move to a position α in order to check some feature corresponding to α . This excludes a view, by all means within the scope of GB theories, in which configuration and movement make substantial contributions to interpretation. Note now, that the way Chomsky's fable is set up entails that whatever does not fall under C_{HL} is, strictly speaking, extra-linguistic. By implication, whatever aspect of our common sense notion of language that was captured by GB type theories of language, but cannot fall under C_{HL}, is in principle claimed to be extra-linguistic as well. To some such a claim may seem unexpected, but in fact nothing more is at stake than precisely the demarcation between components of the cognitive system. *Extralinguistic* neither implies *uninteresting*, nor *irrelevant to the study of language*. In fact, for a full understanding of the language faculty it seems unavoidable that one carry out indepth studies of neighbouring cognitive domains. A more neutral characterization of those domains would therefore be *not dedicated to language*. In this vein the minimalist program can be construed as aiming at a precise characterization of that part of our cognitive system that is dedicated to language broadly conceived.

The fable is silent on the relation between having a human mental architecture and having human cognitive abilities. It is well possible, that the influence on our cognitive abilities of having language is such that we would not even recognize a primate with just human mental architecture as really intelligent. However, for the purposes of the minimalist program this issue may well be irrelevant with one potential exception: recursion. The basic operation within C_{HL} is Merge, the combination of two expressions into a new one. Taking seriously the claim that C_{HI} is *dedicated* to language implies that Merge-type operations cannot occur outside C_{HL}, and, more specifically, not within the neighbouring systems of thought. That is, in so far as the systems of thought have recursion it is derivative of recursion with C_{HI} . This certainly a possible, but by no means a necessary state of affairs. It is equally possible that recursion is deeply ingrained in human mental architecture, and that consequently, Chomsky's primate would have recursion, though lacking language. Clearly, the status of recursion is an empirical issue, so we should not speculate too extensively, but note, that if recursion has its place within our systems of thought, a fundamental part of C_{HL} is in fact not dedicated to language, and we should revise our concept of language narrowly construed even more drastically than the minimalist program currently requires us to do.¹

It is important to note that the general scope of the minimalist program need not depend on the particular choices discussed. For instance, there may well be some sense in which the operations of the computational system are driven not only by purely formal and mechanical considerations, but also by interpretive requirements. Or even stronger,

¹ It might seem that this position is too radical. It is of course conceivable that CHL contains an operation Merge that is in some respects different from some recursive procedure R outside CHL, as a unique adaptation of a general cognitive strategy. However, in so far as this would be the case, Merge would not be entirely determined by virtual conceptual necessity, so one should still try to determine to what extent Merge can be analyzed as R, as a procedure that is not dedicated to language, enriched with some principles that are.

that the introduction and the manipulation of structure are primarily driven by interpretive requirements, instead of morphological ones. Similarly, strong versions of the lexicalist hypothesis may have to be replaced by weaker ones, allowing recursive procedures to operate word-internally. If so, the descriptive scope of $C_{\rm HL}$ may once again approach that of GB theory, but ideally on a more principled basis.

Such alternatives raise various further questions of their own. For instance, are there syntactic rules/projections without interpretative effects? Or, what is the relationship between lexicon/morphology and syntax? Under weaker versions of the lexicalist hypothesis issues of lexical decomposition may be intricately related to the fundamental question of the proper place of recursion, whether it is or isn't dedicated to language narrowly conceived.

As Reinhart (forthcoming) puts it, there is no pre-theoretic way to know how the correct options of meaning and use are assigned to a certain structure in any given case. Suppose we observed, empirically, that a certain structure S is associated with a set U of possible uses. This could, in principle, be explained in three ways: (i) The properties necessary for U are directly encoded in S, through the computational system, as syntactic features, as specific structural configurations, or as specific conditions on derivations. (ii) There is no direct relation between the syntactic properties of S and U. Rather, the set U is determined solely by the systems of use. (iii) There are some interface strategies associating S and U, using independent properties of the computational system, and of the systems of use. Most likely, all three options exist, in fact, governing different aspects of the relations of structure and use.

3. Components of the language system and their interaction

Let's take as a starting point the questions raised at the beginning of this introduction. These involve the identification of the different components of the human language system, the way they interact, and the principles governing their division of labour. Note, that, given the discussion so far, it should be clear that we are not talking about components of $C_{\rm HL}$; rather, our questions concern the language system in a broader sense.

From the present perspective such components can hardly be modules of the GB type and size, such as X'-theory, government theory, binding theory, etc. X'-theory and government theory have completely lost their significance within the context of the minimalist program.² Binding phenomena, according to Chomsky (1995), are outside CHL but should be stated at the interface with the systems of thought. The same holds

² Of course, in so far GB-concepts such as government reflect significant relations between elements adequate successors should enable one to reconstruct these relations. In fact, one could still wish to speak of a government theory if there were sufficient significance and depth to these relations. However, it would be inappropriate to speak of a government module in such as case, given the connotation of independence and encapsulation associated with the notion of a module.

true of thematic requirements in GB theory assumed to be captured by theta-theory.

Instead, identifiable components must be structures of a far larger degree of granularity. In fact, reasonable candidates may well be Syntax (the computational system as such, i.e. the full set of principles governing the combinatorial properties of morphological objects), Semantics (the system assigning interpretations to syntactic objects), Pragmatics (the system governing the use of expressions in specific contexts, guided by world knowledge), the Lexicon, and, on the expression side, Phonology and Phonetics. Of course, this presupposes internal uniformity of these components, in the sense that they are each characterized by one set of primitives over which all operations within a component are defined. To the extent in which this requirement cannot be met for a certain putative component, one may find reason for further division..

The next question is what, assuming we have identified the relevant components, can be the nature of their interaction. Under the standard GB conception there is a strict, intrinsic separation between modules. Modules for X'-structure, Case assignment, etc., perform complementary operations. For these the issue of division of labor does not arise. For components operating on different sides of the system (sound versus interpretation) it is also reasonable to assume that they involve disjoint and unrelated sets of primitives. However, this is less straightforward for components that stand in an interpretative relation. In such cases, even if the sets of primitives involved may be strictly speaking disjoint, primitives in one component may have direct counterparts in the other, reflecting a systematic relationship.

What about operations? Here we immediately touch upon the issue of recursion we discussed earlier. If recursion within language broadly conceived is strictly limited to $C_{\rm HL}$, interpretive systems will be lacking one of the most basic operations, namely a counterpart of Merge. Whatever recursion there is outside $C_{\rm HL}$ will then be derivative of recursion within $C_{\rm HL}$. This is essentially the view of the relation between generative and interpretive systems underlying most work in generative grammar from the start. However a restriction of recursion to $C_{\rm HL}$ is not obviously correct.

Within the systems of thought, one must certainly allow the existence of concepts as mental entities that are not directly dependent on a linguistic form. Any conception of human cognitive capacities allowing concepts to be combined, be it in the form of some language of thought, or even otherwise, entails the existence of recursion outside $C_{\rm HI}$

Pursuing this idea, if there is a language of thought, Lt, it must have a syntax. Such a syntax is not necessarily identical to C_{HL} . If Lt has a syntax it must also have interpretation procedures. In the best of all possible worlds these interpretation procedures would also be the ones involved in the interpretation of expressions from C_{HL} . We only need to assume that, in general, our interpretation procedures are defined over a larger set of expressions than just those made available by C_{HL} . It is in fact reasonable to assume that this must be the case anyway. As has always been acknowledged, language users assign interpretations to ill-formed expressions of their language, and that we can judge the correctness of such interpretations. We can also assign correct interpretations to expressions of a language they have only partial knowledge of. One may, of course, say that in doing so, we use some kind of analogical reasoning. A more straightforward hypothesis, though, is that this ability is based on our

interpretation procedures not being very particular about the nature of the expressions they apply to, a robustness that would be very desirable anyway for a system that often operates under less than ideal conditions.

4. A specific issue

If this line of reasoning is correct, there will be the possibility of non-trivial overlap between the domains of the syntactic and the interpretive components. In fact, the possibility arises that for some types of expressions interpretive principles alone make available interpretations which syntax together with interpretive principles does not. Consider, for instance, those instantiations of binding condition B in the LGB sense, which Reinhart & Reuland (1993) show to fall under the chain condition:

(1)	a.	De bergbeklimmer	voelde	zich	wegglijden
	b.	De bergbeklimmer	voelde	*hem	wegglijden
		the mountaineer	felt	himself/him	slide away

(2) De bergbeklimmer (x (x voelde (x wegglijden))

As is well known the correct expression of standard Dutch corresponding to the interpretation in (2) is (1a) with the simplex anaphor *zich*. The pronominal *hem* in (1b) is not interpreted as bound. Yet, pronominals can be interpreted as bound variables, as in (3):

(3) *ledere bergbeklimmer* was bang dat Marie *hem* had zien wegglijden every mountaineer was afraid that Mary had seen him slide away

If pronominals, like anaphors can be interpreted as bound variables, the question is how assigning to (1b) the interpretation of (2) can be avoided. Of course, one could build the relevant restriction into the interpretation procedures. However, the relation between anaphor and antecedent is that of a syntactic chain, and the chain condition is syntactic as well. In fact, as shown in Reuland (1996, 1997), the chains representing these anaphor-antecedent dependencies can be implemented only using strictly minimalist operations on morpho-syntactic features. Without allowing systematic redundancies it is impossible to incorporate anything like the chain condition directly in the interpretation procedure. The question is, then, why cannot (1b) be directly interpreted as (2), first translating its sub-expressions, and then applying general interpretive procedures to these sub-expressions.

In some respects this issue is similar to that discussed in Reinhart (1983) and Grodzinsky & Reinhart (1993), namely how to prevent the possibility of 'accidental coreference' between a pronominal and some DP in its local domain (such as *de bergbeklimmer* and *hem*) from voiding condition B in general. In this case Rule I (see Reinhart, this volume, for discussion) regulates under which conditions the coreference option can be accessed over variable binding. Or, putting it differently, under which conditions the knowledge based can be accessed bypassing a principle of grammar. In fact, Rule I, or the principles underlying it, operates as traffic rule. The alternative to

allowing duplication of syntactic conditions in the interpretive component is to hypothesize the existence of a similar traffic rule operating with the grammar broadly conceived, determining the division of labor between $C_{\rm HL}$ and the interpretive component.

Summarizing, if there is overlap between components of the human cognitive system, it will have to be resolved by establishing which type of operations from which components have priority. A specific hypothesis in Reuland (1996, 1997) is the following. Suppose a relation **R** exists between elements **a** and **b** (generalizing over their realizations in different components). If so, the following alternatives may exist: i) it can be ascertained by inspecting the knowledge base, ii) it can be intrinsic to a certain interpretation procedure, or iii) it can be encoded in C_{HL} . The hypothesis is that, where the option exists, iii > i > i . The relation '>' can be understood as 'preferred over'. Ideally such a relation of preference should be related to independently necessary principles. It would be most interesting if '>' could be interpreted as an economy measure. This is in fact what has been proposed by Reuland (1996, 1997). That is, dependencies are most economically encoded in C_{HL} , least economically by accessing the knowledge base. Using interpretive processes is intermediate. This essentially reflects a view of syntax as embodying a processing mechanism that works hard, fast and automatically.

Given the perspective just sketched the question arises whether it is indeed a fruitful strategy more generally to pursue how much can be achieved using independently motivated principles of interpretation only, mirroring a common strategy within syntax? At least, exploring the limits of what principles of interpretation can do, may help define a residue which can only be accounted for by the computational system. Naturally, the question also comes up which other properties commonly associated with functions of language use are directly encoded in the computational system and which are governed by interface strategies? We discussed binding, but similar issues arise, for instance, with respect to Quantifier Scope or Focus marking.

5. The volume

The division of labor between the various components of the language system is a recurrent theme in the contributions to this volume. Whereas the simple picture sketched in the previous section is conceptually attractive, it is not without its problems. The question of whether it is supported, and also specific problems associated with it are addressed in a number of contributions to this volume. The focus of many other contributions is on the first and the second options above: which properties necessary for language use are directly encoded in the computational system and which are governed by interface strategies. Together the contributions present an intriguing picture of what we know, but also of what is still mysterious about interface strategies and the way the components of our language system interact.

Sergey Avrutin investigates the syntax-discourse interface analyzing registers of Russian and English with Root Infinitives. He specifically addresses the problem of why Root Infinitives can be assigned an interpretation. Using a file card based event semantics he argues that under certain specified discourse conditions event file cards can be created for otherwise uninterpretable structures. These conditions at the same time allow for an explanation of various intriguing restrictions on the distribution of Root Infinitives. Thus the interface conditions between syntax and discourse make it possible to circumvent syntactic violations in certain cases.

Sjef Barbiers explores the consequences of the view that the need to establish a semantic modification relation is a trigger for syntactic movement. In this contribution he investigates the consequences of this analysis for binding theory, specifically as regards the properties of PPs as binding domains. It is argued that the distribution of certain classes of anaphors and pronominals follow from independent principles, obviating the need for an separate binding theory. Interestingly, the analysis provides evidence for the interpretability of both AGRS and AGRO, thus providing a new perspective on the debate about the status of functional structure.

Hans Bennis adresses one of the major issues in current syntactic theory, namely how to constrain the number and nature of functional projections. He motivates three fundamental restrictions. Each functional projection must (i) be manifested at the two relevant interface levels (PF and LF), they are all (ii) cross-categorially identical, and (iii) their order is constant within and across languages. This contribution then discusses the consequences of the first two of these restrictions with respect to the left-periphery of the nominal and verbal domains. It is argued that the complementizer system must be generalized to the nominal domain. Furthermore it is shown that the verbal C-system in fact comprises two different functional projections, one representing the type of the phrase, the other subordination. Finally, it is shown that these projections are also found in the nominal domain. Thus, the chapter provides independent support for a narrowly constrained relation between the two interfaces.

Ariel Cohen investigates the thesis, that any linguistic expression can be associated with an unambiguous representation, which reflects a level of logical form that is language independent and at which semantic generalizations can be stated. This thesis, the *determination thesis*, underlies much work in semantics, both current and old. In this contribution it is argued that there are classes of sentences whose logical form remains ambiguous, even if the model and the assignment function, etc. are fixed. In order to do so, Cohen provides a detailed analysis of generics. It is argued that genericity involves a covert generic quantifier, and that they exhibit a systematic ambiguity between two readings (absolute and relative). Cohen shows that the cost of resolving this ambiguity linguistically is higher than the cost of accepting what appears to be the case: a single logical form may have more than one interpretation.

Denis Delfitto addresses the a major issue in the analysis of generic sentences. He argues against the widely accepted claim that such sentences are in fact concealed conditionals. A modal treatment of genericity is also compatible with the assumption that the logical

form of generics sentences is predicational, Delfitto shows. He presents a number of empirical and conceptual arguments against the main tenets of the quantificational approach to genericity, arguing that genericity cannot be reduced to a covert form of Adverb quantification. Rather it has firm roots in the feature system which governs syntactic computation, suggesting that the syntactic computation is more sensitive to interface requirements than is assumed within the minimalist program.

Edit Doron and *Shraga Assif* discuss the intriguing problem of why the laws governing the position of clitics apparently have to be stated in terms of a disjunctive domain, either syntactic (for clitics following the first stressed constituent of the clause), or phonological (for clitics following the first stressed word). In this contribution it is argued that no unnatural disjuction is needed. The placement of clitics is argued to be part of the general mapping in the syntax-prosody interface from syntactic domains to prosodic domains. Their fate in this general mapping procedure is determined by independently motivated syntactic characteristics.

Naomi Erteschik-Shir addresses the proper nature of the interface level between the grammar and the conceptual-intentional system. Building on the notion of focus-structure (which she argues replaces the commonly assumed LF, and also mediates grammar and PF), the author addresses a variety of issues in anaphoric relations, such as crossover, reflexivity, and logophoricity, showing how these can be understood in terms of the general properties of dependencies within the approach to focus-structure she adopts.

Alexander Grosu explores the ways in which semantic distinctions among subtypes of relative constructions are encoded prior to the syntax-semantics interface. The author compares the encoding of two types of relative constructions, restrictives and maximalizers, using situations which are morphosyntactically and configurationally ambiguous between a restrictive and a maximalizing construal. According to the literature special choices of local context can effect resolution in favor of the maximalizing type. As the author indicates, these contexts have the same effects in other languages in which they are found. Therefore, it is reasonable to ask whether these contexts in fact encode the maximalization type, and if so, if the computational system is involved. However, as this contribution shows, none of these contexts actually ensures a maximalizing construal. Whatever is encoded is not a relative subtype. If so, from a more general perspective this issue could lead to a different type of question: What type of semantic distinctions are never morpho-lexically encoded, hence never visible to the computational system?

Helen de Hoop uses scrambling of definite objects as a probe into the relation between syntax and discourse. The author argues that such scrambling is not triggered. Although she does not deny that scrambling is related to the structure of the surrounding discourse, focussing on exceptions that prima facie do not seem to fit into generalizations that have been proposed in the literature, she argues in favor of an optimality theoretic approach. This approach is based on tendencies and conflict resolution rather than inviolable principles.

Julia Horvath addresses the syntax of focus in order to arrive at a further understanding of the division of labor between the computational system and systems of use at the interfaces. If the former is involved focus movement must be represented in terms of specific formal features and their checking relations. If focus movement reflects properties of the interfaces, one will have to resort to a non-driven movement of focus phrases which may apply in derivations just in cases there is no more economical way to derive the intended interpretation. As the author notes, such a use of interface economy makes crucial use of a global economy notion. Given current endeavors to eliminate global economy, which appear to be successful for feature-checking relations, it is of the utmost importance to find out whether there are economy conditions that are irreduceably global. Interestingly, in the case of focus marking in Hungarian, the author is able to establish that it includes a true syntactic A'-movement operation, and that it cannot be a syntactic [+Focus] feature which drives this movement. Rather, focus is universally a stress-based interface phenomenon governed by economy of interpretation.

Aafke Hulk and Leonie Cornips explore the properties of reflexive markers in middle constructions. They investigate which part of the interpretation is configurationally determined and how much by independently motivated principles of interpretation. They argue that elements such as the Romance reflexive clitic or Dutch *zich* head an aspectual functional projection. As a morphological marker such an element triggers the coindexation of two argument positions. But it is the aspectual perspective created by these elements which determines the overall interpretation.

Shalom Lappin discusses the connection between the nature of semantic types and the property of logicality. He considers the view that particular semantic types are logical in that all of their elements have this property. Logicality could, thus, be used as one of the criteria for deciding the semantic type of certain kinds of natural language expressions. The author argues that such a view is false and suggests that all types instantiated for natural languages are heterogeneous with respect to logicality. This is illustrated with a discussion of the category-type correspondence for noun phrases.

Michael Moortgat develops a categorial approach in which logical and structural components of the computational system are separated. Constants of grammatical reasoning provide an explanation for the uniformities in the composition of form and meaning across languages, while cross-linguistic variation in the realization of the formmeaning correspondence is captured in terms of structural inference packages. He illustrates this approach with a contrastive study of relativization in English and Dutch.

Tova Rapoport investigates the division of labor between the interpretive and the syntactic components. The author examines adjunct predicate constructions, using the aspectual structure model she developed in previous work. On the basis of this model various constraints on depictive and resultative predication are explained. Evidence is provided that a theory of thematic roles is not part of syntax. It is shown that the acceptability of adjunct predicate constructions is primarily determined by the interpretive component, and even world knowledge.

Tanya Reinhart addresses a number of fundamental issues in anaphora resolution. The author argues that for a proper understanding of binding one should return to the logical concept of binding. Binding, then, just involves the procedure of closing a property. Expressions can be assigned the same value by a strategy distinct from binding. This is also possible if they are not, strictly speaking, referential. Therefore, what is involved is not *coreference*, as was previously assumed, but *covaluation*, a relation which may hold between expressions regardless of their referential status. Some principle based on reference set computation is necessary to regulate access to covaluation with respect to binding. Reinhart argues that there is reason to believe that this is not, in fact, a mechanical syntactic principle, such as economy along the lines as it has been developed within the minimalist program, but that it represents a more complex type of strategy. Conceivably, it is a sort of cooperation strategy.

Ur Shlonsky investigates the positional options for preverbal subjects in Hebrew. The author shows that negative sentences provide evidence that there are at least two VP-external subject positions in Hebrew. Extending the analysis to copular constructions it is shown that also the two terms of identity sentences exploit two subject positions. Thus, what emerges from this study is that there is no unique subject position. Rather, the position of a subject is based on a number of factors, such as its referential status, whether it is weak or strong, or its person features.

Henriëtte de Swart addresses an intriguing issue in the analysis of negative polarity elements, namely how to account for their licensing under inverse scope of negation. The author sets out to explain this possibility while preserving the insight that negative polarity elements are usually restricted to the direct scope of their trigger. She argues that the possibility of an inverse scope reading of negation is subject to a pragmatic constraint which requires the sentence to convey some 'positive' information. Whenever such a pragmatic condition can be met by a negative polarity element, it can in fact be licensed outside the c-command domain of its trigger.

Henk Verkuyl addresses a number of issues concerning the scopal shift of quantifiers. The author sets out to develop an alternative to approaches based on quantifier raising, and argues that once the temporal structure of sentences is taken into account such an alternative comes within reach. Crucially, with verbs expressing progress, the VP may be taken as a predicational structure which can be multiplied dependent on the quantification information displayed by the external argument. An elaboration of this approach is presented in terms of the PLUG framework developed in earlier work.

Yoad Winter addresses some problems in the analysis of the scope of coordination. The author shows that there are cases where the boolean analysis alone cannot account for the semantics of coordination. Wide scope effects with and coordinations motivate motivate a modification of their classical semantic analysis, whereas wide scope effects with or result from a syntactic mechanism. The basic hypothesis is that and has a zero meaning, and that the boolean meet operation is a universal covert process in natural language. The meaning of disjunctive coordinators like or remains the classical join operation. In the ensuing analysis scopal asymmetries between conjunction and disjunction result from

syntactic and lexical differences, but the compositional interpretation mechanism of coordination is uniform.

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