Review of CINQUE, Guglielmo. *Adverbs and functional heads: a cross-linguistic perspective*. New York, NY: Oxford, 1999.[1]

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There is, undoubtedly, a wide spectrum of research that can be undertaken on adverbs, and recent works on this issue have shed light to a still *opaque* field of investigation which has for a long time challenged linguists all over the world (Alexiadou, 1994b, 1997; Rivero, 1992; López, 1994; Costa, 1996, 2004; Cinque, 2004).

In *Adverbs and functional heads: a cross-linguistic perspective*, Cinque presents an original analysis that has led syntactitians to draw upon aspects of clause structure which play an important role on the scope of adverb placement (Costa, 2000, 2004; Ernst, 2000; Laenzingler, 2000; Cinque, 2004; among others) . A remarkable and novel point about this book is to provide evidence that adverb phrases (AdvPs) are "the unique specifiers of distinct maximal projections, rather than adjuncts, (p.*v*)" along with a theory which argues for "the existence of a fixed universal hierarchy of clausal functional projections". By investigating the behavior of adverbs across a great number of languages, given prior investigations on Romance data, Cinque argues that UG 'fails' to allow the *so called* wide variation in the number and type of functional projections among languages (as it is believed), and he states that what really happens is that a "same number, type and order of functional projections holds across languages and clause types."[2]

Cinque's major novelty regarding the analysis of adverbs/ adverbial phrases rests on the following assertions:

a)   different classes of adverbs enter a rigidly ordered sequence which is the same across languages;

b)   the order of head morphemes that encode the different types of functional notions of the clause is also rigidly fixed and apparently invariant across languages; and

c)   the order of adverb phrases and functional heads of the clause match systematically, left to right.

The author, then, constructs his argument by treating adverb phrases as "the unique specifiers of distinct maximal projections, rather than as adjuncts", and concludes by stating that adverbs are seen as "the overt manifestation of different functional projections" (p. *v-vi*). His arguments are based on the fact that "adverbs do not block head movement of various

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[1] I am grateful to Dra Sônia Cyrino for comments on a previous version of this book review.

[2] His investigation here will culminate with his work of (2004), *Issues in adverbial syntax*.

verbal forms... [and] that some of them can undergo Topicalization and Focus Movement" (p.4). Through evidence from Romance languages to support his theory, Cinque assumes, contrary to the traditional view, that the term *adverb* is not a head taking from the VP or some projection dominating the VP. In other words, Cinque's view is that *adverbs* should not be treated as adjuncts, but as specifiers of distinct maximal projections.[3]

In **Chapter 1**, Cinque tries to establish the relative order of the main clauses of AdvPs which seems to hold more generally in Romance languages. In doing so, he calls upon six typical sources of apparent counterexamples which, for him (p. 3), only apparently "enter in more than one order in one and the same language or different orders in different languages":

1. when an AdvP directly modifies (is the specifier of) another AdvP;
2. when a lower position of the clause (containing an AdvP) is raised across a higher AdvP (for focus-presupposition requirements);
3. when one AdvP is wh-moved across another;
4. when one and the same AdvP can be 'base-generated' in two different positions in the clause (with one of the two positions to the left, and the other to the right of another AdvP);
5. when a noninherently 'focusing' AdvP (e.g., *probably*) is used as a 'focusing' adverb (like *only* or *simply*); and,
6. when an AdvP is used 'parenthetically' (typically 'higher' adverbs like *unfortunately*, *perhaps*, and *frankly*).

In Cinque's words (p. 32), adverbs "are possible even after 'lower' adverbs if set off by 'comma intonation' from the rest" (e.g., '*He always seemed to me, frankly, a difficult person*'. After considering what he calls the counterexamples illustrated above, Cinque precedes arguing in favor of a universal hierarchy or order of AdvPs using, in parallel with Romance data, languages such as English, Norwegian, Bosnian, Serbo-Croatian, Hebrew, Chinese, Albanian, and Malagasy (a VOS Austronesian language).

In Chapter 2, Cinque's central point is that AdvPs are located in "the (unique) Spec positions of distinct maximal projections" (p. 44). The empirical evidence the author offers comes from the relative order of AdvPs established above, "in interaction with the distribution of (active) past participles and finite verbs in Italian". In doing so, Cinque discounts the traditional view of the adjunct hypothesis, commonly accepted in the current literature, and he takes Kayne's theory (1994) as a starting point for his claim. This is because, for Cinque, the existence of a rigidly fixed relative order of AdvPs would pose problems under the adjunction view, but not under the 'location-in-Spec' hypothesis, "at least if it can be argued to follow from the fixed relative order of the heads via the general Spec/head agreement relation (as we shall attempt)." Regarding the 'active past participle movement in Italian', Cinque (p. 45) draws upon evidence from Pollock (1989), according

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[3] Cinque's view on adverb placement is also shared by Alexiadou (1994, 1997), Zanuttini (1997), Laenzlinger (1993, 1996, 1998, 2000), among others.

to whom "AdvPs are assumed to occupy fixed positions and what is taken to move is the verb". Following the classical X-bar theory of Chomsky (1970), Kayne (1994) and Chomsky (1995), and using data from Italian to explain the active past participle movement, Cinque argues that the theory "leaves room for just one XP specifier in between the two X°'s (heads)." For instance:

a) *Da allora, non hanno <u>rimesso</u> di solito mica più sempre completamente tutto bene in ordine/ Since then, they haven't usually not any longer always put everything well in order*;

b) *Non ha mica già <u>ricevuto</u> più niente/ He has not already any longer received anything*).

These examples lead to the structure in

c) [X [solitamente X [mica X [già X [più X [sempre X [completamente X [tutto bene [VP]]]]]]]],

where X's indicate head positions[4]. "If AdvPs were adjoined to (possibly different) maximal projections, one would not necessarily expect the past participle to be able to appear between (virtually) any two AdvPs (p. 45)."

Under some examples of Romance varieties, and still following from Pollock (1989, 1997), Cinque ends this chapter by giving examples of 'higher' AdvPs (*francamente/ frankly, purtroppo /unfortunately, evidentemente/ clearly*) and by using finite verb movement in Italian. The novelty of this chapter, then, consists in Cinque's suggestion that the unique Spec positions of different maximal projections for locating the AdvPs are, indeed, the *functional heads of the clause*.

Regarding clausal functional heads, **Chapter 3** deals with their order "independently of any considerations involving AdvPs and their relative order" (p. 52). Cinque's main claim here is that "the partial relative orders of functional heads for which there is overt evidence [of one of the four kinds: agglutinating suffixes, inflectional suffixes and auxiliaries, the order of functional particles, and the order of various combinations of these elements in mixed cases] in different languages appear to be compatible with a *single overall order*"[5] (p. 52). Cinque calls upon Baker's Mirror Principle to support this assumption, given that suffixation (its ordering) motivates a particular ordering of functional heads. In other words, "…this survey is to see whether the different orders of functional heads motivated for each particular language by its suffix order, under the Mirror Principle, are compatible with one another, thus providing support, under a certain view, for the postulation of a single overall order valid for all languages" (p. 53).

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[4] The author here considers those adverbs that occur in the lower portion of the clause; in other words, the 'lower' pre-VP AdvPs; he points out that *tutto* and *bene* behave differently, although these adverbs do not endanger his theory.

[5] (Italics added).

After a detailed analysis of examples in Korean, Turkish, Una, Tauya, Chinese and Lisu (Sino-Tibetan) languages, Cinque comes to the conclusion that there is a single overall order of 'nonclosing' (agglutinating) suffixes as follows:

Mood $_{speech\ act}$ > Mood $_{evaluative}$ > Mood $_{evidential}$ > Mod $_{epistemic}$ >T (Past) > T (Future) > Mood $_{(ir)realis}$ > Mod $_{root}$ / Aspect $_{habitual}$ /T (Anterior) > Aspect $_{perfect}$ > Aspect $_{progressive}$ / Aspect $_{completive}$ > Voice > V.

In doing so, Cinque relies on Bybee's (1985) and Foley and Van Valin's (1984) typological observation regarding the order of verbal suffixes, which provides evidence for the relative order of functional heads, which in turn, holds consistent across languages. Concerning 'closing' (inflectional) suffixes and auxiliaries, the author supports his theory by providing evidence from English and Spanish (head-initial languages), and Hindi and Standard German (head-final languages), although they differ regarding the Spec position to which the complement of the verb raises.

Functional morphemes (particles) are the next subject to be covered within this chapter. The author cites some Creole languages whose more relevant characteristic is the display of all their functional particles (T $_{(ense)}$ – M $_{(ood/modal)}$- A $_{(spect)}$) before the verb (p. 58). Among some varieties presented by Cinque, Guyanese Creole, Sranan, Haitian Creole, and Gungbe are the group of languages most investigated. Evidence from what Cinque calls 'mixed cases' comes from Celtic languages, but Welsh is the only example provided to account for the combinations of inflected auxiliaries and aspectual particles preceding the main verb.

The penultimate section in chapter 3 covers what Cinque calls 'remarks on prefixes, derivation, and inflection'. He points out to two major types of what is assumed to be verbal prefixes in many languages (p. 68):

1. "the order of prefixes *left to right* appears to be just like that of suffixes, with Aspect to the left of Tense (which is to the left of subject Agreement), the only difference apparently being the position of the verb, which comes last, rather than first in the sequence: …Asp-T-AGR-V (…)" ; and,

2. "(…) exemplified by various Bantu languages, the prefixes appear to directly reflect the order of functional heads, with Agreement to the left of Tense, which itself is to the left of Aspect".

These two types, though, according to Cinque, would pose a challenge to the Mirror Principle. In order to solve this problem, Cinque's conjectures are that 'prefixes' have three different sources: they may be heads; they may be suffixes on a null auxiliary; or they may be heads incorporated to the left of the verb from a subjacent specifier (p. 70). Cinque argues that "given that derivational suffixes are always closer to the stem [of the verb] than are inflectional or agglutinating suffixes, it is to be expected that where both express functional heads, the heads expressed by derivational suffixes are lower than those expressed by inflectional or agglutinating suffixes" (p.70). Cinque also presents an overall cast of languages whose order of different functional heads gives rise to a single order of heads, which holds across languages. The reader, then, must bear in mind that the languages investigated will culminate in a sophisticated and rather extensive corpus of what Cinque calls a 'pairwise' order of the different functional heads which, in turn, will lead the author

to his major attempt in his theory (p. 77): "the claim that each adverb class enters into a special spec/head relation with one particular functional head and viceversa". Before doing so, Cinque presents his new version of the single overall order of functional heads:

Mood $_{speech\ act}$ > Mood $_{evaluative}$ > Mood $_{evidential}$ > Mod $_{epistemic}$ >T (Past) > T (Future) > Mood $_{irrealis}$ > Asp $_{habitual}$ /T (Anterior) > Asp $_{perfect}$ > Asp $_{retrospective}$ > Asp $_{durative}$ > Asp $_{progressive}$ >Asp $_{prospective}$ / Mod $_{root}$ > Voice > Asp $_{celerative}$ > Asp $_{completive}$ > Asp $_{(semel)\ repetitive}$ > Asp $_{iterative}$

The author (p. 76) concludes this chapter by noting that, given the order above, he will argue for the following interpretation: "UG would make [the above] available in its entirety to all languages" and he suggests "that adverbs provide direct evidence for the availability of the entire hierarchy in each language".

In Chapter 4, 'Matching and Refining the Hierarchies of Adverb Phrases and Functional Heads', Cinque presents the results reached by matching the hierarchies of AdvPs *plus* the hierarchies of functional heads outlined above, and comes to the conclusion that there is a "specifier/head relation between a certain adverb class and the right-adjacent functional head" (p.77). The results of this matching are as follows:

[*Frankly* Mood $_{speech\ act}$ [*surprisingly* Mood $_{evaluative}$ [*allegedly* Mood $_{evidential}$ [*probably* Mod $_{epistemic}$ [*once* T(Past) [*then* T(Future) [*perhaps* Mood $_{irrealis}$ [*cleverly* ? [*usually* Asp $_{habitual}$ [*already* T(Anterior) [*no longer* Asp $_{perfect}$? [*always* ? [? Asp $_{retrospective}$ [? Asp $_{durative}$ [? Asp $_{progressive}$ [?Asp $_{prospective}$ [*completely* Asp $_{completive}$ [*tutto* ? [*well* ? [Voice [? Asp $_{celerative}$ [? Asp $_{semelrepetitive}$ [? Asp $_{iterative}$

What comes after such claim is the analyses of mood, modality, tense and aspect, "and the evidence for representing each in terms of several functional heads" (p. 78). Although Cinque himself admits that this work is extensive, an unwarned reader will come across rather exhaustive data, which starts from the distinction between *mood/modality* up to Cinque's second approximation toward a universal hierarchy of clausal functional projections; that is to say, a rather rich functional structure of the clause which attests that "the hierarchies of adverbial specifiers and clausal functional heads match in a systematic one-to-one fashion" (p.106):

[*Frankly* Mood $_{speech\ act}$ [*fortunately* Mood $_{evaluative}$ [*allegedly* Mood $_{evidential}$ [*probably* Mod $_{epistemic}$ [*once* T(Past) [*then* T(Future) [*perhaps* Mood $_{irrealis}$ [*necessarily* Mod $_{necessity}$ [*possibily* Mod $_{possibility}$ [*usually* Asp $_{habitual}$ [*again* Asp $_{repetitive(I)}$ [*often* Asp $_{frequentative(I)}$ [*intentionally* Mod $_{volitional}$ [*quickly* Asp $_{celerative(I)}$ [*already* T(Anterior) [*no longer* Asp $_{terminative}$ [*still* Asp $_{continuative}$ [*always* Asp $_{perfect(?)}$ [*just* Asp $_{retrospective}$ [*soon* Asp $_{proximative}$ [*briefly* Asp $_{durative}$ [*characteristically*(?) Asp $_{generic/progressive}$ [*almost* Asp $_{prospective}$ [*completely* Asp $_{SgCompletive(I)}$ [*tutto* Asp $_{PlCompletive}$ [*well* Voice [*fast/early* Asp $_{celerative(II)}$ [*again* Asp $_{repetitive(II)}$ [*often* Asp $_{frequentative(II)}$ [*completely* Asp $_{SgCompletive(II)}$

Finally, Cinque alludes once more to UG and the acquisition process of the child concerning the rich structure provided above. In his own words, "[t]he obvious consequence from assuming the universality of [the structure above] is that less is left for the child to acquire. He/she will only need to recognize and locate in the appropriate structural places made available by UG the morphological and lexical material provided by his/her language" (p.107).

In **Chapter 5**, Cinque points to the role the DPs play in the clause structure. His major point is that if AdvPs can occur in the specifier of distinct functional projections, so do DPs, given that they can be found mingled among AdvPs, which reinforces his theory for the existence of several DP-related positions as well. That is to say, DPs are also in "specifier positions of separate (DP-related) functional projections" (p.108). By *DP-related projections*, Cinque means "the distinct subject (or object) positions related to purely grammatical functions […and] others with interpretative functions" (p. 109). The evidence to support their mingling amidst AdvPs (adverb-related functional projections) "comes from the distribution of subject and object DPs, from the distribution of floating quantifiers (FQs) under the stranding analysis of Sportiche (1988), and, crucially, from the distribution of the verb".

Cinque's expressive point in the very beginning of this chapter, regarding DP-related functional projections interspersed among the adverb-related functional projections, and based on the discussion of Chomsky (1995), is that AdvPs do not move (apart from the special cases in French), but it is the subject DP and the verb that move to different positions 'around the AdvP' (p. 109).

Another situation presented by Cinque in this chapter has got to do with the behavior of NegPs, which, according to the author, can occur in several distinct positions in the clause. Following Zanuttini's studies (1997) on Romance negation, Cinque calls upon the four distinct positions argued by Zanuttini, one below Cº, "and three NegPs interspersed among 'lower' AdvPs, hosting a negative XP in specifier position" (p.121). Regarding the positioning of negation in a higher portion of the clause, Cinque's major observation comes from Zanuttini's remarks on the two types of preverbal negation in Romance. According to Zanuttini, and subsequently advocated by Cinque, the preverbal negation which can negate the sentence by itself heads a NegP (NegP1), immediately below Cº (p.121). For Cinque, that is so because "even the 'real' negation can cliticize to the finite verb (or to the clitic which is cliticized to the finite verb)". His conclusions come from the following: "(1) the possibility, even for this negation, to be 'carried along' by the verb to a Cº position; and (2) the evidence that this negation originates not in a single NegP (NegP1), but in several different NegP positions, interspersed among the higher adverb-related projections (being subsequently carried along by the verb to different positions in the IP 'space'" (p. 121-2).

Cinque's final remarks on the very nature of NegPs bring evidence for the "possibility of generating a NegP on the top of every adverb-related functional projection, even simultaneously, up to a certain height (which is likely determined by semantic reasons)" (p. 126).

Chapter 6 is concerned with "Some Implications and Residual Questions". By introducing the role that parameterization plays on this issue, Cinque questions whether UG allows much variation for the number and type of functional projections available to

different languages, and he supports his theory that no variation is allowed by UG, but a universal hierarchy of functional projections is allowed, despite of what he calls 'limited cases of apparent variation' (p. 127). Cinque's more important observations here are whether such hierarchy is primitive or whether abstract principles, semantic ones, also play their role. His conclusion is that there is evidence, although slight, which points out to a hierarchy that "may be a primitive property of the computational component, only indirectly related to semantic considerations" (p.128). Still with regard to this chapter, Cinque presents some details on *default and marked values*: *simple* and *complex sentences*, calling upon Jakobson's observations (1957/1971) on the values *unmarked* and *marked*, especially with respect to a possibility that each adverb-related functional projection comes with these two values. Another important issue presented in this chapter comes from the apparent contrast of his theory with Chomsky's *minimalist spirit* (1995). However, given that his argument "has been that each projection has a specific semantic interpretation" (p.132), Cinque claims that the contrast is only apparent. He thus fulfills Chomsky's 'demands' that "postulation of a functional category has to be justified, either by output conditions (phonetic and semantic interpretation) or by theory-internal arguments" (Chomsky, 1995:240, in Cinque, 1999: 132).

Regarding section 3 of this chapter, *Semantics and the hierarchy of functional projections*, Cinque concludes that "the syntactic order of functional projections cannot be entirely reduced to semantic scope relations holding among them" (p.136). The reader may want to check on the footnotes and bibliography for further explanation, especially with respect to what Cinque calls 'semantic incompatibility'. Finally, Cinque raises the issue of functional projections embedding other phrases, but he warns the reader that no systematic examination will be carried out, probably given the complexity of PPs, APs, etc. Nonetheless, the simplified and limited data provided by the author are enough to encourage him to state that fixed universal hierarchy of functional projections are also found in major phrases.

In "Conclusions", **Chapter 7**, Cinque highlights that the main focus of his study has been the functional structure of the clause, reminding the reader that AdvPs enter in a rigidly ordered sequence which holds across languages, and that they occupy the specifier position of distinct phrases. A second major claim is that the order of head morphemes encoding the different types of functional notions of the clause is also rigidly fixed and apparently invariant across languages (p. 140), with especial treatment and consideration given to AgrP and NegP. In sum, Cinque finally grants us with his most revealing discovery, that achieved by his stating that the two hierarchies (AdvPs and functional heads) match systematically, from left to right (p. 140).

The book includes two appendices. Appendix One provides some more analysis on word order variation, with a wider exploitation of French and Italian data, much as an extension of Chapter 2. Appendix Two presents a synopsis of the orders of overt functional heads in individual languages, especially those languages which are not genetically related, such as Arabic, Korean, Ubykh, Gungbe, Burmese, Aleut, Kammu, Malay, Guyanese Creole, Basque, among others.

A careful investigation regarding the role and relevance of clitic placement may be suggested, especially with respect to word order variation and how adverbs interact with

clitics. Brazilian Portuguese, which, among the huge variety of Romance languages outlined by Cinque, does not feature prominently in his analysis, should also be investigated, especially in relation to: (a) the manner in which adverbs interact with negation and negative scope, (b) Focus (whether focus is attracted by the position of adverbs), and (c) the auxiliary system. Some data of BP in contrast to EP would suffice to explain and support the author's theory.

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