Review article: Introducing the Minimalist Programme to students of English.
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Radford, Andrew. 2009. *Analysing English Sentences.* CUP. 540 pages
Radford, Andrew. 2009. *English Sentence Structure.* CUP. 456 pages

1. Introduction

In this review we are evaluating two textbook introductions to the Minimalist Programme (MP): *Analysing English sentences* and *An introduction to English sentence structure*, both by Andrew Radford.

Andrew Radford (henceforth AR) is well known as the author of a number of excellent textbook introductions to generative grammar. Every since the publication of his first textbook, *Transformational Syntax*, in 1981, he has been recognized as an authority on textbooks and his books are the first source of information for many students and teachers of Chomskyan generative syntax. 2009 has seen the publications of two new textbooks, both intended to introduce the student to a minimalist description of the syntax of English.

As in the previous versions of this textbook (esp. 1997a, 1997b, 2004a, 2004b), AR's objectives are twofold: one is to provide an account of the syntax of English sentences and the other is to introduce the student to the central properties of the Minimalist Program (henceforth, MP), the most recent incarnation of the formal syntax program elaborated by Noam Chomsky and his followers. As such this dual goal is commendable. A good way to introduce students to syntactic theory is to do this by way of an in-depth study of a particular language. This has always been AR's strategy, and we think that it has worked very well over the years. Often authors of other textbooks may have less ambitious goals: either they focus on methodology in general without going into the nuts and bolts of a specific theoretical model (e.g., Haegeman 2006, van Gelderen 2010), or they aim at providing a systematic introduction to a theoretical model but without trying to apply this to one particular language in great detail (e.g., Adger 2003, Hornstein, Nunes and Grohmann 2005). So in this respect, AR is more ambitious than many other textbook writers.

However, setting himself this dual objective also means that AR potentially faces more problems than some of the other textbook writers. This is because he will inevitably be faced with the tension that arises between setting up a theoretical system and at the same time aiming for a high degree of empirical coverage and descriptive adequacy. As we will see below, in the books under review the tension between these two poles results in several problems and we think it may also end up creating difficulties for the reader.

Our review focuses on the longer version, as there are no significant differences between the two books. With respect to the readership targeted, AR is also very ambitious: potentially he is addressing a readership that might have quite diverse backgrounds and expectations: (i) the novice when it comes to grammar and syntactic theory, (ii) a novice in theoretical syntax but who knows traditional grammar, (iii) a person who has a background in generative syntax and/or traditional grammar but who is not up to speed on minimalism, and (iv) someone who knows an earlier version of MP (say Chomsky (1995)) but is looking for a quick update. Over and above that, the person

may but need not be a native speaker of English. In fact, though AR suggests that non-native speakers use the shorter version, we are sure that non-native speakers will be using also the longer textbook, which he seems to concede as well.

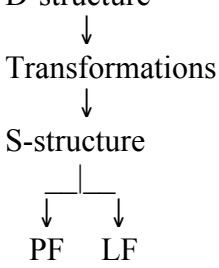
Our review is organized as follows. In section 2 we give a brief survey of the basic tenets of the MP. In section 3 we provide a chapter-by-chapter summary of the book *Analysing English sentences*, showing how it develops certain minimalist concepts and how it provides insight in the syntax of English. After that, we evaluate to which extent AR has achieved his goals. Section 4 focusses on AR's attempt to provide the reader with the tools for analyzing English sentences, Section 5 focuses on whether the book provides a good introduction to argumentation in formal syntax. Section 6 focuses on the textbook as an introduction to MP per se. This section discusses some technical issues. Section 7 concludes the review.

2. A quick outline of Minimalism

This section presents a brief outline of the main properties of the Minimalist Program and is primarily intended for readers who are not familiar with the recent developments in generative grammar.

Though early adopters tended to present the MP as a radical break with all previous work generative syntax, the MP builds upon and rationalizes the successes of the earlier manifestations of the *Principles and Parameters* theory, whose first manifestation was the *Government and Binding* (GB) framework (cf. Hornstein 2009, Lasnik and Lohndal 2010). Simplifying very much for expository reasons, the main difference between the earlier GB-style approaches and the current MP is that in addition to identifying the core properties of the computational system of human language, the MP tries to explain why the specific properties are the way they are. As such, the MP offers a rationalization of the earlier manifestations of the generative framework.

Within GB, the traditional picture of the computational operations of syntax, is the so called T-modal as in (1).

(1)


The derivation first generates the syntactic level of D-structure, with the insertion of lexical items in their (thematic) positions. Movement operations alter D-structure and create a second representational level: S-structure. A further set of operations converts S-structure into, on the one hand, a phonological/phonetic representation (PF) and on the other hand, a semantic representation (LF). PF is the interface to the articulatory-perceptual systems and LF is the interface to the conceptual-intentional system. These two interface levels ensure that syntax creates a pairing of sound and meaning.

Chomsky (1993) questions the role of D-structure and S-structure (see Hornstein, Nunes and Grohmann 2005 for a good summary of the arguments) because these levels

are not considered to be essential for the computational system. This has led to a shift in the architecture of the grammar, which has now become closer in spirit to Chomsky's original model in the 1950s (Chomsky 1975) where the structure was built by way of generalized transformations. A derivation works 'bottom-up'. A very general operation, called Merge, puts two lexical items together; one of them is the head and determines the label of the resulting unit, the phrase. This view of Merge implies that all structures are binary branching, an assumption already widely adopted since Kayne's (1984) seminal work. A Merge operation where a lexical item is merged with another syntactic object is External Merge. It is also possible to pick up an element that is already merged in the structure and re-merge it with the containing structure. This is the operation 'Move', or Internal Merge (Chomsky 2004).

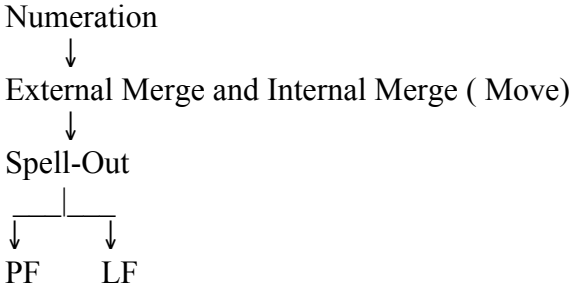
The 'sentence' has three basic structural layers: *v*P is the thematic domain, TP is the temporal/modal/aspectual domain and CP is the interface and context domain. (2a) would have the structure in (2b). As was the case in the later versions of the GB model (Sportiche 1988), it is assumed that the subject is merged in the specifier of a functional projection called *v*P (Chomsky 1995, Harley 1995, Kratzer 1996) and that it is subsequently moved to SpecTP to check the so-called EPP requirement of T, that is the requirement that T needs its specifier filled , or put differently the requirement that sentences have subjects. The tense and agreement features of the verb are merged in T. Because in English the verb does not move from V-to-T (see Emonds 1976 and Pollock 1989), the tense and agreement features are lowered onto the verb via Affix Hopping in the phonological component (PF) (Lasnik 1981, building on Chomsky 1957). Finally, the C head is merged, which includes a clause-type specification. In this case we have a declarative clause.[1]

(2) a Mary kicks John

b $[_{CP}\ [_{C^\circ}+\text{DECL}]\ [_{TP}\ [_{DP_{PL}}$ the cats$]\ [_{T^\circ}$ PRES, PL$]$
$[_{vP}\ [_{DP_{PL}}$ the cats$]$ chase the mice$]]]$

Note that this system is strictly derivational, i.e., the structure is built up step by step: first *v*P, then TP, then CP. This means that instead of going from one level (D-structure) to another (S-Structure), with specific operations being associated with each level, the only operation in the computational system is Merge. The structure created by Merge is then transferred to the interfaces at Spell-Out. Thus we have a Y-model instead of a T-model:

(3)



A specific property associated with movement/Internal Merge is that it is not free (as was Move α in the earlier models); rather Internal Merge must be triggered by

features. The relevant features come in two flavors: interpretable/valued and uninterpretable/unvalued. Uninterpretable features have to be eliminated since they will cause the derivation to crash at the interfaces. The computation ensures that the uninterpretable features are eliminated by association with interpretable features (through a matching operation called 'Agree'). Features reside on lexical items, i.e. items drawn from the lexicon. A typical example is subject-verb agreement in English: the agreement features on T are uninterpretable – they have no semantic reflex - and they are checked by agreeing with the interpretable features on the subject.

This concludes our very brief overview of the MP. The next section will give a detailed overview of the long version of the book.

3. *Analysing English sentences*: survey

This section contains a brief survey of the contents of each of the book's chapters. For each chapter we try to show how it relates to the dual aim as defined by the author, that is, both to offer an introduction to the MP and how to use this framework, and to provide an insightful analysis of English sentences. The book contains 9 chapters of roughly the same length (between 33 and 55 pages), followed by an extensive glossary (pp. 430-485), a bibliography (pp. 486-513) and an index (pp. 514-526).

Each chapter consists of a series of sections on a specific content, followed by a summary including the principles/constraints that have been elaborated in the chapter, by a very rich bibliographical section and by a workbook section offering exercises (some with web-based keys).

3.1. The groundwork

Chapter 1 (*Grammar*) is introductory. AR first gives a brief overview of a number of concepts used in traditional grammar (e.g. constituent, grammatical function, grammatical category, lexical/substantive category, functional category, noun, verb, finite forms, non-finite forms of verb, etc.). The section prepares the reader for the first discussion of the language data. AR then contrasts the taxonomic ('i.e. classificatory') system of traditional grammar with the approach adopted by generative grammar, more specifically that adopted by Chomsky and those working within this framework, in which the focus is on the grammatical knowledge of the native speaker.

The goal of generative grammar is to offer a theory of Universal grammar, i.e., to characterize what constitutes human language. In addition to rigid universal principles, UG also contains a set of parameters, choices that are set by individual languages on the basis of the empirical evidence. Parameters account for cross-linguistic variation. For instance, the so called 'pro drop parameter' (p. 22-3) accounted for the difference between English (4a) and its Italian counterpart (4b): while in the former the subject pronoun must be overt, in the latter the subject pronoun can be omitted:

(4) a Maria thinks that *(she/he) speaks French.
b Maria pensa che (lei/lui) parla francese.
Maria thinks that (she/he) speak-3SG French

The pro drop parameter will be set on the basis of evidence in the data: simplifying for expository reasons the idea is that the child will come across sentences lacking an overt subject and will deduce that this option exists for his/her own language.

Chapter 2 (*Structure*) introduces the concept of syntactic structure. On the basis of English data, AR elaborates the three level clause structure (CP > TP > VP) that is by now standard in generative/minimalist approaches (cf. section 2). He introduces the internal structure of the phrase, based on the binary branching X-bar format: phrases are the result of binary merger operations. Importantly, after having discussed the format for structure, AR also provides the reader with a set of diagnostics to identify constituents. Most of these are the traditional diagnostics (pp. 58-60). The chapter also introduces the concept c-command, which is the core syntactic relation in generative syntax. In the final section of this chapter AR introduces Bare Phrase Structure (BPS) which replaces the older X'-format. Because the traditional X'-format is still widely used in generative work AR does not adopt BPS and also does not pursue its ramifications in the remainder of the book.

Chapter 3 (*Null Constituents*) shows in some detail that when analyzing sentence we have to allow for null constituents, that is constituents that, though structurally represented, are not give a phonetic content. The chapter provides an interesting overview of a range of such null elements posited in the generative literature, with convincing argumentation for each null element. Starting from the intuitively fairly straightforward assumption that the Italian example (5a) has a null subject, it is shown that by the same reasoning imperatives (5b) and non-finite clauses such as (5c) can also be argued to have a null subject.

(5) a E tornata.
be-3SG returned-FEM-SG
'She has come back.'
b Come back!
c [To come back] would be a mistake.

Empirical evidence is provided for postulating a null subject in non-finite clauses; the null subject is represented as 'PRO' (roughly a 'silent pronoun').

(6) [$_{CP}$ [$_{TP}$ PRO To come back alone]] would be a mistake.

Pursuing the argumentation developed to postulate null subjects, AR extends the discussion and motivates postulating null auxiliaries, a null T(ense) in indicative clauses, in subjunctive clauses, and in infinitive clauses, a null C in finite clauses, and in infinitive clauses, null determiners and quantifiers.

The chapter also focuses on the different types of infinitival *to* clauses: it is shown that while some *to* clauses have an overt (7a) or non-overt (7b) complementiser, other such clauses are 'defective' in that they lack the CP level (7c):

(7) a I would very much prefer [$_{CP}$ for [$_{TP}$ him to meet them]].
b I would very much prefer [$_{CP}$ Ø [$_{TP}$ him to meet them]].
c I believe [$_{TP}$ him to be lying].

These latter sections are a preparation for the discussion of agreement and the feature content of T and C in chapter 7, and the discussion also prepares the ground for the discussion of phases in chapter 9.

3.2. Moving constituents

Chapter 4 (*Head movement*) starts from the discussion of subject auxiliary inversion in present day English. The chapter shows that while present day English does not allow V-to-T movement (8a), this movement was possible in earlier stages of the language (8b). In (8a) the lexical verb *care* cannot cross the marker of sentential negation; it remains adjacent to its complement.

(8) a *I care not about that.
b I care not for her. (153: (24a))
c I don't care about that.

The final sections of the chapter focus on the syntax of English auxiliaries, including their interaction with negation, and with modal adverbs. The chapter also offers an analysis of *do*-support (8c).

At the theoretical level the chapter introduces the copy theory of movement, that is, the hypothesis that when a constituent is moved it leaves a copy in its base position, and the hypothesis that movement operations are restricted by locality conditions. So, for instance, in the Elizabethan English example (8b) the verb *care*, which originates in the position V, is moved to the position T, leaving a copy in C. We represent the copy by strikethrough:

(8) d I care not [$_{VP}$ [$_{V}$ ~~care~~] for her]. (153: (24a))

The restrictions on locality introduced in section 4.7. foreshadow the discussion of phase based movement in chapter 9 and thus cleverly prepare the students for material that lies ahead.

Chapter 5 (*Wh*-movement) widens the discussion of movement to that of maximal projections, focusing on movement to left peripheral position, as illustrated, for instance, by the movement of *what languages* in (9):

(9) a What languages do you speak? (183, (1a))

By analogy with the discussion in the preceding chapter it is proposed that movement of a *wh*-phrases (*what languages* in (9a)) leaves a copy in the base position, and additional empirical support is provided for the copy theory of movement, which was introduced in chapter 4.

(9) b What languages do you speak ~~what languages~~? (183, (1a))

The empirical evidence provided comes from present day English, from earlier stages of the language and from colloquial English. Especially the latter material is valuable as it

makes the students more aware of the linguistic phenomena that surround them. For instance, to show that a constituent moved from a lower clause into a matrix domain 'stops over' at the CP level of the lower domain AR gives (10), in which *inside the tunnel* is stranded in the CP of the lower clause.

(10) How far do you think inside the tunnel they went? (210: (67c))

It is argued that *wh*-movement results in encoding interrogative force.

The chapter also dwells on a number of technical issues related to *wh*-movement, namely so called pied-piping, i.e. the fact that in addition to a *wh*-word the containing constituent is moved to the left periphery (11a), pied-piping of a preposition (11b), long distance *wh*-movement and the proposal that such movements apply cyclically (11c), multiple *wh*-questions (11d), subject questions (11e).

(11) a Which assignment have you done?
*Which have you done assignment?
b They asked to whom he was referring.
They asked whom he was referring to. (203: (52))
c Which picture of himself wasn't he sure that Mary liked best? (213, (77))
d Who might he think has done what? (215, (83b))
e Who on earth called the police? (219, (92a))

In the final section of the chapter it is shown that the movement analysis proposed for the derivation of *wh*-questions extends to relative clauses and to exclamative clauses.

Chapter 6 (*A-movement*) deals with the syntax of subjects. The title of the chapter hints at the contrast with *wh*-movement, and other similar movements to the left periphery illustrated in (12):

(12) a Which book do you think he will publish first?
b When do you think he will publish this book?
c How do you think he will publish this book?

While the fronted constituent *which book* in (12a) is an argument of the verb *publish*, this is not so for the fronted constituents in (12b)-(12c). So movement to the specifier of CP is A'-movement (i.e. not A(rgument)-movement). On the other hand, in examples such as those in (13) the constituent that has been moved away from the VP (*these students*) is always an argument:

(13) a These students are likely to get the award.
b These students are likely to be invited.

In both (13a) and (13b) the constituent *these students*, a DP in current generative terminology, is the subject of the matrix verb *be* but it is thematically related to the lower verb phrase. In (13a) *these students* is the recipient of 'get the award', in (13b) it is the theme of *invite*. It is proposed that the thematic relation between a verb and its arguments is established VP-internally. Thus the DP *these students* must be merged first within the

VP of the *to* clause, and then will be moved to the subject position of the matrix domain. The movement to the subject position is referred to as 'A-movement' because the subject position (SpecTP in the framework adopted) is generally reserved for arguments. Note, though, that the label A-movement is just a descriptive term, which is in fact descended from earlier versions of generative grammar and is not a primitive of the MP.

The chapter also contains a brief introduction to thematic theory (section 6.4.), with as its core assumption the idea that thematic roles are locally assigned by a lexical head and that thematic role assignment is uniform in that a particular thematic role is assigned to a specific position in the predicate. For instance, the agent thematic role is assigned to the specifier of the projection of the predicate.

The final section of the chapter compares raising patterns as that in (14a) with control patterns introduced already in chapter 3, in which an infinitival clause has a non-overt subject (PRO) whose interpretation is regulated by an argument – usually a subject – from the matrix clause (14b):

(14) a He does seem to scare them. (266, (85a))
b He does want to scare them. (266, (85b))

Whereas in raising patterns (14a) the superficial subject (*he*) does not have a thematic relation in the matrix clause but rather is an argument of the embedded verb (*scare*), in the control pattern in (14b) the superficial subject *he* is thematically related to the matrix verb, i.c. *want*. According to the standard raising analysis for (14a) the subject of the matrix verb originates in the embedded clauses and is moved to the canonical subject position in the matrix clause, and the copy of the subject in the infinitival clause is not spelled out, while in cases of control patterns as in (14b), the subject of the matrix clause is merged with the matrix verb and a null element is inserted as the subject of the infinitival clause.

(15) a He does seem [$_{TP}$ ~~he~~ to scare them]. (266, (85a))
b He does want [$_{CP}$ [$_{TP}$ PRO to scare them]]. (266, (91))

3.3. Developments in the MP

The final three chapters of the book become increasingly more technical and address some recent developments in generative framework.

Chapter 7 (*Agreement, Case and A-movement*) is concerned with the interactions between A-movement and agreement. The focus is on the role of features in the syntax.

AR examines the syntax of sentences such as these in (16):

(16) a It was said that he was taking bribes.
b There were awarded several prizes.

It is proposed that the expletive pronouns *it* and *there* are merged in the specifier of VP and that they are attracted to the specifier of T by the EPP property of T (i.e. the requirement that T needs its specifier filled). AR makes the (not uncontroversial)

assumption that the expletive has the feature [3 PERSON] but unlike other nominals, the person feature here is uninterpretable (even though it has a value).

The chapter further examines the role of T and the associated EPP feature in control infinitives and in defective infinitival clauses, thus elaborating two areas that were first introduced in chapter 3 and preparing the ground for chapter 9.

Chapter 8 (*Split Projections*) is concerned with an area of research that is often referred to as 'cartography'. The core observation is that the three-level structure CP-TP-VP is too restrictive to accommodate the constituents of the clause and that enrichment by means of a more articulated structure is necessary. Articulated structures have been proposed for VP (Hale and Keyser 1993, 2002, Pylkkänen 2008), for the CP layer (Rizzi 1997) and for the TP layer (Cinque 1999). Focusing on the interaction of so-called negative inversion (17a), and its interaction with *wh*-movement (17b), AR discusses the so called split CP, with reference to English examples such as the following:

(17) a I am absolutely convinced that no other colleague would he turn to. (325, (3))
b Lee wonders whether under no circumstances at all would Robin volunteer (327, (10b))
c Syntax is the kind of subject which only very rarely will students enjoy. (327, (9b))

The examples in (17) are all problematic for the unitary CP analysis since to the left of the subject we find more material than the unitary CP seems to allow for. For instance in (17a), the subject *he* of the lower clause is preceded by conjunction *that* (in C), by a negative constituent *no other colleague*, and by an inverted auxiliary *would.* Thus it is clear that minimally to the left of the subject there must be an additional landing site for the auxiliary to have moved to. Similar arguments can be made for (17b) - (17c). Following (and adapting) Rizzi (1997) it is proposed that CP be decomposed into a hierarchically ordered set of projections as in (18), each headed by a functional head associated with discourse related properties ('illocutionary Force', 'focus', 'topic'):

(18) ForceP > TopP > FocP > FinP

For (17a), for instance, it would then be proposed that *that* is in Force, that the fronted negative constituent *no other colleague* is in SpecFocP and the fronted auxiliary is in the head Foc:

(17) d $[_{ForceP}$ that $[_{FocP}$ no other colleague $[_{Foc}$ would]…

The final sections of the chapter offer a detailed argumentation in favour of an articulated structure of the verb phrase, focusing on the role of the (abstract) 'light *v*' head, which is, among other things, associated with encoding the agentive thematic role. The chapter includes a discussion of transitive ergative structures (18a,b), unergatives, object control structures, unaccusative structures, passive sentences and raising structures.

(18) a He rolled the ball down the hill.
b The ball rolled down the hill.

It is proposed that VP, the projection of the lexical head V, is merged as the complement of a 'light (causative) *v*-head', Ø, which is associated with the thematic role agent and which attracts the lexical V. Put very informally (18a) is decomposed as in 'he caused the ball to roll down the hill'. In the VP shell, the object DP *the ball* is merged as the specifier of the lexical V, the PP *down the hill* is the complement. At the level of causative *v*, the agentive subject *he* is merged as the specifier of the abstract 'light' causative *v*. V *roll* moves to *v*. (18a) has the representation in (19a). (18b) lacks the agentive interpretation and has the structure in (19b), where the light *v* has no external argument:

(19) a [$_{vP}$ he [$_{v}$ roll Ø] [$_{VP}$ the ball [$_{V}$ ~~roll~~] [$_{PP}$ down the hill]]]
b [$_{vP}$ [$_{v}$ roll Ø] [$_{VP}$ the ball [$_{V}$ ~~roll~~] [$_{PP}$ down the hill]]]

The decomposition of the VP in terms of a layered structure is often referred to as the 'VP shell' analysis (see Larson 1988 for the first proposal). See also section 4.

Chapter 9 (*Phases*) offers a very dense introduction to recent developments in the minimalist research on the concept 'phase'. The core ideas of phase theory are introduced, i.e. the proposal that the computational component of the language faculty does not build the structure of a clause as a whole but rather that the structure is built up cyclically in chunks or, 'phases' (Uriagereka 1999, Chomsky 2000 et seq.). Once a phase is formed, it is transferred to the semantic and phonological component and becomes unavailable for any further syntactic operations. Constituents which are internal to a phase and which need to be moved to external areas must therefore be evacuated before the point of Transfer. This is done via the periphery of the phase or, to use the technical term, the 'edge' of the phase. The edge features (EF) on the phase head allows a constituent to move from a phase internal position to the phase edge (see Chomsky 2007, 2008) which will allow a constituent internal to the phase to evacuate via the specifier of the phase head. There is a consensus that phase heads are C and the causative light *v* (often represented as *v** in the literature).

The discussion in chapter 9 brings together components of all the preceding chapters, including the issue of what constitutes the trigger for *wh*-movement, a point that was left rather open-ended in earlier chapters, as well as the syntax of defective clauses, a domain that had been fairly prominent in a number of preceding sections. In this sense it is an appropriate final chapter for the book.

Though we return to a more general evaluation of the book in later sections, we must point out here that Chapter 9 is extremely dense and highly technical. In it, AR introduces assumptions that are fairly standard in Minimalism, as well as many new avenues which are not (yet) generally adopted in the literature.

4. 'Analysing English sentences'

As discussed in the introduction, one of the stated goals of this textbook is 'to provide a description of a range of phenomena in English syntax, making use of Minimalist

concepts and assumptions wherever possible' (xi). In this section we will discuss to what extent we think the book succeeds or does not succeed in doing this.

4.1. Empirical coverage

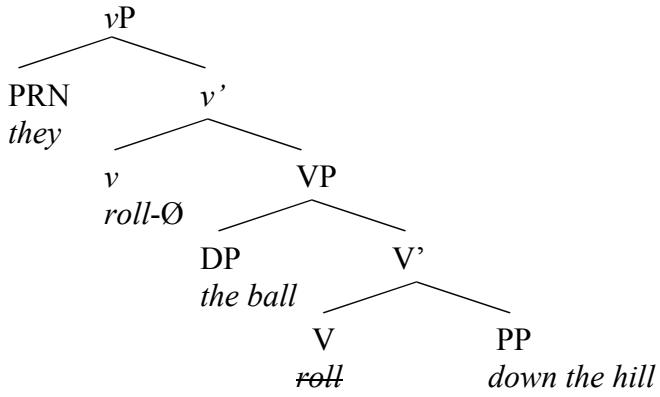
It is clear from the survey of the chapters in section 3 that the empirical range of the book is quite broad: The main components of the English clause are covered in the discussion, and for some aspects of the syntax of English sentences the reader gets quite a detailed picture. In this respect, to our minds the most successful sections are chapter 3 on null constituents and sections 8.6-8.10 on the decomposition of the VP. Both of these bring together and highlight data that are not usually treated together in such a systematic way in traditional approaches to English grammar. In both chapters, the argumentation is very convincing, with the repeated use of the same type of argument extended to new patterns. Let us illustrate this for the decomposition of the VP.

The discussion of the internal structure of the verb phrase starts out from so called 'transitive ergative structures' (345) illustrated in (20).

(20) a They will roll the ball down the hill (347, (67a))
b The ball will roll down the hill (347, (67b))

As discussed in section 3, based on the pairing of the sentences in (20), the traditional VP is decomposed into two separate 'shells': the (lower) VP shell encodes the relation between *the ball* and *down the hill* as mediated by the verb *roll* in (20b). This VP-shell is then embedded under a higher abstract causative 'light' verb represented as *v*, whose subject argument is *they*. The light verb is affixal in nature: the lexical V *roll* is inserted in V and moves to adjoin to the abstract affixal *v*.

(20) c



In the discussion AR argues that, given this analysis, and under the assumption that adverbs are adjoined to the intermediate level of representation – an assumption which, however, is not without its problems – the fact that an adverb such as *gently* may either precede *roll* or follow *the ball* and precede *down the hill* is unproblematic. In (20d) *gently* is adjoined to *v*', in (20e) it is adjoined to V'.

(20) d They gently rolled the ball down the hill.
e They rolled the ball gently down the hill.

The decomposition of VP is extended to other patterns, illustrated in (21). We provide a partial bracketing.

(21) a they will [$_{v}$P (carefully) load [$_{VP}$ the truck (carefully) with hay]]. (352: (85)
b He was [$_{v}$P taking [$_{VP}$ the rubbish out]]. (353, (87))
c What [$_{v}$P (eventually) decided [$_{VP}$ you (eventually) to take syntax (357, (103))
d The horse was [$_{v}$P jumped [$_{VP}$ (perfectly) over the fence]] (365, (126)

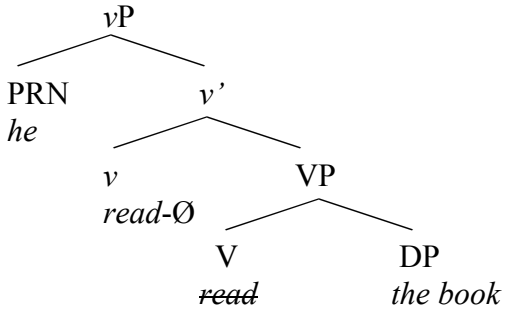
For some of these examples, the proposed analysis is again supported by means of adverb placement, and what is attractive about this is that the same argumentation is applied systematically to a range of patterns. However, it is a pity that the argumentation is not systematically applied to all examples. For instance, while for the verb *load* the two adverb positions are illustrated (21a), this is not so for the verb particle combination *take out* in (21b), where the variants in (22) are not provided. Similarly, for (21d) AR provides the example with the postverbal adverb but an example along the lines of (23), with preverbal adverb, is also not given. Observe, though, that extending the argumentation to these examples is not obvious. Indeed, the native speakers we consulted found the adverbials in the positions indicated at least marked if not downright unacceptable.

(22) a He will eventually/quietly take out the rubbish.
b He will take the rubbish *eventually/?/*quietly out.

(23) The horse was ?/*eventually/*perfectly jumped over the fence.

AR extends the layered VP to 'ordinary' transitive sentences such as (24a), with an agentive subject, to which he assigns the structure in (24b):

(24) a He read the book.
b



Now at this point we suspect that the reader may be puzzled. The representation in (24b) (AR's (91) on page 354) is prefaced by the following passage: 'Chomsky (1995 [no page reference] proposes a light-verb analysis of two-place transitive predicates'. However, it seems to us that (24b), which is not motivated, will raise questions in the light of the preceding argumentation.

For resultative type constructions as (25a) a layered VP structure (26) is proposed in which the 'direct object' occupies the specifier of the VP shell, and the subject originates in the specifier of the vP-shell.

(25) a The acid will turn the litmus paper red.
b The acid will [$_{vP}$ ~~he~~ turn [$_{VP}$ the litmus paper ~~turn~~ red]]. (354: (89))

Since (26a) is listed along with (25a) (page 353, (88)), we assume it should be assigned the structure in (26b):

(26) a They may paint the house pink (353, (88b))
b They may [$_{vP}$ ~~they~~ paint [$_{VP}$ the house ~~paint~~ pink]].

It seems to us that following the argumentation in the chapter, the reader will definitely be tempted to then analyse an example with transitive *paint* such as (27a) as (27b), since it would appear that the DP *the house* has the same relation to *paint* in (27b) as in (26b). Possibly, inspired by the argumentation in chapter 3, the student may even postulate a null predicate in the lower VP shell as in (27c):

(37) a They may paint the house.
b They may [$_{vP}$ ~~they~~ paint+Ø [$_{VP}$ the house ~~paint~~]].
c They may [$_{vP}$ ~~they~~ paint [$_{VP}$ the house ~~paint~~ Ø]].

Analogously, the student might propose that (28a) has the structure in (28b), where *widen* is interpreted as 'cause to widen', 'cause to become wider'. Once again one might conceive of *widen* itself as being decomposed into *wide* and *en,* with *wide* originating as the predicate in the lower VP shell (28c), with *wide* being attracted by the affix *en*:

(28) a They may widen the road.
b They may [$_{vP}$ ~~they~~ widen+Ø [$_{VP}$ the road ~~widen~~]].
c [$_{VP}$ the road [V –en] [wide~~]~~]].

And by analogy with such transitive examples, the student might then adopt (29a) for all transitive verbs and propose (29b) instead of AR's unmotivated (24b) for the simple transitive sentence.

(29) a [$_{vP}$ ~~subject~~ V+Ø [$_{VP}$ DP ~~V~~]].
b He will [$_{vP}$ ~~he~~ read [$_{VP}$ the book ~~read~~]].

Adverb placement, the empirical argument advocated for other representations, does not help in choosing between the two patterns: The preverbal adverb in (30a) could be adjoined to *v*', and the postverbal adverb in (30b) it could be adjoined to V'.

(30) a He will carefully read the book.
b He will read the book carefully.
c He will [$_{vP}$ ~~he~~ ([$_{v'}$ carefully) read [$_{VP}$ the book ([$_{V'}$ carefully) ~~read~~] (])]].

Indeed it is not obvious where the adjunct in (30b) would adjoin in (24b). One might think of right adjunction to *v*' (30d) or to VP (30e), for instance, but note that since Kayne (1994) – see also section 6.1. - right-hand adjunction is rather frowned upon.

(30) d He will [$_{vP}$ ~~he~~ [v' read [$_{VP}$ [$_{VP}$ ~~read~~ the book]] carefully]]
e He will [$_{vP}$ ~~he~~ read [$_{VP}$ [$_{VP}$ ~~read~~ the book] carefully]]].

It seems to us that inquisitive students will inevitably come up with these questions, and that they should be encouraged to do so, but the book does not give the instructor a way of handling these and it is disappointing that the only argument for (24b) seems to be a recourse to 'the voice of authority'. Of course, the instructor might go to the reference section and read the various works cited, but this will be a time consuming job and it would be helpful if the textbook itself provided more help here.

4.2. Universal grammar and the use of comparative material

A very attractive feature of the book is that AR does not usually (but see below for some additional comments) limit the discussion to a restricted set of sentences drawn from the technical literature. He offers a rich array of empirical data from standard English (see for this especially the data discussed in the discussion of the split CP) and he also discusses data drawn from language acquisition, from diachronic sources (where Elizabethan English features prominently), from colloquial English, from Hiberno English and even from performance errors such as slips of the tongue, for which he shows convincingly that they may be the reflex of underlying syntactic principles. Anyone teaching English syntax can only be overjoyed by this wide approach to the data.

However, on the reverse side, it is disappointing that the focus is so much on English and that discussion of other languages is so restricted and we especially regret that the care that is given to the English data is not extended when it comes to comparative discussion. For instance, in the discussion of the pro drop phenomena on page 92 the discussion focuses on the non-overt subject in (31). Observe that in the discussion in the book there are no specific glosses for the morphology, so our (9) was actually given as (31), with *pro* representing the understood subject:

(31) Si, *pro* è tornata.
yes, pro is returned
'Yes, she has returned'

AR says that one argument for positing *pro* is that 'it relates to the agreement morphology carried by the auxiliary *è* 'is' and the participle *tornata* 'returned' in (31). Just as the form of the (third person singular) auxiliary è 'is"' and the (feminine singular) participle *tornata* is determined via agreement with the overt (third person feminine singular) subject *Maria* … so too the auxiliary and participle agree in exactly the same way with the null pro subject in [31]'. (p. 92) Presented with (31), a reader who does not know any Italian will not be able to see that what makes Italian different from, say, French or English is that the agreement paradigm is much richer in the former with a specific for each person and number combination. What is bothersome about the approach in AR's book is that the data provided do not allow the student to see for

him/herself that indeed agreement is rich in Italian and that the participle also shows agreement. Rather, he/she has to simply accept what they are told.

In other, according to our point of view even worse, cases the data are not even provided. For instance on p. 146, AR writes: 'Such an interrogative affix analysis is far from implausible from a cross-linguistic point of view, in that (e.g.) *yes-no* questions in Latin could be formed using the over question suffix *–ne*, and this could attract a finite verb to attach to it.' No data are provided at all. Similarly, on p. 202 in the discussion of the syntax of the genitive *whose* in *whose car* we find: 'and indeed there are a number of languages which have a type of possessive structure paraphrasable in English as *whose the car* – e.g. Hungarian).

In other cases, we think the discussion of comparative material is potentially misleading. For instance, on p. 165 we find: 'just as in *ne…pas* 'not … at all' negative in present-day French, *ne* has dropped out of use in colloquial styles'. Clearly in present day French *pas* is not equivalent to *at all*, which conveys some special emphasis on the negation, and again a reader who has no knowledge of French will easily be misled by this rather throwaway remark.

4.3. English sentences

As we have discussed, in some sections of the book the argumentation is excellent and the instructor will be able to use these not just as ways of teaching about English but also for the teaching of the methodology of formal syntax.

However, there are also areas where consistent application of the argumentation provided leads much further. One case is illustrated in the discussion of non-finite clauses in chapter 3, section 10. In chapter 2 the traditional diagnostics for structure are introduced, one of which is 'coordination'. AR (2009: 59) proposes the coordination condition in (32):

(32) Co-ordination condition (p. 59, (50))
Only constituents of the same type can be coordinated

The application of the condition is illustrated on p. 59 with examples such as (33a). In a long parenthetical section on page 60, AR does briefly address problematic cases in which the constituents are not at first sight of the same type (33b).[2]

(33) a The chairman has resigned from the board and the company. (p. 59, (51a))
b He's cross with her and in a filthy mood. (p. 60)

In later sections, though, the potential problem raised by the existence of examples such as (33b) for the application of the co-ordination condition is not taken into consideration and the condition is implemented in its strongest version. Hence, from the fact that two constituents, which at first glance seem similar in structure cannot be coordinated it is concluded that they are not of the same type. On the basis of the fact that the bracketed embedded clauses in (33a) and (33b) cannot be coordinated (33c), it is concluded that they must be of different types, one is a projection of TP (34a), the other is a full CP projection (34b):

(33) a We didn't intend [you to hurt anyone].
b We didn't intend [for him to hurt you].
c *We didn't intend [you to hurt him] or [for him to hurt you]. (p. 127, (101))

(34) a we didn't intend [$_{TP}$ you to hurt anyone]. (p. 127, (101))
b we didn't intend [$_{CP}$ for [$_{TP}$ him to hurt you]].

Conversely, when two apparently dissimilar strings CAN be coordinated this becomes the basis for concluding that they are of the same type, again with the strict interpretation of categorical identity. Thus, the fact that an infinitival clause introduced by *for* (35a) and a control clause (35b) can be coordinated (35c) is taken as evidence that both must be CP, and that the control clause instantiates a null complementizer (35d):

(35) a I will arrange [for my wife to see a specialist].
b I will arrange [to see a specialist]
c I will arrange [to see a specialist] and [for my wife to see one at the same time].
d I will arrange [$_{CP}$ for/Ø [$_{TP}$ my wife to see a specialist]].

The student who applies the coordination test may come across some unexpected results. Consider, for instance, the following attested examples:

(36) a It's been a total witch-hunt. People just want <u>it over</u> and for him to carry on dealing with the financial side of things. (*Guardian*, 13.2.1999, page 3, col 8
b Blatter wants <u>doping cases assessed individually</u>, rather than automatically imposing a blanket ban, and for this to be part of the agreement with Wada. (*Guardian*, 18.5.4, page 20, col 8)

In (36a) and in (36b) a *for* clause is coordinated with what could be described as a tenseless clause (Quirk et al. 1985, Huddleston & Pullum 2002) or a small clause (Aarts 1992), that is: a proposition-type complement containing a subject-predicate relation which is not mediated by a copular element. Given that in both examples above these (underlined) 'small clauses' are coordinated with *for* clauses, it would then follow that they are CPs.

The difference between to infinitival clauses that are mere TP (37a) and those that are dominated by a CP with null C (38a) is reflected in the possibilities of passivizing the subject of the infinitival clause:

(37) a Most members of the council considered these proposals to be unacceptable.
b These proposals were considered to be unacceptable by most members.

(38) a Most members of the council preferred the discussion to be postponed.
b *The discussion was preferred to be postponed by most members.

If one applies the coordination test, the (at first sight surprising) conclusion seems to be that at least some so-called small clauses are not so 'small' after all and to be aligned to non-finite CP complements (for similar discussion see also Kayne 1984: 37 and note 33, Coopmans and Stevenson 1991).

Because AR provides the tools for the analysis, and because he does provide a wide array of data from English we think that in a teaching context, and in particular in one in which the focus is on English sentences and in which the audience contains native speakers, issues such as that outlined above will quite naturally come up. This is a very positive feature of the book because it will encourage independent exploration of linguistic data.

5. Argumentation

It is often assumed that linguistics is a science on a par with other sciences (as explicitly argued for in textbooks such as Haegeman 2006, and the more recent Larson 2010). Granted, the discipline may well not have matured as much as its practitioners would wish or think, but there is no doubt that rigorous methodology and scientific argumentation are thought to be central in developing theories for the faculty of language.

Argumentation is a skill that syntax students need to master (see for instance Aarts 1997/2008, Burton-Roberts 1997, Haegeman 2006 and van Gelderen 2010 for books with emphasis on argumentation). That is, students need to learn how to reason scientifically, how to develop a hypothesis, and how to test the hypothesis. Students of syntax need to learn how to identify a set of language data and carve out generalizations; they need to learn how to explore a given theoretical concept by looking at relevant data and they have to know how to examine and evaluate theoretical concepts with respect to the internal consistency of the model. This is crucial if we want to avoid that students end up seeing the study of syntax as a form of rote learning with mechanical application of a static set of rules that they have memorised. Students must also understand that scientific theories are not frozen and that inevitably, as research progresses theories will evolve either because of new empirical data or because of the way the system itself is being rethought.

In its current state, the MP is a program and not a theory. Within the MP this has led to a degree of flexibility that makes it possible for researchers to explore a rich array of analytical possibilities. However, given that there is no full-fledged over-arching system that will offer a constant background and a check to new hypotheses, the utmost rigor in developing the avenues of research and pushing the boundaries of the model is crucial.

We feel that, while there is occasional discussion of argumentation, overall AR's book does not highlight this specific type of syntactic argumentation. He usually starts the discussion with a hypothesis and then applies this to relevant data, without considering alternatives. We have illustrated this in relation to the analysis of transitive verbs in chapter 8 (section 4.1.). As we have shown, AR simply reports and adopts the VP-shell analysis proposed in Chomsky (1995) without providing the arguments. As we have shown, the proposal does not follow naturally from his discussion in the section. The analysis may be right or wrong, but regardless, we would like to see arguments being elaborated. A textbook should 'lead by example'. Unless students see good examples of

arguments, how are they going to be able to give good arguments themselves in their own work?

One way of illustrating the argumentation that is at the heart of the MP would be to present the reader with competing analyses and then evaluate them in terms of the principles inherent to MP. Let us show this by means of the concept of 'control', briefly discussed in section 3 above and illustrated in (39). In this example the understood subject of the infinitival complement of *want*, represented as PRO, is interpreted as coreferential with the overt subject of *want*:

(39) I want [$_{CP}$ [$_{TP}$ PRO to buy a new coat]].

For the analysis of control, AR by and large adopts the approach already advocated in Chomsky and Lasnik (1993) the null subject, PRO, gets assigned null Case (see also Martin 1996). Students should definitely know about this view, but it is disappointing that AR does not discuss the other two alternatives that are prominent within Minimalism: Landau's (2000, 2004) Agree-based theory and Hornstein's (1999, see also Boeckx, Hornstein and Nunes in press) movement theory of control according to which in fact the subject *I* in (39) is merged in the non-finite TP and moves to the matrix TP, an analysis that brings control in line with raising. We think it might have been interesting if AR had provided a discussion of perhaps all three ways of viewing control so that the students got an overview of what the issues are and what is at stake. Not at least because the debate on control hinges on methodological issues surrounding Minimalism, namely how one should apply minimalist logic and what the consequences of such logic ought to be.

6. Presenting the MP

Faced with a theory in flux, an author will be faced with a choice: either he or she writes a book that ignores the ongoing debates in the research literature at the time of writing (see Adger 2003, Hornstein, Nunes and Grohmann 2005 for an example, or Haegeman 2006 at a more introductory level), or they do as AR does and try to write a textbook that keeps up with the research 'in real time'. Although we sympathize with AR's attempt to be up to date with the theory, and we admire his courage in undertaking the task, we think the textbook would have benefitted if less time had been spent on the novel ideas proposed in Chomsky's recent papers (especially Chomsky 2008) and more time on teaching students about argumentation.

6.1. Missing components

Although AR covers a wide range of topics, some important topics go unmentioned. Kayne's (1994) LCA, Cinque's (1999) work on adverbials and newer theories of control, the latter already pointed out in section 5.

Kayne's theory (1994) is a theory of linearization and his idea is that hierarchy maps onto precedence through the Linear Correspondence Axiom (LCA). His work is crucial for the discussion of word order variation. Kayne proposes that the variation between VO order and OV order is not one of parametric variation in the head-complement order of VP but that the VO order is the default order and that OV order is derived by leftward movement of the complement. Kayne's work has been very

influential and advanced students of syntax need to know at least the basics of the LCA. It is crucial in order to be able to read much of the literature from 1994 until today. It is puzzling that AR does not discuss the LCA. Especially because the last two chapters of the book aim at getting the student up to date on the most recent theoretical developments. Compared to the intricacies of phase theory laid out in chapter 9, one would think that the LCA is pretty straightforward to spell out. The decision to leave aside the highly influential LCA is unexpected and we think the book would have benefitted from including a section on the LCA.

In the same chapter, though, the sections on the split TP, for which the projections AspP and MoodP are proposed, seem redundant: as acknowledged by AR himself, the phenomena discussed in the section on AspP are partly covered by the sections on *v*P/VP in the same chapter, and the section on MoodP is shown to be problematic. In this context, then, it is surprising that there is no more extensive discussion of Cinque's (1999) hypothesis concerning the articulated TP. AR does refer to Cinque's work, but he does not address his theory in detail. We think this is unfortunate since Cinque's work is widely known and has led to a lot of discussion in the field (see e.g., Ernst 2007, 2009, Nilsen 2004). Rizzi's work on the split CP (discussed by AR in section 8.2) and Cinque's work on the articulated TP – not discussed here - have been very important for the development of what is referred to as 'cartographic syntax', and as such, it seems a strange decision not to discuss Cinque's contribution to the debate and instead discuss less prominent work.

6.2. The big picture

Since the MP is a program, it is hard to identify its stable parts as it is in continuous development. In this book the MP is presented almost in a vacuum. It is not shown how the MP has evolved from earlier formats of the generative model. As we have argued above, the MP is embedded in the earlier generative framework. In order to identify the its core components and to understand their developments, it is important to understand the foundations on which the MP rests. That is, one has to know the core parts of GB and what the differences between earlier incarnations of generative syntax (such as GB) and the MP are. Although scholars may have different opinions as to how important the GB-framework is for understanding MP, we think that some historical perspective - e.g., of the sort that one finds in Hornstein, Nunes and Grohmann (2005) - can contribute towards a better understanding of why the theory has evolved the way it has. That will enable the students to get a good sense of the big picture of how the thinking about the language faculty has developed in the generative framework. AR does not say much, if anything, about earlier models in his books, which makes it harder for the students to understand how and why the MP developed the way it did.

7. Conclusion

AR's books are an attempt to present the current version of the MP and to show how it applies to English. We have tried to show in our review that this dual aim in fact creates a tension between a more empirically oriented approach and a more theory oriented approach and that this tension often comes in the way of complete success.

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[1] The structure is simplified; see the discussion of the internal structure of the *v*P in section 4.
[2] For unclear reasons, AR does not use footnotes but instead footnote material is put in parentheses.