



The qualities of this volume are manifold. One cannot but applaud the editors for their excellent selection of papers and especially for their visionary approach that has resulted in a book that combines the best of two worlds: it is a focused, in-depth discussion of the phenomena of gradience and gradualness, but it also presents a wealth of innovative topics and ideas on language change in a way that would have been impossible in a single-author monograph. They have raised the standard of what can be expected from collections of papers. The confrontation of theoretical approaches gives a fresh impetus to the study of language change. This book is highly recommended to synchronic linguists from functional and formal backgrounds interested in the nature of linguistic categories and the difficulties of modeling synchronic grammar, and is a must-read for any linguist working on language change and grammaticalization.

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Department of Linguistics  
 University of Leuven  
 Blijde Inkomststraat 21, PO Box 3308  
 3000 Leuven, Belgium  
 [tine.breban@arts.kuleuven.be]

**Alternatives to cartography.** Ed. by JEROEN VAN CRAENENBROECK. (Studies in generative grammar 100.) Berlin: Mouton de Gruyter, 2009. Pp. vii, 378. ISBN 9783110206036. \$137 (Hb).

Reviewed by JOHN FREDERICK BAILYN, *Stony Brook University*\*

*Alternatives to cartography (ATC)* is a significant volume in linguistic theory: it includes ten articles that should constitute key readings for all linguists interested in the theory of the core structures underlying natural language syntax. The volume is significant not only for introducing readers to important current (and future) directions in syntactic theory, but also for signaling the beginning of a potential change in the tide of generative grammar publications—away from what is known as ‘cartography’ (e.g. Rizzi 1997, 2004a, Cinque 1999) and toward ‘alternatives to cartography’, necessitated by the empirical and conceptual challenges faced by the cartographic program as outlined throughout this volume.

Cartography evolved from the extension of Chomskyan *X'*-syntax (Jackendoff 1977) to grammatico-functional categories (Chomsky 1986, Abney 1987), whereby any syntactic head participates in identical structural relations: the head-complement relation, the head-specifier relation,

\* Many people contributed to the ideas in this review. I am particularly indebted to the students in my seminar ‘¿Cartography?’ (Stony Brook, Spring 2010), as well as to Peggy Speas and participants in her seminar ‘Cartography and its alternatives’ (UMass, Fall 2010), especially Tom Ernst. Thanks also to Jeroen van Craenenbroeck, Marcel den Dikken, Richard Larson, Andrew Nevins, and Roumyana Pancheva for discussion. All mistakes are mine.

and, in most accounts, the phrase-adjunct relation. At a certain stage, the inventory of so-called functional categories was thought to be limited to IP, CP, DP, and vP. However, after Pollock (1989) proposed decomposing IP into TP and AgrP, and Rizzi (1997) proposed decomposing the CP ‘left-periphery’ into ForceP, TopicP, FocusP, and Fin(iteness)P, modern cartography was born.<sup>1</sup>

Cartography is a research program that seeks to map syntactic structure in as highly an atomized fashion as possible. In particular, cartography proposes that every piece of morphology has unique syntactic status. Thus, in the *ATC* introduction, Jeroen van Craenenbroeck takes Cinque and Rizzi’s (2009) ‘one feature one head’ (OFOH) principle, given in 1, as definitional of cartography.

- (1) ONE FEATURE ONE HEAD: Each morphosyntactic feature corresponds to an independent syntactic head with a specific slot in the functional hierarchy. (1)

Significant corollaries of OFOH, such as those in 2–4, are also central to cartography.

- (2) UNIVERSAL CARTOGRAPHIC HIERARCHIES: All syntactic categories are hierarchically structured and appear in a unique order (determined by universal grammar).

The statement in 2 involves the common assumption that all categories are present in all languages; lack of overt morphological manifestations in any given language is a (nonproblematic) lexical matter. The evidence in favor of unique order takes the form of transitivity arguments: if  $A > B$  and  $B > C$ , then  $A > C$ , as argued to hold for adverbs in a range of languages in Cinque 1999—something adjunction approaches to adverbs might not predict.

- (3) DERIVATIONAL OPTIONS: Any deviation from the expected order results from movement. The following (leftward) movements can derive surface word-order patterns: (i) head movement, (ii) phrasal remnant movement, and (iii) ‘roll-up’.

Head movement is familiar from many generative works (e.g. Pollock 1989) and crucially interacts with cartography in deriving DP-internal  $N > A$  orders in Cinque 1994. Remnant movement (movement of a phrase out of which one element has been extracted) is known from VP-fronting operations in Germanic (Müller 1998) and is a possible alternative to head movement. ‘Roll-up’ (movement of a phrase  $\alpha$  over an element  $\beta$ , followed by further joint movement of  $[\alpha + \beta]$ ) has been argued to derive word-order interactions among heads, complements, and modifiers (Cinque 2005).

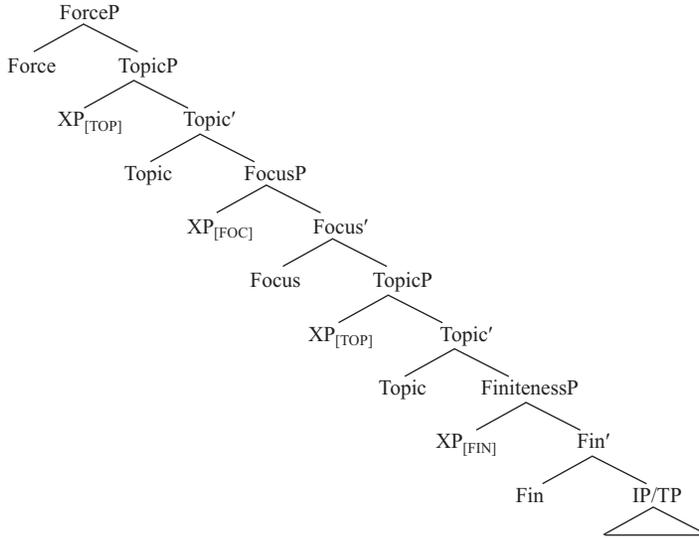
- (4) THERE IS NO ADJUNCTION (Kayne 1994, Cinque 1999). Traditional modifiers always occupy specifiers of dedicated functional projections that are part of the universal cartographic inventory.

The statement in 4 rules out both base-generated adjunction and movement into adjunct positions. Crucially, this entails that for every phrasal position, there is a unique local head whose effects can often be seen only indirectly, through adjacency and antiadjacency effects (Rizzi 1997).

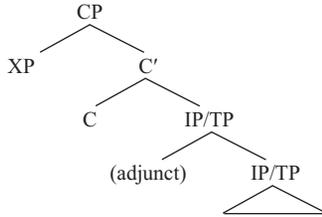
Cartographic and noncartographic approaches to the (traditional) CP domain are shown in 5.

<sup>1</sup> Proposals of further category decomposition followed quickly, most notably within the IP/adverbial domain (Cinque 1999), the DP domain (Cinque 2002, 2005), the VP/vP domain (Ramchand 2008), and the PP domain (Cinque & Rizzi 2010, Svenonius 2010), to name a few. Other, more extreme versions of cartography have also been proposed in the literature, including ‘nanosyntax’ (Starke 2001, Caha 2009). Because none of the *ATC* papers discusses this kind of cartography, however, I do not address it here.

(5) a. Cartographic picture of CP domain (Rizzi 1997)



b. Traditional (noncartographic) picture of CP domain



Since 2002, the ‘Oxford comparative syntax’ series has published six volumes on cartography (Cinque 2002, Belletti 2004, Rizzi 2004b, Cinque 2006, Cinque & Rizzi 2010, Benincà & Munaro 2011), whereas possible ALTERNATIVES to cartography have never before been presented in a single volume. This is not to say that there have not been significant challenges to cartography before *ATC*. There have been, and several are cited often in *ATC*: Bobaljik’s 1999 article on adverb ordering paradoxes, Nilsen’s 2003 dissertation questioning transitivity arguments, van Craenenbroeck’s 2006 article on transitivity failures in the left periphery, Boeckx’s 2008 chapter on theoretical shortcomings of cartography, and Ernst’s 2007 noncartographic work on adverbs, among others.

Despite the significance of these works to the field, they have not been responded to in any substantive way by the leading cartographers, perhaps because they had not been brought together in a centralized fashion, as *ATC* has now done. Ideally, this volume should be the first of a series of response volumes, organized to compare cartographic and noncartographic analyses of specific linguistic phenomena, especially within the particular realms where cartography has thrived (e.g. the left periphery, the IP/adverbial domain, the DP domain).

The papers in *ATC* vary in the nature of the issues and in the degree to which the alternatives presented share core assumptions with the generative and minimalist theorizing that led to cartography. Taken as a set of challenges, the overall picture that emerges is fairly bleak for cartography. Serious shortcomings with cartography are identified in the *ATC* papers on many levels: empirically within specific languages (Costa, Bader and Schmid); empirically crosslinguistically (Neeleman and colleagues, Ritter and Wiltschko, Giurgea); empirically inside DP (Bouchard, Giurgea); empirically and conceptually with regard to information structure (Neeleman and colleagues, Wagner, Costa); and, perhaps most importantly, purely theoretically, be it through expo-

sure of redundancy and arbitrariness within cartography or its lack of explanatory power and inability to capture significant generalizations (Bouchard, Gallego, Abels, Williams).<sup>2</sup>

Space considerations do not allow me to give equal treatment to all ten articles, and I am certainly in no position to evaluate the success of the proposed alternatives. Instead, I limit my discussion to identifying the main areas of concern for cartography that emerge from these contributions.

First, there is the issue of the empirical coverage of cartography. As DENIS BOUCHARD points out in 'A solution to the conceptual problem of cartography', cartography has enough derivational options available to generate any surface word-order pattern, making it practically unfalsifiable. Several other articles, however, present subtle empirical paradigms that cannot easily be made to follow from cartography, if at all.

The most compelling empirical paradoxes concern information structure, and in particular the claim that there are fixed positions for Focus and Topic (see 5a). For example, JOÃO COSTA, in 'A focus-binding conspiracy: Left-to-right merge, scrambling, and binary structure in European Portuguese', shows that information focus naturally occurs sentence-finally in European Portuguese. When a focused element serves as a binder within VP, however, it must be located to the left of the element it binds. Costa argues convincingly that this cannot be made to follow from cartography, and a more flexible approach to information structure must be found. This finding supports similar problems identified by MICHAEL WAGNER's 'Focus, topic, and word order: A compositional view'. Focus can systematically be represented EITHER by a fixed word-order position (as cartography might expect) OR by prosodic means, for which cartography has no obvious representation, being 'all-too-Procrustean' (53). Wagner examines the flexible scopal behavior of *only* and *even* in English, which is unexpected if these are taken as heads of unique functional categories. Various covert movements specific to these adverbs are required to account for their interpretation, an unexpected state of affairs for cartography. The same argument extends to covert focus operators. Wagner shows that focus and topic interactions with other categories can be more accurately explained by compositional semantics. Furthermore, 'A syntactic typology of topic, focus and contrast' by AD NEELEMAN, ELENA TITOV, HANS VAN DE KOOT, and REIKO VERMEULEN shows that the feature [ $\pm$ contrast] is relevant for information-structure movement in Dutch, Russian, and Japanese. And if [+contrast] is a relevant feature for movement, cartography requires a ContrastP that should obey transitivity with other functional categories, which the authors show it does not.<sup>3</sup>

Within the IP domain, MARKUS BADER and TANJA SCHMID discuss problems with cartographic approaches to German verb clusters in 'CAT meets GO: Auxiliary inversion in German verb clusters'. Their argument is also primarily empirical: the Aux > Modal order in verb clusters defies

<sup>2</sup> One important theoretical issue concerns Cinque and Rizzi's (2009:10) claim that 'cartographic studies are based on general guidelines which are at the heart of the minimalist program'. Cinque and Rizzi argue for two directions that support this view: Kayne's (1994) antisymmetry, and principles of locality. Cartography's approach to locality is critiqued in Gallego's and Abels's contributions to *ATC* (see below), as well as in Boeckx 2008 and Abels 2010. As for antisymmetry (the idea that all languages share a universal right-branching structure, and that (apparently) head-final constructions are derived by roll-up), by claiming common theoretical ground, cartography acquires, by association, those aspects of antisymmetry that are decidedly nonminimalist: after all, it is also at the heart of the minimalist program that movement operations are MOTIVATED by interface-driven feature requirements, motivations that are conspicuously absent (other than to derive the actual surface order) in the case of the roll-up required to maintain antisymmetry for head-final languages. In the end, it may be a matter of worldview as to whether antisymmetry is part and parcel of cartography, but if it is, this certainly does not in itself place cartography on sturdier minimalist ground.

<sup>3</sup> Neeleman and colleagues imply, not uncontroversially, that noncontrastive foci are always clause-final in Russian and that only contrastive topics move in Japanese. They do not discuss the fact that contrastive foci are not always FORCED to move in Russian and that noncontrastive foci often do move (Junghanns & Zybatow 1997). Furthermore, it is not clear that noncontrastive topics cannot move in Japanese (e.g. Miyagawa 1997). Still, the problem of how cartography would handle the feature [ $\pm$ contrast] remains.

universal ordering, leading cartographic accounts to rely on (unmotivated) instances of remnant and roll-up movement, which can derive the surface orders found but have nothing to say about those not found. An important theoretical issue is raised in the concluding discussion of Colloquial German, which allows more variation within verb clusters than prescriptive Standard German's single order. Cartography can derive both patterns, but must claim that Standard German is the simpler (more natural) grammar. Bader and Schmid's account allows us to (correctly) see Colloquial German as more natural, with additional restrictions on Standard German imposed by the prescriptions of standardization.

ELIZABETH RITTER and MARTINA WILTSCHKO's contribution, 'Varieties of INFL: TENSE, LOCATION, and PERSON', presents a fascinating TYPOLOGICAL paradox for IP cartography. They demonstrate that INFL is manifested not always as Tense (e.g. English) but also as Location (e.g. Halkomelem) and as Person (e.g. Blackfoot). These substantive features are in complementary distribution with Tense, and as such all head the category INFL. Positing distinct PersonP and LocationP structures allows no account for their complementarity. To handle the typological facts, cartography would therefore have to posit only one category within the INFL domain, manifested as [T], [LOC], [PERS]. This contradicts OFOH, however, calling into question one of the central tenets of cartography in an important way.

Within DP, the situation for cartography looks equally bleak, as exposed by Bouchard's article and ION GIURGEA's 'Adjective placement and linearization'. Giurgea shows that certain Romance postnominal adjectives are left-branching structures, which cartography can only derive by roll-up, with Agr heads providing landing sites above each adjective-introducing head (following Cinque 1999, 2005). The Agr heads that cartography would need for this are problematic: they are devoid of semantic content, and appear only in  $N > A$  languages, meaning that for other languages they have no interface realization at all. Even more problematic for cartography is the crucial fact that postnominal adjectives typically precede nominal COMPLEMENTS, something a roll-up should not allow (the complement of N should be moved along with NP and end up preceding the adjectives, contrary to fact). Giurgea instead proposes an interesting combination of adjunction and linearization rules to derive the attested orders and generalizations.

Bouchard's discussion focuses on relative scope among adjectives in various positions, serialization of adjectives, and meaning differences between  $A > N$  and  $N > A$ . He makes explicit a criticism of cartography that arises throughout *ATC*:

The descriptive tools of Cartography can derive the surface order and scope of Adjs in English and French, but they can also derive any order or scope. The  $\mu F$ 's [features triggering movement] are just a means to stipulate when operations apply to correct the predictions made by right-branching LCA structures: but we are given no indication concerning how much languages can differ with respect to these operations, nor why and when. (255)

For theoretical arguments against cartography, the three most compelling articles in the volume are those by KLAUS ABELS, ÁNGEL GALLEGO, and EDWIN WILLIAMS. The three articles are similar in that none of them denies the necessity of (some) cartography in natural language grammar. Rather, they are concerned with the explanatory value of cartography. Abels's 'Some implications of improper movement for cartography', for example, argues convincingly that improper movement (no A'-movement process can feed an A-movement process) is problematic for cartography in that although the constraint system he motivates to account for improper movement is parallel to the workings of cartography in remarkable ways, it nevertheless cannot be reduced to cartography. Thus, it is the cartographic hierarchies that must follow from deeper principles. This considerably weakens the centrality of the cartographic research program.

Gallego ('Phrases and variation: Exploring the second factor of the faculty of language') and Williams ('There is no alternative to cartography') both discuss core aspects of universal sentence structure that cannot be captured by cartography. In Williams's case, it is the distinction between matrix and subordinate clauses. Ordering rules such as those that emerge from a cartographic hierarchy (e.g. finiteness  $>$  modality) only hold WITHIN a sentential domain, and not ACROSS it (matrix modality can clearly precede embedded finiteness), hence the need for what

Williams calls the  $F_0/F_n$  distinction (essentially, embedding). Cartography notwithstanding, special status still must be accorded to some structures, rendering cartography nonprimitive.<sup>4</sup>

Gallego addresses the applicability of cartography within the context of minimalist theory (Chomsky 2001). Gallego shows that individual languages treat PHASES (CP,  $v$ P, and DP) in uniform fashion, and that the parameterized behavior of phases in a language determines significant generalizations beyond the descriptive reach of cartography, which does not distinguish phases from other functional categories. This article is particularly convincing because it does not rely on alternatives that take us outside core minimalist assumptions; instead, it criticizes central cartographic claims in light of continuing advances within generative grammar, specifically phase theory.

To summarize, *ATC* is a significant volume in widening the debate surrounding functional structure that has been one-sided for some time. Perhaps its primary weakness is that it is not organized to address specific cartographic analyses (there is no contribution discussing Cinque's highly influential adverbial cartography (1999), for example), and the alternatives provided are often as much alternatives to minimalism generally as they are exclusively to cartography. The most significant accomplishment of *ATC*, however, is that it exposes weaknesses of cartography that can no longer be ignored, and as such has provided an invaluable service to the field in defining areas of future research. Cartographic researchers will now be forced to attend to the theory's limitations as never before.

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<sup>4</sup> Williams 2003 now takes on new importance in the context of cartography's shortcomings.

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Department of Linguistics, Stony Brook University  
 SBS S-217, SUNY  
 Stony Brook, NY 11794-4376  
 [jbailyn@notes.cc.sunysb.edu]

**Benefactives and malefactives: Typological perspectives and case studies.** Ed. by FERNANDO ZÚÑIGA and SEPPO KITILÄ. (Typological studies in language 92.) Amsterdam: John Benjamins, 2010. Pp. x, 440. ISBN 9789027206732. \$158 (Hb).

Reviewed by JOHN NEWMAN, *University of Alberta*

The juxtaposition of the terms BENEFACTIVE and MALEFACTIVE in the title of this volume is natural since they are conceptually well paired; at the same time it is thought-provoking, as we are much more accustomed to seeing the term *benefactive* in grammars than *malefactive*. In their introductory chapter, editors Seppo Kittilä and Fernando Zúñiga provide a succinct and helpful overview of the subject matter of this most interesting volume, covering the coding of benefactives and malefactives, the semantic variability in their interpretation, and the kinds of polysemy that these meanings enter into.

In working through the introductory chapter, one could be forgiven for thinking that this volume is only about benefactives, even if it occasionally makes references to malefactives and maleficiaries. For example, the section titled ‘Defining benefaction and malefaction’ proposes a definition of BENEFICIARY only, without any invitation to the reader to construct a comparable definition of MALEFICIARY. It is left to the reader to extrapolate from the discussion of the benefactive constructions to the malefactive constructions—something that can be difficult on occasion. Section 2.1.3, ‘Serial verb constructions’, is introduced with the observation that such constructions are a productive means of expressing both benefaction and malefaction. But the accompanying examples all illustrate benefactive, not malefactive, constructions. The authors observe that it is the verb *give* that figures most prominently as the benefactive marking in these serial verb constructions, alongside verbs such as *replace*, *help*, and *use*. Here, one would be naturally curious to