SYNTAX

CRITICAL CONCEPTS IN LINGUISTICS

Edited by
ROBERT FREIDIN AND HOWARD LASNIK

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Volume III
Transformations (I)

Routledge
Taylor & Francis Group
LONDON AND NEW YORK

First published 2006
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

Simultaneously published in the USA and Canada
by Routledge
270 Madison Avenue, New York, NY 10016

Routledge is an imprint of the Taylor & Francis Group, an informa business

Typeset in 10/12pt Times by Graphicraft Limited, Hong Kong
Printed and bound in Great Britain by MPG Books Ltd, Bodmin

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Cataloging in Publication Data
A catalog record for this book has been requested

ISBN10: 0-415-24672-5 (Set)
ISBN10: 0-415-24674-1 (Volume II)

ISBN13: 978-0-415-24672-9 (Set)
ISBN13: 978-0-415-24674-3 (Volume II)

Publisher's Note

References within each chapter are as they appear in the original complete work

SYNTAX

ACKNOWLEDGEMENTS

The Publishers would like to thank the following for permission to reprint their material:

Mouton de Gruyter for permission to reprint Noam Chomsky "Limitations of phrase structure description", in *Syntactic Structures*, 1957, pp. 34–48.

Mouton de Gruyter for permission to reprint Noam Chomsky "Some transformations in English", *Syntactic Structures*, 1957, pp. 61–84.

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CONTENTS

VOLUME II TRANSFORMATIONS (1)

INTRODUCTION

The interplay between phrase structure rules and transformations has been at the center of syntactic theory from the beginning. The earliest work on modern transformational grammar assumed that phrase structure representations were generated primarily via phrase structure grammar and then modified in limited ways by transformations. Under this assumption transformations were an additional grammatical device beyond phrase structure rules. Thus the initial discussions of transformations sought to justify their inclusion in generative grammars on the grounds that phrase structure rules alone were too limited to account for the properties found in natural languages.

Chapter 5 (Vol. I) of *Syntactic Structures* (Ch. 25) presents some of the earliest and strongest published arguments for transformations based on the limitation of phrase structure rules. As Chomsky notes, there are two sorts of arguments that could be made: one, that a theory based solely on phrase structure grammar 'literally cannot apply to some natural language' and the other, that such a theory results in grammars that are complex, *ad hoc* and 'unrevealing'. The arguments presented in this chapter are all of the second sort, concerning the analysis of compound sentences, English verbal morphology, and the passive construction. (See also Postal 1964 for further discussion regarding the limitations of phrase structure grammars.)[1]

The assumption that transformations are a necessary *additional* grammatical device on top of phrase structure rules has turned out to be incorrect (if bare phrase structure theory (see Chomsky 1995 (Ch. 24, Vol. I)) is indeed the right theory). Nonetheless, this assumption has a long and influential history in syntactic theory that should not be ignored when assessing theoretical work of the past half century.

Chapter 7 (Vol. I) of *Syntactic Structures* (Ch. 26) was the first published discussion of the transformational component of a generative grammar. The actual formulation of transformations is given in *Appendix II*. The chapter explores the consequences of a transformational analysis of the English verbal morphology system in declarative and interrogative sentences, for

both affirmative and negative constructions. It develops a transformational analysis of both kinds of interrogative sentence, yes/no and wh-questions. It also proposes a transformational derivation for present participles that are used to modify nouns (e.g. *the sleeping child*). Another pair of transformational analyses is proposed to account for 'complex' verbs (i.e. verb-particle constructions like *bring in* and verb-complement constructions[2] like *consider a fool*). This chapter also discusses how transformational analysis provides information about constituent structure.

In *Syntactic Structures* transformations are defined as operations on strings in phrase markers, which are initially generated by phrase structure rules. There are two types of transformation. Singulary transformations apply to a single phrase marker; in contrast, generalised transformations apply to multiple phrase markers, joining them together to form a single phrase marker. A transformation changes a string or strings in a phrase marker by reordering, deleting, and/or inserting elements, thereby mapping the initial phrase marker(s) onto a transformed phrase marker. Formally, transformations have two parts, a structural analysis (or structural description – SD), which identifies the string(s) in phrase marker to which the transformation applies, and a structural change, which specifies the changes that string undergoes. Both are given in terms of strings of elements that include constant terms (syntactic categories and specific grammatical formatives (e.g. *is* in T_{Adj}, rule 27 of Appendix II)) and variables. All transformations are designated as either optional (can apply when the structural analysis is met) or obligatory (must apply when the structural analysis is met). Another important property of this account of the transformational component is that transformations are crucially ordered – for example, the optional passive transformation, when it applies, must apply prior to the obligatory number transformation, which accounts for subject/verb agreement.

The issue of derived constituent structure, i.e. how the application of transformations yields new constituent structure, is not covered in *Syntactic Structures*. Nonetheless, it is assumed that each phrase marker derived from the application of a transformation yields a unique constituent structure representation, and that moreover such derived constituent structure is determined by general principles (see Chomsky 1955/75, §82.1ff).

The examples of transformations in *Syntactic Structures* are, from our current perspective, relatively unconstrained in terms of expressive power. The theory of grammar that allows such transformations raises significant problems for any theory of learnability, which raises the issue of explanatory adequacy (see Lasnik 2000 for discussion). Constraining the formulation of transformations has been a major focus of research since the issue of learnability of grammars was raised in the mid 1960s (see Chomsky 1965).

The excerpt from Chomsky's 1976 article 'Conditions on rules of grammar' (Ch. 27) contains a major proposal for restricting the formulation of

transformations that leads directly to the current view that transformations are formulated perhaps exclusively in terms of the basic operations they perform (e.g. Move and Delete). Chomsky suggests as 'a radical restriction on the expressive power of transformations' that the only syntactic categories (or variable categories – e.g. X″ (standing in for N″, V″, A″ and P″)) that can be mentioned in the SD of transformation are those that are affected by the rule. Thus the SD of a transformation cannot stipulate the context in which the transformation applies.[3] Given that contexts that had been stipulated as part of the SDs of transformations controlled the behavior of transformations with respect to phrase markers by restricting their application, this constraint creates a problem of overgeneration, where these very general transformations will now apply in contexts in which they were formerly prohibited from applying. The solution to the problem of over-generation comes from a theory of grammar that contains general constraints on the application of rules and on the representations that they generate.

This approach constituted a major step in the construction of a general theory of linguistic structure. Simplifying the formulation of transformations rendered them more general and less language-particular, thereby revealing their universal character. Given that such formulations could only be maintained if there were also a set of general conditions on the application of rules and on the representations they generated, this line of research required a welcome elaboration of the content of Universal Grammar (UG), the general theory of linguistic structure.

Jaeggli's 1986 article 'Passive' (Ch. 28) demonstrates the shift from language particular, construction-specific transformational rules to analysis by general principles of grammar with a detailed analysis of the English passive construction. This paper shows in detail how the specific properties of passive constructions result from the interaction of morphological and syntactic operations as determined by the principles of UG. It focuses in particular on the nature of θ-role assignment and case in passive constructions, including the interpretation of *by*-phrases and the differences between clausal and nominal passives.[4] Although the article is ostensibly about the passive construction in English, it refers to properties of passive constructions in many other languages, which is precisely where analysis by general principles leads.

While the transformational movement from object position to subject position in the same clause has been standardly assumed in the analysis of passive constructions from the beginning, NP-movement between clauses has been the subject of some controversy. Thus in the late 1960s and 1970s some linguists (e.g. Postal 1974) argued that the Passive transformation was subject to a clausemate condition whereby the NP preposed to subject position must start out in the same clause as that subject position. For constructions involving interclausal movement, as in (1) below where

the main clause subject enters the derivation as the subject of the clausal complement, adherence to a clausemate condition required that the transformational derivation contain an additional movement from the subject of the clausal complement to an object position in matrix clause.

(1) Mary was reported to have lied to the committee.

Chomsky 1973 (see Ch. 57, Vol. IV) developed a theory of constraints on transformations in which such raising to object position was unnecessary because direct movement between the complement and matrix subject positions were available. Postal 1974 develops a number of empirical arguments to support a rule of raising to object, many of which were subsequently refuted in Bresnan 1976. Nonetheless, the notion that an NP can raise from a complement subject position to a position in the matrix predicate (though not necessarily an object position) remains a topic of current debate.

Lasnik and Saito's 1991 paper 'On the subject of infinitives' (Ch. 29) provides an overview of the empirical and theoretical issues concerning a putative interclausal movement between a complement subject position and a matrix object position. The paper begins by reviewing some of the empirical arguments for a rule of raising to object position and raises some additional empirical considerations involving the distribution of bound anaphors (*each other*), negative polarity items, and binominal *each*. The empirical evidence suggests that infinitival complement subjects must occur in a higher structural position. Lasnik and Saito discuss two possible solutions, one involving overt movement (i.e. movement that occurs between D-Structure and S-Structure) and the other, proposed in Chomsky 1993 (Ch. 90, Vol. VI), involving a covert movement to Spec of AGR-$_O$ in the matrix clause. They conclude by noting a conflict between empirical evidence that argues for overt movement and the explanatory force of the LF movement approach with respect to certain formal properties of raising.

The analysis of overt object movement to Spec of AGR-$_O$ is the focus of the next two papers in this volume.

Johnson's 1991 article 'Object positions' (Ch. 30) begins by challenging the adjacency condition on structural Case assignment (see Stowell 1981 Ch. 13, Vol. I and Chs 69–72 in Vol. V) as the explanation for why an NP complement of V must be adjacent to the verbal head. To avoid the problems with the adjacency account that the paper details, Johnson proposes an alternative movement account under which V always moves out of VP to a higher head position and the NP object must move to Spec-VP to be assigned structural case. He goes on to show how this analysis accounts for the properties of verb-particle constructions in a way that preserves the theory of lexical insertion in which the mapping of lexical items to syntactic positions is one-to-one.

Overt object movement (also called Object Shift) is also invoked in the analysis of Scandinavian where a weak object pronoun occurs to the left of a negative, which by hypothesis intervenes between VP and the next higher functional head. Such constructions show that the verb has also moved out of VP. Moreover, Object Shift is not licit unless the verb has also moved – a correlation that is called Holmberg's Generalisation (HG). Holmberg's 1999 article 'Remarks on Holmberg's generalisation' (Ch. 31) provides an assessment of the nature of HG, arguing that correlation between Object Shift (OS) and verb movement is more general in that OS is blocked by any phonologically realised category that asymmetrically c-commands the object (e.g. a preposition, verb particle, or another argument). This leads to a formulation of HG as a constraint on derivations in PF. The paper claims further that OS does not observe the strict cycle (see Freidin 1978 (Ch. 66, Vol. IV)).

NP movement solely within the domain of the predicate phrase has also been invoked in the analysis of double object constructions where a verb takes two NP complements, an indirect object followed by a direct object. The fact that the indirect object in such constructions can also occur as the object of prepositional phrase following the direct object lead to proposals for deriving both forms from a single underlying structure via a transformation. Emonds's 1972 paper 'Evidence that indirect object movement is a structure-preserving rule' (Ch. 32) provides an excellent example of such analyses. This article is centrally concerned with the intersection of double object constructions (and their PP counterparts) with the verb-particle construction, which plays a central role in Johnson 1991 (Ch. 30) for motivating overt object movement. Given the properties of double object constructions which simultaneously involve verb-particle constructions, Emonds proposes a transformational derivation of the double NP complement construction from NP – PP complement construction whereby the two NPs exchange position and the preposition deletes. Although this kind of transformational operation is no longer available under a trace theory of movement (and later developments), this derivation is reminiscent of the earliest formulations of the passive transformation, which connects it to Larson's proposal for dative shift as a form of passive transformation sixteen years later (see Ch. 34).

Exactly how a transformational derivation of double object constructions works depends crucially on how the phrase structure of these constructions is assembled. The next three articles focus on this issue.

Barss and Lasnik's 1985 article 'A note on anaphora and double objects' (Ch. 33) focuses on an asymmetry in anaphoric relations between the indirect and the direct object. In a range of cases they demonstrate that the indirect object can act as an antecedent for an anaphoric expression in the direct object, but not conversely. On the basis of this demonstration they explore the difficulties for proposing a phrase structure in which the

indirect object asymmetrically c-commands the direct object as their data suggests. As a solution they suggest that the notion of anaphoric domain be defined in terms of both c-command and linear precedence.

Larson 1988 'On the double object construction' (Ch. 34) begins with a review of the previous chapter, proposing instead a more radical view of the phrase structure of double object constructions. The article proposes that the predicate phrase of both these constructions and their counterparts where the indirect object occurs as the object of a PP consists of a pair of V heads. The higher V, which is inserted as an empty category, takes a VP complement headed by the double object verb, which takes the PP as a complement and the direct object as a specifier. The PF word order in these constructions is derived by raising the lexical V to the empty V position. In the case of the double object construction itself, both objects are inserted to the right of the lexical V in the lower VP, the indirect object adjacent to the verb and the direct object following. Given binary branching, the result is a structure in which the direct object asymmetrically c-commands the indirect object, which is problematic as Barss and Lasnik discuss. However, in Larson's analysis, the indirect object raises to the Spec position of the lower VP and the lexical V raises to the higher empty V position. In this derived structure, the indirect object now asymmetrically c-commands the direct object as required by the considerations raised in the previous chapter. In §7 Larson discusses the motivation for his 'VP shell' analysis on the basis of a single complement hypothesis, under which a head takes only one complement, and principles concerning how arguments are assigned thematic roles within the phrasal projection of the head that assigns them.

This analysis demonstrates how seemingly simple and straightforward phrases headed by lexical elements might actually involve substantially more complex structures – in this case VP shells. It is a precursor of more recent analyses of the verb phrase consisting of a maximal projection of the lexical verb embedded as a complement of a functional light verb *v* (see Chomsky 2001 (Ch. 95, Vol. VI)).

In Larson's analysis the indirect object asymmetrically c-commands the direct object only in derived structure. Hoekstra's 1999 paper 'On double object in English and Dutch' (Ch. 35) discusses several theoretical and empirical considerations that argue for an alternative analysis in which the indirect object asymmetrically c-commands the direct object in underlying as well as derived structure. An important component of these empirical considerations involves the comparison of English and Dutch. Under Hoekstra's analysis English and Dutch share the same underlying structure for double object constructions and therefore have similar derivations (e.g. both involve V-movement). The article concludes with a discussion of the positioning of verbs and particles in the two languages, thereby extending the discussions of the verb-particle construction in the articles by Johnson 1991 (Ch. 30) and Emonds 1972 (Ch. 32).

The next two articles focus on wh-movement, which in contrast to NP movement (the focus of Chs 27–35) involves a wider range of structures (PP and AP in addition to NP) and manifests different behavior.

Chomsky's 1977 paper 'On wh-movement' (Ch. 36), a landmark in syntactic theory, identifies the following general characteristics of wh-movement and shows how they apply to constructions in English that do not contain overt wh-elements (i.e. interrogative or relative pronouns or determiners).

(1) Wh-movement:
   a. leaves a gap
   b. constitutes apparent violations of Subjacency, the Specified Subject Condition, and the Propositional Island Condition
   c. observes the Complex NP Constraint
   d. observes wh-island constraints[5]

Chomsky demonstrates that by analyzing all constructions that conform to these properties as cases of wh-movement, the grammatical apparatus for describing English can be drastically reduced. Thus a single rule of wh-movement can replace several complex and construction-specific rules (e.g. comparative deletion, topicalisation, clefting, object deletion, *tough*-movement). This results in a considerable simplification of theory as well as to the description of English.

One important consequence of Chomsky's analysis was the postulation of abstract wh-movement, and thus the idea that not all syntactic processes need have effects that can be read off PF. Thus along with overt wh-movement, where a wh-phrase with phonetic content is displaced from the position in which its grammatical function is interpreted, there is also covert wh-movement, where the wh-phrase displaced has no phonetic content. Huang's analysis of Chinese in his 1982 article 'Move wh in a language without wh movement' (Ch. 37) takes this analysis one step further. The article demonstrates that some of the 'islands' out of which movement is impossible (e.g. in English), also cannot host certain apparently unmoved interrogative expressions in Chinese. Huang argued that these Chinese facts can be accounted for by the same constraints that account for these constructions in languages with overt wh-movement under the assumption that there is, in fact, wh-movement in Chinese, only not in the overt syntax (from D-Structure to PF), but rather in the covert portion of a syntactic derivation (between S-Structure and LF, or in current terminology, after Spell Out).[6] Huang shows that this analysis generalises across types of constructions: wh-questions, clefts (involving focus), and A-not-A questions. This analysis shows how typological differences among languages might be accounted for by applying the same general constraints to different portions of the syntactic derivation.

McCloskey's 1999 article 'The morphosyntax of wh-extraction in Irish' (Ch. 38) applies the analysis of wh-movement constructions developed in Chomsky 1973 (see Ch. 57, Vol. IV) and clarified and extended in Chomsky 1977 (Ch. 36) to Irish, a language which provides empirical evidence that supports the successive cyclic movement hypothesis.[7] In Irish clauses through which a wh-phrase moves contain clause initial particle *aL* which contrasts with the clause initial particles in constructions that do not involve wh-movement. McCloskey demonstrates that the *aL* particle occurs in finite clauses that conform to the standard diagnostic properties of wh-movement as discussed in Chomsky 1977. The paper examines the evidence that *aL* is a complementiser and considers alternative proposals. McCloskey proposes that wh-movement is driven by a morphosyntactic feature of the complementiser. The paper also considers how the evidence from Irish relates to proposals where instead of a single complementiser head, the left edge of a clause involves several distinct functional heads (cf. Cheng 1991 and Rizzi 1997). McCloskey concludes that while the Irish data is compatible with such proposals, they do not yield any new insight into the structure of Irish.

In the history of generative syntax, the transformation that moves a wh-phrase was, up until the late 1970s, considered to be distinct from the transformation that moves non wh-phrases. Thus Chomsky 1976 distinguishes two rules 'Move wh' and 'Move NP'.[8] This analysis is replaced in Chomsky 1980 where the two rules are merged into a single rule 'Move α'. Nonetheless, the movement of wh-phrases obeys different constraints than movement of non-wh NPs (e.g. only the latter are subject to the Tensed-S and Specified Subject conditions (or Principle A of the binding theory)).[9] Another distinction between wh-movement and NP-movement concerns the apparent fact that the former is subject to reconstruction whereas the latter is not. Lasnik's 1999 paper 'Chains of arguments' (Ch. 39) focuses on this issue, exploring the empirical evidence for this position and some technical accounts involving chains, trace deletion, and the interaction of θ-role assignment and movement. Lasnik suggests that Chomsky's concerns about trace deletion could be extended to the leaving of a trace under NP movement (in contrast to wh-movement). As he notes, if NP movement does not leave a trace, this would explain why reconstruction does not occur under NP movement; however this may be incompatible with a theory of bare phrase structure (see Ch. 1, Vol. I).

Notes

1 Five decades later, the force of some of these particular empirical arguments is open to question, not surprisingly. The existence of a passive transformation in current terms generalises to a question of whether there is A-movement. Whether there are operations that move affixes (or affixal features) or insert periphrastic *do* may also be controversial (see Freidin 2004 for discussion of this issue).

2 This is Chomsky's terminology in *Syntactic Structures*, though the term 'complement' has more general interpretation since the introduction of X-bar theory.
3 Actually, Chomsky goes on to propose a slightly weaker condition of *minimal factorisation* that prohibits SDs that contain two successive categorial terms unless one of them is affected by the transformation. However, the formulation 'Move NP' that he arrives at in this section is consistent with the stronger constraint.
4 See also Chomsky 1970 and Anderson 1984 (Chs 4 and 6, Vol. I) for further discussion of movement inside NP constructions.
5 Note that at a later point in the article, Chomsky proposes taking S rather than S-bar as the relevant cyclic node for the formulation of the conditions in (b). As a result, (c) and (d) are automatically subsumed under Subjacency.
6 See Watanabe 1992 for an alternative analysis that postulates the movement of an abstract element to Spec-CP between D-Structure and S-Structure in Japanese wh-constructions, where the wh-phrase remains in situ at PF. The constraints on movement would thus apply in the derivation from D-Structure to S-Structure, not from S-Structure to LF as in Huang 1982.
7 See also Torrego 1984 (Ch. 67, Vol. IV) for additional empirical evidence that supports a successive cyclic analysis of wh-movement.
8 See also van Reimsdijk and Williams 1981 which proposes that the two rules apply in different parts of the derivation.
9 See Freidin and Lasnik 1981 (Ch. 82, Vol. V) for detailed discussion.

References

Anderson, M. (1984) 'Prenominal genitive NPs', *The Linguistic Review* 3: 1–24.
Bresnan, J. (1976) 'Nonarguments for raising', *Linguistic Inquiry* 7: 485–501.
Cheng, L. (1991) *On the Typology of Wh Questions*. MIT doctoral dissertation.
Chomsky, N. (1955/75) *The Logical Structure of Linguistic Theory*. New York: Plenum.
Chomsky, N. (1965) *Aspects of the Theory of Syntax*. Cambridge, MA: MIT Press.
Chomsky, N. (1970) 'Remarks on nominalisations'. In R. Jacobs and P. Rosenbaum (eds), *Readings in English Transformational Grammar*, Ginn, 184–221.
Chomsky, N. (1973) 'Conditions on transformations'. In S. Anderson and P. Kiparsky (eds), *A festschrift for Morris Halle*, Holt, Rinehart & Winston.
Chomsky, N. (1976) 'Conditions on rules of grammar', *Linguistic Analysis* 2: 303–351. [Reprinted in N. Chomsky, *Essays on Form and Interpretation*. Amsterdam: Elsevier North-Holland, 1977.]
Chomsky, N. (1980) 'On binding', *Linguistic Inquiry* 11: 1–46.
Freidin, R. (1978) 'Cyclicity and the theory of grammar', *Linguistic Inquiry* 9: 519–549.
Freidin, R. (2004) '*Syntactic Structures* Redux', *Syntax*, 7: 100–126.
Freidin, R. and H. Lasnik (1981) 'Disjoint reference and wh-trace', *Linguistic Inquiry* 12, 39–53.
Postal, P. (1964) *Constituent Structure: A Study of Contemporary Models of Syntactic Description*. The Hague: Mouton.
Postal, P. (1974) *On Raising*. Cambridge, MA: MIT Press.
Rizzi, L. (1997) 'The fine structure of the left periphery'. In L. Haegeman (ed.) *Elements of Grammar*. Dordrecht: Kluwer, 281–337.
Stowell, T. (1981) *Origins of Phrase Structure*. MIT doctoral dissertation.