J. Linguistics **40** (2004), 149–215.
Printed in the United Kingdom

REVIEWS

J. Linguistics **40** (2004). DOI: 10.1017/S0022226703212366

Elena Anagnostopoulou, *The syntax of ditransitives: evidence from clitics* (Studies in Generative Grammar **54**). Berlin & New York: Mouton de Gruyter, 2003. Pp. xiv + 379.

Reviewed by Cedric Boeckx, Harvard University

There are two ways of probing atoms in the search for new particles. The first consists of dissecting matter and observing what one finds. The second is to 'guess' the presence of a particle by observing the reactions of, and the interactions between, known components. Research in linguistic theory does not proceed any differently. Structure is revealed by direct observation (say, a morpheme in language X signals the presence of a functional head), or by hypothesis, in order to regularize the behavior of elements that are more directly observable (and better understood). In this book, Anagnostopoulou offers an excellent example of the second method of investigation. By focusing on the interactions between direct and indirect objects, she uncovers the structure of ditransitive predicates. Anagnostopoulou's study is structured as follows. Chapter 1 provides an introduction in which the author describes her method and the range of data to be covered, and summarizes her major findings. Chapter 2 focuses on the types of ditransitives which are found cross-linguistically, and the range of behaviors of objects in ditransitive structures. Chapter 3 provides a locality-based account of the interactions described in the previous chapters. Chapter 4 focuses on the role of dative clitics in licensing patterns which are otherwise unavailable, for reasons discussed in chapter 3. Chapter 5 studies the effects of dative elements on verbal agreement, taking the investigation beyond the realm of ditransitives.

Throughout the book, Anagnostopoulou brings to bear data from many languages (mainly Germanic, Romance and Greek) on the questions she sets out to answer. Her discussion focuses on the properties of dative objects. A central conclusion of her work is that elements marked with morphological dative case do not behave uniformly across languages. Even within one and the same language, not all datives pattern alike. In particular, Anagnostopoulou argues for a three-way distinction: (i) purely structural dative Case (behaving on a par with standard nominative and accusative elements), (ii) prepositional phrase (typically base-generated low inside the

verb phrase), and (iii) inherent Case that is 'syntactically active', a mixed category, halfway between (i) and (ii).

A second central conclusion of her investigation is that not all constructions in which the indirect object bears morphological case (typically dative, but sometimes genitive, as in Greek) qualify as genuine double object constructions. Anagnostopoulou is at pains to show that indirect objects may be base-generated either low within the VP or high within the VP. Only high indirect objects show characteristics of double object structures (English *John gave Mary a book*). Low indirect objects behave more like PPs (English *John gave a book to Mary*). Typically, high indirect objects are base-generated in a projection distinct from the one hosting direct objects. Here Anagnostopoulou follows Marantz's (1993) insight that double object constructions are akin to applicative constructions, exhibiting a structure consisting of a main VP, a light verb introducing the external argument (Chomsky's 1995 *v*P), and an additional applicative (Appl) head sandwiched between the two, as shown in (1).

(1) $[_{vP}$ XP *v* $[_{ApplP}$ YP *Appl* $[_{VP}$ ZP V]]]

The applicative head is assumed to be a major locus of parametric variation. On the one hand, ApplP may or may not assign morphological case to the object it introduces. On the other, it may or may not allow for an extra specifier position, serving as an escape hatch for the lower, direct object generated inside VP.

The role of ApplP as a source of parametric variation, both in licensing high indirect objects and in providing an escape hatch for direct objects, has also been defended by Ura (1996), Pylkkänen (2002) and McGinnis (1998, 2001). I find this convergence of results in a complex area reassuring. But Anagnostopoulou's study is unique in the use it makes of Greek data to lend credence to the theory. Greek has two kinds of indirect objects: PPs and genitive NPs. The latter sometimes take the form of a clitic and occur in a clitic doubling structure. This enables Greek to exhibit the three patterns governing the interactions of direct and indirect objects. Consider passivization. Which object gets promoted to subject position in a double object structure is a source of variation across languages. Some languages allow either object to passivize (so-called 'symmetric' languages), others allow passivization of the indirect object, or (and here is the contribution of Greek to the issue) of the direct object so long as the indirect object is a clitic.

Anagnostopoulou proposes that this three-way distinction be captured as follows. Her starting assumption is that indirect object NPs are base-generated higher than direct object NPs. Languages that allow passivization of either object are those that license an additional SpecApplP, which enables the direct object to raise to ApplP, thereby putting both objects in the same minimal domain. Both objects are thus equidistant from the subject position.

Languages which allow only indirect objects to passivize are those that have structural dative Case (which includes instances of Quirky datives, which are assumed to have a structural Case layer), and which do not license an additional SpecApplP. Direct objects are banned from undergoing movement to subject position in such languages by standard locality conditions (Relativized Minimality). Contrary to much previous work in this area, Anagnostopoulou convincingly demonstrates that the ban on direct object passivization in such asymmetric languages cannot be reduced to a Case Filter violation. Casewise, both indirect and direct objects can be licensed in passive structures in asymmetric languages. Only locality provides an explanation for the ban. The effects of indirect object cliticization are among the core findings of Anagnostopoulou's work. Her basic claim is that cliticization of the indirect object takes it outside the c-command domain of the functional head attracting the object under passivization. Since, by assumption, traces/copies of moved elements do not count for purposes of locality, the direct object is the only possible candidate for passivization once the indirect object has cliticized.

The core of this analysis is sure to attract attention in syntactic circles because of its similarity with Chomsky's recent argument for a phase-based ('acyclic') evaluation of locality (minimality, in particular; Chomsky 2001). Chomsky (2001: 13ff.) proposed a phase-based locality on the basis of sentences like (2).

(2) What did John [t_{what} [t_{John} buy t_{what}]]?

At issue is the intermediate trace of *what*: why doesn't it block the relationship between *John* and T(ense)?

If locality were checked at each stage of the derivation (call this cyclic locality), blocking should take place. However, Chomsky (2001: 28) suggested a different approach. According to him, movement can violate minimality, as long as the violation is hidden or repaired at the phase-level at which locality is checked. In particular, Chomsky proposed that locality is checked at the C-phase. At that stage, *what* in (2) has raised to SpecCP. Since Chomsky assumes that traces are invisible for purposes of Attraction/Matching, they don't block. So, at the C-level, there is nothing relevant between T and *John*, and locality is, therefore, satisfied.

The logic of Anagnostopoulou's solution above is virtually identical to Chomsky's. In particular, both share the assumption that movement of a potential intervener nullifies it for purposes of locality. Exactly why this is so is by no means obvious, but the idea is bound to be the focus of research in the near future.

The last chapter of the book focuses on a somewhat different set of issues. It still centers on the nature of dative elements, and the blocking effects of high datives for lower objects. However, the blocking effect in question

no longer pertains to movement, but instead concerns which features are left accessible for the lower object to check. The core situation Anagnostopoulou focuses on is the widely-attested constraint known as the Person-Case/*me-lui* Constraint (Bonet 1994). The essence of this construction is that it prohibits the presence of a [+person] (i.e. a 1st/2nd person) accusative clitic/agreement in the presence of dative clitic/agreement. The constraint is illustrated here in (3), from Basque (agreement), and in (4), from French (clitic).

(3) (a) Azpisapoek etsaiari misilak saldu d-Ø-izki-o-te.
traitors-ERG enemy-DAT missiles-ABS sell ABS3-DAT3-ERG3
'The traitors sold the missiles to the enemy.'
(b) *Azpisapoek etsaiari ni saldu na-i-o-te.
traitors-ERG enemy-DAT me-ABS sell ABS1-DAT3-ERG3
'The traitors sold me to the enemy.'

(4) (a) Jean le lui recommendera.
Jean-NOM it-ACC him-DAT will-recommend
'Jean will recommend it to him.'
(b) *Jean me lui recommendera.
Jean-NOM me-ACC him-DAT will-recommend
'Jean will recommend me to him.'

Building on Boeckx (2000), Anagnostopoulou extends the constraint to capture the prohibition of a 1st/2nd person nominative object in the presence of a dative subject in Icelandic.

(5) *Henni leiddumst við.
her-DAT bored-1PL us-NOM
'She was bored by us.'

Anagnostopoulou attempts to unify all such cases of 'Person Constraint' by relating the dative feature to the person feature, claiming that there is an inherent connection between the semantics of datives and of person (point of view). Because datives check person features, the lower object is left with only the number feature in situations of multiple checking. Again, Anagnostopoulou's hypothesis converges with ideas put forth in Bejar & Rezac (2003) and Bobaljik & Branigan (2003). This makes Anagnostopoulou's book a useful reference work for current proposals regarding ditransitives. The convergence of research found in this domain suggests that the core ideas expressed in this book will prove correct in essence.

This is not to say that there is no room for improvement. To close this review, I would like to highlight two domains where amendments would be desirable. The first domain concerns the status/featural content of datives. To capture the array of facts which she considers, Anagnostopoulou needs

a three-way distinction between structural dative Case, inherent dative Case-marked PPs, and inherent dative Case-marked but syntactically active NPs (in addition to Quirky datives which are assumed to be a combination of structural and inherent Cases stacked upon one another). It would be a step forward if we could reduce the inventory of datives while preserving the descriptive coverage attained in this book.

The second domain for improvement pertains to the theoretical apparatus that Anagnostopoulou resorts to. Equidistance, minimal domain, phase, EPP-driven movement, Case-driven movement, long-distance Agree and feature movement are all used in this book. While all of them have received independent justification in the literature, and help to account for complex facts in the realm of ditransitives, there is no denying that to assume all of them introduces unwanted redundancy in the grammar. Future work should seek to eliminate such redundancy and aim at a more compact theoretical toolkit.

However, the two areas in need of improvement just highlighted should not minimize the importance of Anagnostopoulou's contribution. This book is a valuable achievement, and should be a starting point for anyone seeking to understand the syntax of ditransitives.

REFERENCES

Bejar, S. & Rezac, M. (2003). Person licensing and the derivation of PCC effects. In Perez-Leroux, A. T. & Roberge, Y. (eds.), *Romance linguistics: theory and acquisition*. Amsterdam: John Benjamins. 49–62.

Bobaljik, J. D. & Branigan, P. (2003). *Eccentric agreement*. Ms., McGill University & Memorial University of Newfoundland.

Boeckx, C. (2000). Quirky agreement. *Studia Linguistica* **54**. 354–380.

Bonet, E. (1994). The Person-Case Constraint: a morphological approach. *MIT Working Papers in Linguistics* **22**. 33–52.

Chomsky, N. (1995). Categories and transformations. In Chomsky, N. (1995), *The minimalist program*. Cambridge, MA: MIT Press. 219–394.

Chomsky, N. (2001). Derivation by phase. In Kenstowicz, M. (ed.), *Ken Hale: a life in language*. Cambridge, MA: MIT Press. 1–50.

McGinnis, M. (1998). *Locality in A-movement*. Ph.D. dissertation, MIT.

McGinnis, M. (2001). Variation in the phase structure of applicatives. Ms., University of Calgary.

Marantz, A. (1993). Implications of asymmetries in double object constructions. In Mchombo, S. (ed.), *Theoretical aspects of Bantu grammar*. Stanford, CA: CSLI Publications. 113–150.

Pylkkänen, L. (2002). *Introducing arguments*. Ph.D. dissertation, MIT.

Ura, H. (1996). Multiple feature checking: a theory of grammatical function splitting. Ph.D. dissertation, MIT.

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(Received 15 September 2003)

J. Linguistics **40** (2004). DOI: 10.1017/S0022226703222362

Mark Baltin & Chris Collins (eds.), *The handbook of contemporary syntactic theory*. Malden, MA & Oxford: Blackwell, 2001. Pp. xii + 860.

Reviewed by ERIC HAEBERLI, University of Geneva

An exhaustive handbook on contemporary syntactic theory would ideally meet two goals: it would provide an overview of the main theoretical frameworks that are currently being developed and it would cover the wide range of grammatical areas that syntacticians are investigating. This is what Jacobs et al.'s two-volume handbook (1993) achieved to a large extent. For a single volume in the Blackwell handbook format, however, an attempt to meet both goals might lead to a lack of depth, so a slightly more limited scope therefore seems preferable. Given that a fairly recent reference book presenting the main contemporary syntactic theories is already available (Brown & Miller 1996), Mark Baltin & Chris Collins' decision to focus on different areas of grammar rather than on theoretical frameworks in their *Handbook of contemporary syntactic theory* can be welcomed. The various topics are almost exclusively presented from the perspective of what could be called mainstream generative syntax (Government and Binding (henceforth GB) and Minimalism). This has the advantage of making this handbook very coherent but may disappoint readers with interests in other theoretical approaches. Yet, even though from the point of view of presenting different theoretical perspectives this handbook has its limits, what it does cover is of the highest quality and should be valuable for researchers and students from any theoretical background.

The book starts with a rather brief introduction by the editors, in which they discuss the intellectual appeal and the state of contemporary syntax and provide concise summaries of the different contributions to the handbook. The handbook consists of twenty-three chapters, written by some of the leading figures within the field of generative grammar on topics within their area of specialization. The contributions are divided into six thematic sections dealing with, respectively, derivation versus representation, movement, argument structure and phrase structure, functional projections, the interface with interpretation, and the external evaluation of syntax.

The opening chapter of part I is Joan Bresnan's 'Explaining morphosyntactic competition', which addresses some intricate issues concerning the morphosyntax of *be* and negation in English. This chapter differs from most others in that the main point of reference for its theoretical discussion is not GB/Minimalism but Optimality Theory. As such, it succeeds in providing a rather nice illustration of the workings of this representational theory that is also accessible to the uninitiated. In the second chapter, 'Economy

conditions in syntax', Chris Collins gives an overview of the various economy conditions that have played a central role in constraining syntactic derivations and representations in generative grammar. Howard Lasnik's chapter, entitled 'Derivation and representation in modern transformational syntax', addresses the question of whether, in a derivational approach to syntax, well-formedness conditions should be expressed derivationally or as constraints on the different levels of representation produced by the derivation. The issue is a very subtle one but the picture that emerges from Lasnik's discussion is that although many conditions can be expressed derivationally, hybrid analyses incorporating derivational and representational aspects may not always be avoidable. Luigi Rizzi's chapter, 'Relativized minimality effects', is based on the framework outlined in his (1990) monograph but also introduces some interesting revisions and extensions. For example, Rizzi refines the definition of interveners in A′-chains by introducing distinctions between classes of features, and he proposes to extend the locality principle originally formulated to account for chain formation to other local effects, such as case assignment on DPs and trace licensing. Rizzi's chapter concludes part I of the handbook. Although the individual contributions to this section are excellent, the section as a whole is not entirely satisfactory. Given its title, 'Derivation versus representation', what seems to be missing is a coherent discussion of the general issue of whether a syntactic theory should be formulated in derivational or representational terms, i.e. a discussion like Lasnik's but at a more general level, considering whether a derivational system is indeed needed or whether a purely representational system might be preferable. The different authors basically adopt one approach or the other (Bresnan/Rizzi representational, Collins/Lasnik derivational) but without motivating their choice (except maybe implicitly by demonstrating that their choice allows them to account for a certain set of data). Occasional arguments in favour of an approach can be found (e.g. Collins (61)) but a general overview bringing different arguments together would have been interesting and useful.

Part II, 'Movement', deals with word order properties that have generally been captured in terms of movement within the generative literature. In his chapter, 'Head movement', Ian Roberts explores various forms of head movement, such as incorporation, verb movement and noun movement, and the locality constraints imposed on these movements. In 'Object shift and scrambling', Höskuldur Thráinsson gives a lucid overview of the syntax of objects in the Germanic languages. After identifying the main characteristics of the constructions referred to as object shift and scrambling, Thráinsson demonstrates the relevance of these constructions for various general theoretical issues. These include the nature of constituent structure, the classification of landing sites and movement types, and the interactions between syntax and morphology, and between syntax and semantics. Akira Watanabe's chapter on '*Wh*-in-situ languages' reviews arguments for

the assumption that *wh*-questions in some of these languages involve movement, possibly even in the overt syntax, although this movement does not manifest itself in the surface string. However, Watanabe also shows that there is some interesting cross-linguistic variation among *wh*-in-situ languages which suggests that not all of these languages can be analysed in a uniform way. Finally, in 'A-movements', Mark Baltin focuses on the analysis of phenomena such as passivization, unaccusativity, subject-to-subject raising and subject-to-object raising. Taking into account various alternative, non-transformational approaches, Baltin presents evidence in favour of postulating A-movement analyses for these phenomena. As Baltin points out in the introductory section of his chapter, A-movement has also sometimes been proposed for the treatment of double object constructions and experiencer verbs with theme subjects and accusative experiencer objects. Given Baltin's highly interesting scrutiny of the status of A-movement, the reader may regret that his promise to show that '[t]he motivation for implicating A-movements in the analysis of [these phenomena] is quite dubious' (229) turns out to remain unfulfilled.

Part III is entitled 'Argument structure and phrase structure' and opens with a chapter entitled 'Thematic relations in syntax' by Jeffrey S. Gruber, dealing with the nature of thematic roles and their linking with syntactic positions. In 'Predication', John Bowers examines the syntactic treatment of this topic. He proposes that the relation between a predicate and its subject is established through a functional category PR, which projects a PRP in the syntactic structure. He adduces a considerable number of arguments in favour of this hypothesis and the paper thus provides a nice illustration of how to argue for the occurrence of syntactic structure whose presence cannot always be directly inferred from phonetic reflexes in the surface string. Hiroyuki Ura's chapter, entitled 'Case', focuses on the development of the concept of abstract case within generative grammar. After a summary of case theory within GB, Ura discusses some of the empirical and conceptual problems that motivated the modifications to the theory of abstract case introduced in the Minimalist framework. Ura also compares different treatments of abstract case within Minimalism, in particular the Agr-based theory and the Agr-less system, arguing for the latter. In 'Phrase structure', Naoki Fukui surveys the developments in the analysis of syntactic structure in generative grammar, from phrase structure rules to X′-theory, to Minimalist bare phrase structure. Fukui also briefly addresses the status of linear order in phrase structure, an issue which, in the wake of Kayne (1994), has given rise to much debate in the literature but receives only a marginal treatment in this handbook. Mark Baker's chapter on 'The natures of nonconfigurationality' provides a wonderful overview of the syntax of nonconfigurational languages. At first sight, the properties of these languages pose some serious challenges to the view of clausal architecture adopted in theoretical frameworks such as GB or Minimalism. However, Baker shows

how nonconfigurationality can be accommodated within these frameworks. Baker observes that nonconfigurationality is not a uniform phenomenon. On the basis of their syntactic properties, three types of languages with nonconfigurational features can be distinguished and each of them can be assigned a distinct analysis. The first type of language, illustrated by Japanese, obtains its nonconfigurational properties through movement (scrambling). In the second type, exemplified by Mohawk, nonconfigurationality involves the occurrence of empty pronouns, which are related to overt nominal constituents occupying adjunct positions (dislocation). Finally, for the third type (e.g. Warlpiri), Baker proposes that nonconfigurationality is again due to the presence of null arguments but this time in combination with lexical nominal elements having the status of secondary predicates. Kyle Johnson's 'What VP ellipsis can do, and what it can't, but not why' concludes the third section of the handbook. Johnson discusses various theoretical issues and approaches concerning the intricate phenomenon of VP ellipsis and presents a wealth of data to evaluate the adequacy of these analyses.

'Functional projections' is the topic of part IV. Adriana Belletti, in 'Agreement projections', discusses the projection of agreement in all its different shapes, from AgrS to AgrO and AgrPstPrt to Agr in DP, CP and small clauses. Belletti also considers the status of Agr projections in non-finite clauses, the relation between clitics and Agr, and the acquisition of Agr. The chapter ends with an appendix addressing Chomsky's (1995) proposal that agreement projections should be eliminated from the clause structure. Belletti recognizes the validity of Chomsky's conceptual argument against AgrP but concludes that his proposal can only be viable if it ultimately manages to derive the range of empirical results obtained within a theory using agreement projections. This conclusion seems to be considerably healthier than the one expressed in Ura's chapter. Referring to Chomsky's conceptual arguments against AgrP and the empirical advantages of a structure containing AgrP, Ura suggests that these tensions 'between conceptual merits and empirical ones … are expected to be resolved by giving priority to conceptual merits over empirical ones' (373, note 42). It should be stressed, however, that this rather cavalier attitude towards empirical evidence remains an exception within the volume. The second chapter of part IV is 'Sentential negation', by Raffaella Zanuttini. Zanuttini observes that negative markers generally do not share the properties of any other known syntactic category and she therefore concludes that negation is an independent category which, as required by X′-theory, has its own projection within the syntactic structure (NegP). Zanuttini also considers some tests determining the structural status of negative markers (head or specifier of NegP) and various cross-linguistic aspects of the syntactic representation of sentential negation. The next two chapters, Judy B. Bernstein's 'The DP hypothesis: identifying clausal properties in the nominal domain' and Giuseppe Longobardi's 'The structure of DPs: some

principles, parameters, and problems', both deal with the syntax of nominal constituents. Despite their thematic proximity and certain overlaps, each paper is sufficiently distinct in scope to justify the inclusion of both of them in this section of the book. Bernstein's chapter focuses on various parallelisms between clausal syntax and nominal syntax which provide evidence in favour of a parallel structural treatment of the two domains, and which, hence, favour the postulation of a functional layer consisting of DP and additional projections within nominal constituents. A wide range of additional issues in nominal syntax are explored in Longobardi's chapter. His discussion allows him to identify a restricted set of principles and parameters determining central aspects of DP syntax. By achieving this, Longobardi's chapter provides a particularly instructive case study illustrating the workings of the principles and parameters framework.

A central topic of recent research in syntax has been the relationship between syntax and its interfaces. Part V focuses on one important aspect of this area of investigation, namely the interface with interpretation. In her chapter, 'The syntax of scope', Anna Szabolcsi reviews various approaches that have been put forward to account for the intricate scopal behaviour of logical operators. Eric Reuland & Martin Everaert then focus on the interpretive dependencies between nominal expressions which are analysed in terms of Binding Theory within generative grammar, in their chapter 'Deconstructing binding'. Reuland & Everaert identify some important shortcomings of the traditional binding principles and then show ways in which these shortcomings can be dealt with by revising the standard approach to binding. Finally, in 'Syntactic reconstruction effects', Andrew Barss looks at phenomena found in the context of both A′- and A-movement where a moved constituent seems to be interpreted in a position it occupied before undergoing movement. Barss reviews the main analyses of these phenomena, focussing in particular on issues arising from the different behaviour of moved predicates as compared to moved arguments.

The final section of the handbook, part VI, is entitled 'External evaluation of syntax' and contains two chapters. The chapter by Anthony Kroch, 'Syntactic change', gives an excellent introduction to generative work on this topic. The basic questions that arise from phenomena of linguistic change are how languages change and why they change. Kroch explores a large variety of issues which these questions raise once they are viewed from the perspective of generative syntactic theory. In the second chapter, 'Setting syntactic parameters', Janet Dean Fodor deals with the problem of learnability. She observes that, at first sight, the hypothesis of a grammar consisting of principles and parameters may seem attractive from the point of view of learnability because all the learner has to do is to choose the correct setting of a limited number of parameters. However, at closer inspection, it turns out that this seemingly simple task is far from trivial and that important learnability issues do arise within a principles and parameters

framework. Fodor reviews some of the learnability theories proposed in the generative literature and the problems they raise, and tries to address those problems by outlining an alternative model which she refers to as the Structural Trigger Learner model.

Altogether, *The handbook of contemporary syntactic theory* is an outstanding achievement. The papers are quite consistently of very high quality, well written and clear, and they strike a good balance between theoretical and empirical considerations, and between the use of comparative evidence and evidence drawn from detailed investigation of a single language. As a whole, the contributions succeed in presenting a representative overview of the work carried out within mainstream generative syntactic theory over the last thirty or forty years. The handbook, including its extensive bibliography, will therefore be an invaluable resource for anyone working in this field, experienced practitioners and (advanced) students alike. For the latter, this volume seems particularly useful. The papers not only introduce the reader to current thinking in a wide range of areas, but most of them also present historical overviews and comparisons of different analyses. They therefore provide nice illustrations of theoretical reasoning and argumentation, and show the reader how theories develop as a consequence of both empirical and conceptual considerations. Furthermore, many chapters also clearly identify problem areas and open questions that may lead to fruitful further research. All these features make the book under review very attractive as a source of readings for advanced courses in syntax.

As my discussion above has shown, most chapters predominantly use GB and Minimalism as their theoretical background. However, the book should be valuable even for readers who do not adopt this theoretical approach in their work. Whatever one's opinion on GB/Minimalism may be, it should be undeniable that work within this framework has unearthed a wealth of important empirical findings. A wide range of these findings are presented in the different chapters of the book, and the various issues they raise should be of interest to any syntactician.

To this positive overall evaluation, I have only a few minor criticisms to add. First, although much credit has to be given to the editors for producing such an excellent volume, I think that some additional editorial contributions could have been useful. In particular, more could have been done to put the individual topics into a larger context and to establish links between the different contributions. The seven-page introductory chapter by the editors is too short to do that successfully. One possibility would have been to provide introductions to the different thematic sections. This would have also allowed the editors to fill certain gaps, as, for example, the one discussed above for part I. A second small criticism is that the number of typographic errors found in this volume is a bit higher than one would hope for. But the errors are neither frequent enough nor serious enough to spoil the pleasure of reading this book. The same holds for the fact that the chapters have

endnotes rather than footnotes, forcing the reader to move back and forth within each chapter. This particular reviewer has never quite understood why publishers would want to do this to their readers.

These points notwithstanding, my general impression of this volume is a very positive one. *The handbook of contemporary syntactic theory* is an outstanding reference book and I can thoroughly recommend it to anyone interested in theoretical syntax.

REFERENCES

Brown, K. & Miller, J. (eds.) (1996). *Concise encyclopedia of syntactic theories*. Oxford: Pergamon.
Chomsky, N. (1995). *The Minimalist program*. Cambridge, MA: MIT Press.
Jacobs, J., von Stechow, A., Sternefeld, W. & Vennemann, T. (eds.) (1993). *Syntax: an international handbook of contemporary research* (2 vols.). Berlin & New York: de Gruyter.
Kayne, R. (1994). *The antisymmetry of syntax*. Cambridge, MA: MIT Press.
Rizzi, L. (1990). *Relativized minimality*. Cambridge, MA: MIT Press.

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(Received 6 September 2003)

J. Linguistics **40** (2004). DOI: 10.1017/S0022226703232369

Paul Boucher (ed.), *Many morphologies*. Somerville, MA: Cascadilla Press, 2002. Pp. xv + 267.

Reviewed by ROCHELLE LIEBER, University of New Hampshire

Many morphologies is a volume that grows from a research project funded by the French Ministry of Research, a summer school in Nantes in 1997, and a workshop on morphology in 1998. It brings together articles from a wide variety of perspectives on word formation and from a number of very different languages, and illustrates its title admirably: the reader is confronted with the healthy diversity of the field, and the fact that so many different approaches can co-exist fruitfully in a single volume. I will first give an overview of the chapters in this volume, and then discuss briefly the sorts of issues that these articles, with their diversity of perspectives, raise.

Written in the spirit of the Minimalist Program, chapter 1 by Anna Maria DiSciullo, 'The asymmetry of morphology', has two aims: to show that morphological relations are asymmetrical, and that the asymmetry of morphology works differently from that of syntax. DiSciullo defines an asymmetrical relation as 'a minimally unidirectional relation *r* … [where] *r* is **asymmetrical** $=_{df}(\forall x)(\forall y)(rxy \supset \sim ryx)$' (3; 'df' is 'definition'). Among the asymmetrical relations are dominance and precedence, as well as relations

like 'complement of', 'specifier of', and 'adjunct of'. DiSciullo also defines two operations, SHIFT and LINK, which are similar but not identical to the Minimalist concepts of MERGE and ATTRACT/MOVE of Chomsky (1998). Having briefly sketched her theoretical apparatus, DiSciullo goes on to show how asymmetry plays out in derivation with affixes like *-er*, *-ee*, *-ize*, *-ify*, and *-able* in English, with synthetic compounds like *truck driver*, and with functional items such as *wh*-words.

The next two chapters of the volume concern issues regarding verbal alternations. In chapter 2, 'Middle transitive alternations in English: a Generative Lexicon approach', Christian Bassac & Pierrette Bouillon offer a lexical analysis of the middle alternation, arguing that only achievement verbs can become middles, and that the lexical representation of such verbs involves two subevents, an agentive one and a resultative one. The first subevent is highlighted or projected in the transitive use of the verb; the second subevent is projected in the middle. They also show that the middle requires further restrictions: a modifier in the form of an adverb, a PP, or a negative is required to saturate the FORMAL role of the verb (in Generative Lexicon terms, the role 'which provides the most general information about the type of the entity being defined' (35)), and this in turn requires a generic interpretation to saturate the TELIC role (that is, the role that specifies the purpose of the action). Their analysis allows them to explain the semantic class of modifiers, as well as interesting facts about the middle alternation in French.

In chapter 3, 'Unaccusativity mismatches and unaccusativity diagnostics', Bożena Cetnarowska examines both syntactic and derivational tests for unaccusativity in English and Polish, and concludes that such tests invariably identify slightly different sets of verbs. Focusing on the derivational tests, she suggests that the existence of derivatives with affixes such as *re-* in English and *-ł-* in Polish is an indication of unaccusativity, but the absence of such a derivative for a verb that passes other tests for unaccusativity is often due to subtle semantic restrictions on these affixes.

Susan Steele's contribution, 'Many plurals: inflection, informational additivity, and morphological processes', lies within the purview of process-based theories of morphology such as that of Aronoff (1994). Unlike those theories, however, she suggests that inflectional systems are informationally additive, and provides a detailed analysis of the plural in Luiseño that supports her position. Essentially, she shows that no single operation can add the feature [plural] and no single morpheme carries that feature. Instead, the feature [plural] must be introduced by multiple operations and associated with multiple morphemes.

Chapter 4, 'Gender polarity: theoretical aspects of Somali nominal morphology', is also concerned with pluralization. In this contribution, Jacqueline Lecarme examines data from Somali which suggest that gender is not only associated with noun stems, but also with plural morphology, so that

plural morphology appears to be category-changing. She suggests an analysis within the framework of Distributed Morphology, which accounts for those characteristics of pluralization in Somali that make it look derivational, without compromising other aspects of the phenomenon that appear to be classically inflectional.

Illustrating yet another approach to morphology, Luigi Burzio's contribution (chapter 5, 'Surface-to-surface morphology: when your representations turn into constraints') is a programmatic call for an Optimality Theoretic analysis of word formation. Concerned primarily with facts of allomorphy or the phonological realization of stems in derived forms, Burzio argues for a constraint-based analysis in which the surface forms of complex words can be arrived at only by reference to other surface forms; this relation is expressed as an Output-to-Output faithfulness constraint. Burzio illustrates the role of what he calls 'Gradient Attraction' in his framework – roughly, the tendency for idiosyncrasies of various sorts (e.g. phonological, semantic) to cluster – and further argues that the traditional notion of 'morpheme' can be replaced by a notion of summation over the lexicon (157), in which a sequence of phonemes – say, *-al* – occurring with a set of nominal forms is identified as having a particular selectional effect.

The next two chapters concern computational morphology. In chapter 6, 'An experimental constructional database: the MorTAL project', Nabil Hathout, Fiammetta Namer & Georgette Dal describe a research project which seeks to compare two computational approaches to derivational morphology. The first, DéCOR, uses statistical methods rather than linguistic (i.e. rule-based) knowledge to discover derivational relationships in a corpus. The second, DériF, is a rule-based derivational analyzer. As the authors illustrate, there are advantages and disadvantages to either system: the former is easier to implement and use, but less sensitive, while the latter is only as good as the derivational analysis embedded in the morphological analyzer. Chapter 7, 'Applications of computational morphology', is a review of the state of the art in computational morphology. In this chapter, Béatrice Daille, Cécile Fabre & Pascale Sébillot describe the sort of morphological information that is useful in Natural Language Processing, a variety of corpora that incorporate morphological information in various ways, and the applications to which morphological parsing can be put, including the acquisition of terminology and document retrieval.

The final chapter, by Joseph Emonds, returns to a more theoretical approach to morphology. In 'A common basis for syntax and morphology: tri-level lexical insertion', Emonds argues that morphology is not autonomous; rather, principles of compounding and lexical insertion that are normally consigned to the morphology can also be used to explain syntactic phenomena. Emonds argues, for example, that right-headedness is a universal in both morphology and syntax, so that English phrase structure is largely right-headed, as is English morphology; left-headedness in English

phrases results from a language-particular constraint that in 'open' phrasal projections (i.e. those that are not maximally projected), heads precede their phrasal sisters. Within his framework, derivation is reduced to compounding: differences between the two types of word formation follow from the fact that derivational morphemes bear only 'cognitive syntactic' features, whereas stems bear both syntactic and semantic features. Finally, Emonds proposes an analysis of nominalizing morphology based on a model of lexical insertion in which morphemes can be inserted at a pre-syntactic level, a syntactic level, or a phonological level, with differing effects.

It is beyond the scope of such a short review to examine the precise claims of each article in detail. For the most part, the contributions are of a very high quality. One might wish, in some cases, that particular authors had cited the literature more widely: DiSciullo, the literature on such affixes as *-er* (Rappaport Hovav & Levin 1992, among others), *-ee* (Barker 1998), or *-ize* and *-ify* (Plag 1999); Burzio, alternative approaches to allomorphy that have succeeded SPE and Lexical Phonology, including Optimality Theoretic ones (e.g. Orgun & Sprouse 1999, Plag 1999); Emonds, the literature on phrasal compounds (Lieber 1992, and the literature cited therein). And one might wish as well that some of the authors were clearer about why the desiderata of their theoretical approaches are so desirable: for example, in Steele's chapter, why inflectional morphology should always be informationally additive, or in Burzio's why all morphological rules (and not just rules of allomorphy) should be recast as constraints. Nevertheless, each article makes a worthwhile point about some aspect of morphology.

Some of the articles in the volume are more theoretically laden than others: the contributions of Cetnarowska and Lecarme offer valuable analyses of data in English, Polish, and Somali, but the authors' observations would seem to be valid across theoretical frameworks. And the contributions of Hathout, Namer & Dal, and Daille, Fabre & Sébillot are more descriptive and practically oriented.

Taken as a whole, the most theoretically driven of the articles in this volume raise a simple question: why is it that there are so many morphologies? *Many morphologies* leads me to speculate about the answer – or at least one plausible answer. Since much of the stuff of morphology is situated at the intersection of all other areas of grammar – phonology, syntax, and semantics – it stands to reason that frameworks developed for phonological, syntactic, or semantic issues at the phrasal level suggest themselves as venues in which different aspects of sub-word-level grammar can be explored. Optimality Theory is an obvious place in which to explore issues of allomorphy. Theories of syntax – Minimalism, for example – lend themselves to explorations of compounding and derivation. Lexical semantic frameworks are ideally suited to explorations of issues of verbal diathesis. Inflectional morphology is often amenable to treatment in frameworks based on or reminiscent of Lexical Functional Grammar or HPSG (although I would say

that the most convincing arguments for the autonomy of morphology from other components of the grammar come from the realm of inflection (e.g. Aronoff 1994)).

If I could have wished this volume to be anything other than what it was, I would wish it to be more self-reflective about this very interesting question that it raises. It leads me to ask to what extent DiSciullo's observations about asymmetry of derivation and compounding are relevant in the realm of inflection, or whether Optimality Theory has much to say about compounding or verbal diathesis, what the Generative Lexicon has to say about allomorphy or compounding, and so on. In other words, I would have loved to hear the authors whose work is brought together in this volume speaking to each other, and assessing their own problems in light of what the others have to say. Perhaps this is too much to ask of such an edited volume. In the end, however, *Many morphologies* sheds valuable light on the field by raising this question even if it does not take on the interesting task of answering it.

REFERENCES

Aronoff, M. (1994). *Morphology by itself: stems and inflectional classes*. Cambridge, MA: MIT Press.

Barker, C. (1998). Episodic *-ee* in English: a thematic role constraint on new word formation. *Language* **74**. 695–727.

Chomsky, N. (1998). Minimalist inquiries: the framework. *MIT Occasional Papers in Linguistics* **15**.

Lieber, R. (1992). *Deconstructing morphology*. Chicago: The University of Chicago Press.

Orgun, C. O. & Sprouse, R. (1999). From MPARSE to CONTROL: deriving ungrammaticality. *Phonology* **16**. 191–225.

Plag, I. (1999). *Morphological productivity: structural constraints in English derivation*. Berlin: Mouton de Gruyter.

Rappaport Hovav, M. & Levin, B. (1992). -ER nominals: implications for the theory of argument structure. In Stowell, T. & Wehrli, E. (eds.), *Syntax and the lexicon* (Syntax and Semantics **26**). New York: Academic Press. 127–153.

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(Received 14 July 2003)

J. Linguistics **40** (2004). DOI: 10.1017/S0022226703242365

João Costa (ed.), *Portuguese syntax: new comparative studies*. Oxford: Oxford University Press, 2000. Pp. 304.

Reviewed by ACRISIO PIRES, University of Michigan, Ann Arbor

Portuguese is one of the top six languages in terms of number of speakers (more than 170 million) and many properties distinguish it significantly from other Romance languages. Despite these facts, there is still a large gap in the

amount of research on its grammar published within generative linguistics. *Portuguese syntax* is a very useful contribution which partly fills this gap. To my knowledge, it is only the second collection of papers on the generative syntax of Portuguese that has appeared in English over the last fifteen years (or perhaps, ever). Another recent collection, Kato & Negrão (2000), focuses on null subjects in Brazilian Portuguese (henceforth BP).

In the introduction, Costa states that the purpose of the volume is to present a systematic overview of the ideas of different scholars on related topics concerning Portuguese syntax, and to show the special properties of Portuguese with regard to topics such as V-movement, richness of inflection and functional clause structure. However, aside from the introduction, there are not enough cross-references to provide the reader with systematic comparison of the proposals made by the different authors, despite the fact that several of them attempt to explain the same range of phenomena. Most of the papers focus on European Portuguese (henceforth EP), although the papers by Barbosa, Duarte & Matos, Galves, Martins and Postma clearly take a more comparative perspective regarding different dialects of Portuguese and other languages. Only three out of the nine papers address properties of BP.

Although several authors make claims about the role of richness of inflection, most authors do not discuss in detail how richness of inflection is to be instantiated in morphological terms (a problem confronted in, for example, Jaeggli & Safir 1989), or how inflectional morphology directly affects the syntax (for recent discussion see Bobaljik 2002, and Pires 2001 on BP). Furthermore, there is not much discussion pertaining to how richness of inflection and verb movement in Portuguese are comparable to other Romance languages exhibiting similar behavior, despite the fact that the latter display distinctions relating to other properties discussed in the volume.

In fact, the volume focuses on a significant range of different proposals (five papers, mostly on EP) particularly concerning clitic placement, a unique topic in Portuguese syntax, with the possibility in most dialects of proclisis, mesoclisis and enclisis (the last of these also possible in finite tensed clauses, unlike in most other Romance languages).

Most papers adopt aspects of the Minimalist program as proposed in Chomsky 1995a, such as the distinction between strong and weak features in connection with movement. For example, Inês Duarte & Gabriela Matos argue in their paper, 'Romance clitics and the Minimalist program', that in all Romance languages cliticization involves checking of strong features.

Apart from the motivation for clitic movement, various papers explore what clitic placement consists of and how clitics, subjects, the verb and certain functional projections interact. First, most authors adopt the view that syntax, and not morphophonology alone, is crucial in explaining clitic placement, and that clitics move as heads. The analyses differ as to whether

different clitics, subjects and the verb move, and where they move to. Several authors hypothesize that verbs either move to a functional projection past a clitic, yielding enclisis (V-cl), or do not move past the clitic, yielding proclisis (cl-V). In 'Clitic positions and verb movement', Eduardo Raposo relates functional projections to different discourse functions. He proposes that clitics left-adjoin to the functional head of an F projection, while the verb occurs in the same projection in both enclisis and proclisis, with the two different orders following from whether the verb moves to the head position or to the specifier of the functional projection. Raposo argues that the verb must move overtly to the specifier of the functional projection FP (yielding enclisis) when this position is occupied by *pro*. This head adjunction to the specifier is taken by Raposo to be a structure-preserving transformation (along the lines of Chomsky 1995b), since the null *pro* can behave either as a maximal or a minimal category. Raposo takes this overt adjunction to Spec,FP to be required in order to license the head F. Presumably, a difference in the properties of F should explain why the same V-adjunction to a specifier is not possible in other null-subject languages such as Spanish or Italian, but Raposo does not address this problem.

Other papers take a more traditional approach to clitic placement. In Pilar Barbosa's 'Clitics: a window into the null subject property', enclisis is triggered by a prosodic constraint preventing clitics from appearing at the onset of an Intonational Phrase (IntP). Overt movement of another element to the onset of IntP allows the clitic to appear in proclisis (cl-V), since it is no longer in the initial/onset position. However, in cases involving clitic left dislocation (CLLD), a topic or left dislocated element occurs in a separate IntP to the left of the clitic, hence cannot prevent the clitic from being in the onset position of its own IntP. This yields enclisis (V-cl) as the only order that can satisfy the prosodic constraint on clitics. Barbosa proposes an interesting connection between syntactic and prosodic requirements, but this also raises the question whether the syntax has to look ahead into PF in order to yield the appropriate derivation, or whether the prosodic/intonational constraint on clitic placement is allowed to work simply as a filter at PF.

A couple of papers appeal to the existence of Agr-phrases and heads. In order to account for clitic climbing in Portuguese, Ana Maria Martins proposes in her paper, 'A minimalist approach to clitic climbing', that the categorial status of ECM and control infinitivals is IP. Adopting a split-IP approach (AgrSP and TP), she argues that since TP can satisfy the selectional requirement of a matrix verb and is also the structure containing fewer functional projections, TP is selected as the top projection in control complements. Addressing the question of whether clitic movement may have anything to do with semantic effects, Martins argues that specificity is a morphologically encoded feature hosted by the head AgrS, and that clitics have a specificity feature that needs to be licensed by moving the clitic to the

AgrS head. In cases of clitic climbing the only accessible AgrS head is the one corresponding to the matrix verb, forcing the clitic to climb to that head.

For Duarte & Matos (henceforth D&M), cliticization in EP takes place lower in the clause (in AgrOP). They argue that a clitic head must be immediately adjoined – that is, with no other heads adjoined before it – to the head where its strong features are checked (130). Verbs and other heads that need to check strong features have a similar requirement, so, according to D&M, clitics could count as interveners in the feature checking between V and AgrO. However, D&M argue that clitics in EP are undergoing a change into affix-like elements, and thus do not count as interveners. This yields enclisis (V-cl-AgrO), unlike in other Romance languages, in which clitics count as interveners and enclisis does not emerge in general. Nevertheless, D&M's analysis faces problems regarding cases of enclisis which do occur in Romance languages, in which presumably the affix-like behavior does not apply to clitics, such as in older dialects of EP, in Italian/Spanish infinitives and in imperatives in most Romance languages.

A question addressed especially by D&M is whether either proclisis or enclisis is more basic, and thus whether one is derived from the other. They argue that enclisis is more basic, or less marked, in EP, given its systematic use by young children even in proclisis contexts. However, it is not clear whether this supports a distinction in terms of markedness, or whether it simply shows that children face more difficulties in the acquisition of proclisis in EP. In his paper, 'Word order and discourse configurationality in European Portuguese', João Costa also takes a theory of markedness to be necessary, proposing unmarked specifications and canonical positions for subject and object according to their values for definiteness and information structure, from which other values may be derived. Costa makes a proposal based on Zubizarreta (1994), in which syntactic operations are prosodically motivated (similarly to Barbosa), but it is unclear why this proposal needs to be combined with distinctions stated in terms of markedness.

The connection between morphological properties and syntax is explored in detail in the paper by Charlotte Galves, 'Agreement, predication and pronouns in the history of Portuguese'. She argues that clitics are phi-features which need to be in a local relation with V or the head that hosts agreement, and that agreement properties are responsible for changes in the properties of subjects and deficient pronouns from Classical Portuguese into BP and EP. She claims that Agreement is simply a feature which may be realized on the functional categories C, Tense or on a new category she proposes above TP: a Person Phrase. It is unclear how this new category differs from the FP and AgrSP adopted by other authors, though. Agr is associated with C in EP, and it needs to be checked by quantified subjects that move to Spec,CP, yielding proclisis, hence providing a different motivation from the one proposed by Barbosa and by Raposo. Enclisis, instead, is a case of

inflectional morphology, similar to what is proposed by D&M for EP, and enclitics are adjoined to V in the lexicon. For Galves, BP no longer hosts an agreement feature in C, but it still does so in Tense, unlike EP. This may be controversial, given that agreement morphology has become weaker in BP than it is in EP and Classical Portuguese, but Galves seems to address the impoverished inflectional paradigm of BP by claiming that the verb does not need to move as high as PersonP, and moves only up to T.

Several papers discuss in detail the position of subjects, mostly in connection with the syntax of clitics. Raposo argues that some postverbal subjects must be analyzed as occupying Spec,IP, motivating the claim that finite verbal forms are in a higher functional projection. Barbosa, on the other hand, proposes that (overt) subjects in Portuguese are never in Spec,IP. For her, (preverbal) subjects are left dislocated, adjoined to CP. Barbosa shows that this accounts for other phenomena in null subject languages, such as the distribution of subject clitics in Northern Italian dialects and *en/ne*-cliticization. Both Galves and Costa take an intermediate view in their papers. As Costa argues in his paper, subjects may appear in several different positions in EP, each related to distinct discourse functions: Spec,VP for focused subjects, Spec,IP for unfocused definite subjects, and the left-dislocated position for unfocused indefinite subjects.

Three papers address topics somewhat unrelated to the ones discussed above, but explore the idea that morphosyntactic and semantic distinctions are directly related. In her paper, 'Infinitives versus participles', Manuela Ambar compares participial clauses in EP with other Romance languages, considering (i) their possible interpretation (iterative vs. single event); (ii) the possibility of object agreement and of causative/resultative constructions with participles. She also considers infinitival clauses, which, unlike participials, can host negation and clitics, and allow an eventive vs. stative reading distinction. She argues that these distinctions follow from the existence of two temporal domains in the sentence structure, both of them active in infinitivals, but not in participials. She claims that eventive readings are dependent on a strong intrinsic tense feature of the verb, whereas generic readings are associated with a weak intrinsic tense feature. However, the distinction between weak and strong features that she proposes depends on the semantic distinction she identifies, and it is not clear how it relates directly to morphosyntactic features. Ambar departs from an earlier analysis of Romance participials by Kayne, and dispenses with the need for independent agreement projections, unlike Martins and D&M.

In his paper, 'Distributive universal quantification and aspect in Brazilian Portuguese', Gertjan Postma discusses the properties of the distributive universal quantifiers *cada* 'each' and *todo* 'every' in BP, arguing that their semantic properties follow from their morphological and syntactic properties. He argues that both quantifiers are bi-distributive, i.e. they must bind two open variables. *Cada* binds an argument variable in its nuclear

scope, and *todo* binds an open variable in plurality or in the aspectual specification of certain tenses. For Postma, *cada* requires an open variable in an argument position because this quantifier does not display agreement morphology.

Finally, Sérgio Menuzzi's paper, 'First person plural anaphora in Brazilian Portuguese', addresses the anaphor and pronoun binding properties of the NP *a gente*, which means 'we (literally the people)' but is morphologically specified as third person singular. Menuzzi argues that this semantic and morphological specification causes a conflict regarding the choice of the appropriate pronominal form to be bound by *a gente*, but this conflict is eliminated by the occurrence of *si* (SE-anaphor), the only pronominal form that is underspecified for number, allowing as antecedent both plural and singular NPs. Menuzzi argues that conditions on binding need not be taken as absolute, and may be better understood as violable constraints such as those of Optimality Theory. That is, according to him, when the relation between antecedent and pronominal form is less local, *si* is less favored, given its behavior as an anaphor. Interestingly, in contexts where the locality relation does not hold, the first person plural pronoun *nós* 'we' is favored, instead of the NP *a gente*. However, Menuzzi does not discuss whether violable constraints could be reconciled with the minimalist approach adopted in other papers in the volume.

In sum, *Portuguese syntax* gives a good overview of some approaches to the topic within Principles & Parameters/Minimalism as developed in the 1990s. It is a very useful collection on the syntax of Portuguese, covering in particular cliticization, subject positions, word order and how these topics relate to syntactic and interpretive distinctions.

REFERENCES

Bobaljik, J. (2002). Realizing Germanic inflection: why morphology does not drive syntax. *Journal of Comparative Germanic Linguistics* **6**. 129–167.

Chomsky, N. (1995a). *The Minimalist program*. Cambridge, MA: MIT Press.

Chomsky, N. (1995b). Bare phrase structure. In Webelhuth, G. (ed.), *Government and Binding theory and the Minimalist program*. Oxford: Blackwell. 383–439.

Jaeggli, O. & Safir, K. J. (1989). Introduction. In Jaeggli, O. & Safir, K. J. (eds.), *The null subject parameter*. Dordrecht: Kluwer. 1–44.

Kato, M. A. & Negrão, E. V. (2000). *Brazilian Portuguese and the null subject parameter*. Madrid: Iberoamericana & Frankfurt am Main: Vervuert.

Pires, A. (2001). *The syntax of gerunds and infinitives: subjects, case and control*. Ph.D. dissertation, University of Maryland at College Park.

Zubizarreta, M. L. (1994). Word order, prosody and focus. Ms., University of Southern California.

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(Received 4 June 2003)

J. Linguistics **40** (2004). DOI: 10.1017/S0022226703252361

Anthony R. Davis, *Linking by types in the hierarchical lexicon* (Studies in Constraint-Based Lexicalism). Stanford, CA: CSLI Publications, 2001. Pp. viii + 312.

Reviewed by ALEX ALSINA, Universitat Pompeu Fabra

The goal of this book, as stated on page 13, 'is to show that a nonprocedural, monotonic, and constraint-based account of linking can be developed within the framework of a constraint-based, lexicalist theory of grammar such as Head-driven Phrase Structure Grammar (HPSG)'. LINKING is understood to mean 'the mapping between the semantic roles and [the] syntactic arguments of their predicators' (1). The book aims to characterize the regularities in this mapping and to formalize them within the framework of HPSG as constraints on lexical entries classified in a hierarchical lexicon.

The model proposed in this book owes a lot to Dowty's (1991) work on proto-roles but, rather than assuming that linking is a direct correspondence between semantic (or conceptual) categories and syntactic functions, Davis proposes that linking is mediated by a distinct level of representation called 'lexical semantic relations'. Thus, in Davis's proposal, linking really involves two mappings: (a) the mapping between the non-linguistic level of representation at which entailments hold, called 'situation type', and the linguistic level of lexical semantic relations; and (b) the mapping between this level and syntactic subcategorization. At the level of lexical semantic relations, arguments are represented as the values of attributes such as ACT, UND, SOA, etc. On the semantic side, each of these attributes (proto-role attributes) is associated with a set of entailments (proto-role entailments), so that the corresponding participant, denoted by the value of the attribute, is assumed to bear one of the associated entailments. On the syntactic side, proto-role attributes are mapped onto syntactic arguments (subject, object, etc.) by a set of constraints.

One of the most salient features of Davis's proposal is the postulation of the level of lexical semantic relations (LSR), admittedly not a purely semantic representation, but a level at the syntax–semantics interface (151). The information in the LSR is restricted to those elements of meaning pertaining to the syntactic behaviour of predicators – that is, their linking and diathesis properties. However, Davis includes much more information in the LSR than is actually used in predicting syntactic behaviour. The LSR contains a large variety of attributes (ACT, UND, SOA, GRND, IMP-ON, PART, INF, POSSD), but the constraints relating LSR to syntactic subcategorization merely appeal to the distinction between actors, represented by the attribute ACT, and non-actors, represented by all other attributes. The linking theory

makes use of only two concepts at the LSR: (i) the distinction between actor and non-actor, and (ii) relative level of embeddedness. This is seen in the relevant constraints: ACTOR PRIORITY requires an actor to link to a more prominent (or less oblique) syntactic argument than a non-actor, and TOP-LEVEL PRIORITY requires at least one top-level role to link to a more prominent syntactic argument than do all embedded roles.

If the LSR were stripped of all irrelevant features (i.e. features not used by the linking constraints), what we would be left with is a partial hierarchical ordering of roles classified as actors and non-actors. This would be strikingly similar to many people's conception of argument structure. Argument structure is generally taken to be an interface level between the semantics and syntax of predicators that represents the minimal information needed to characterize the syntactic dependents of a predicator (such as a verb). (See Bresnan 2001 as an example of this conception.) For example, it is the level at which the distinction between unaccusative and unergative verbs is represented. In Davis's model, this distinction is captured at LSR: the single argument of an unergative is a top-level actor, whereas the single argument of an unaccusative is a top-level non-actor (or UND). Once it is clear that Davis's LSR corresponds conceptually to what other people call argument structure, we see, for example, that the treatment given in this work to valence-reducing reflexives, where two roles at LSR map onto one single syntactic argument (165), is very similar to the treatment proposed in Alsina (1996), where two arguments at argument structure map onto one single syntactic function.

The fact that Davis does not use the name 'argument structure' for his LSR and does not bring out the correspondence between these two terms obscures the similarities and differences between his proposal and others. An unfortunate consequence of this terminological choice is that it makes it more difficult for researchers working in a different framework to incorporate Davis's undoubtedly valuable contributions into their own work.

We may ask why Davis rejects the name 'argument structure' in favor of 'Lexical Semantic Relation'. This level is evidently not a semantic representation, but a syntactic representation that is strongly constrained by semantic information. The attribute ACT, for instance, is no more semantic than the notion of external argument used in other frameworks. These notions may be semantically constrained, but that doesn't make them semantic. A likely reason for not adopting the term 'argument structure' for this syntax–semantics interface level is that the term is already taken up (abbreviated as ARG-ST) in the version of HPSG used by Davis, for one of the features that encodes the syntactic subcategorization or valence of predicators. In fact, the syntactic subcategorization of predicators (the information about the syntactic functions they take) is decomposed into two sets of features: the syntactic arguments represented at ARG-ST in an order that denotes relative obliqueness are further classified as the value of the

features SUBJ and COMPS. If the LSR were explicitly recognized as a syntactic level of representation – the way argument structure generally is – it would become apparent that there is considerable overlap and redundancy between the LSR, ARG-ST and the features SUBJ and COMPS.

The book critically discusses alternative approaches to linking, particularly those based on thematic roles as primitive elements, and then goes on to propose a new theory of linking within the framework of HPSG, which makes crucial use of the notion of entailment. The theory is applied to phenomena involving subcategorization alternations, such as the locative alternation, causative formation, the dative alternation and passivization, and proposes a treatment of PP complements. This book has a lot to offer to linguists interested in the problem of linking and, although the theory is presented within a particular formal framework, its insights are readily transferable to other theoretical approaches.

REFERENCES

Alsina, A. (1996). *The role of argument structure in grammar: evidence from Romance*. Stanford, CA: CSLI Publications.
Bresnan, J. (2001). *Lexical-functional syntax*. Oxford: Blackwell.
Dowty, D. (1991). Thematic proto-roles and argument selection. *Language* **67**. 547–619.

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(Received 5 August 2003)

J. Linguistics **40** (2004). DOI: 10.1017/S0022226703262368

Caroline Féry & Ruben van de Vijver (eds.), *The syllable in Optimality Theory*. Cambridge: Cambridge University Press, 2003. Pp. ix + 415.

Reviewed by T. A. HALL, University of Leipzig

The syllable in Optimality Theory is a collection of fifteen articles dealing with various aspects of syllable theory within the framework of Optimality Theory (henceforth OT; Prince & Smolensky 1993). The topics discussed in the book (not to mention the languages and language families dealt with therein) are quite broad; the volume contains analyses of length (e.g. geminates, ambisyllabicity), mora-based phonenomena (e.g. syllable weight, lengthenings and shortenings), topics pertaining to the Sonority Sequencing Principle (e.g. extrasyllabic consonants), the connection between words and syllables (e.g. alignment phenomena), and general (consonant-based) phonotactics. One theoretical construct that is discussed at length in a number of articles in the volume is the 'semisyllable' – a syllable without a nucleus,

which is typically situated at the edge of a word. Most of the authors in the present volume who endorse semisyllables argue that they are moraless, although one contribution sees them as being moraic. Some of the evidence for semisyllables will be discussed below.

I consider *The syllable in Optimality Theory* to be an important contribution to phonology in general and to syllable theory and OT in particular. Although I am critical of some of the treatments proposed in the volume (in particular those involving semisyllables), I think that all of the articles in the volume are well worth reading and provide much food for thought.

The book's fifteen articles are organized into five sections: part I, 'Introduction'; part II, 'Syllable structure and prosodic structure'; part III, 'Nonmoraic syllables and syllable edges'; part IV, 'Segments and syllables'; and part V, 'How concrete is phonotactics?'. In this review, I present a brief summary of all of the articles (excluding 'Introduction'). Due to space limitations, I comment only on some of the analyses.

The chapter by John J. McCarthy, 'Sympathy, cumulativity, and the Duke-of-York gambit', concerns itself with a constraint-based analysis of 'Duke-of-York' (DY) derivations (see Pullum 1976, who discusses this issue in a rule-based framework). DY derivations have the general form A→B→A, where underlying A passes through a B stage before returning back to A. McCarthy points out that there are, in fact, two types of DY derivations, namely 'vacuous DY derivations' and 'feeding DY derivations'. Put simply, only in the latter derivations is the intermediate B stage crucial. Vacuous DY effects (attested in Nootka and Sanskrit, among other languages) are accounted for in an OT model with the general ranking 'markedness-$\alpha \gg$ markedness-$\beta \gg$ faith'. By contrast, McCarthy argues that feeding DY derivations do not exist. A putative example of a feeding DY derivation, from Bedouin Arabic, is argued to be accounted for with an analysis which requires (moraless) semisyllables. The chapter concludes with a lengthy discussion of how Sympathy Theory (McCarthy 1999) is able to solve various problems related to opacity (e.g. syllabification and resyllabification).

The contribution by Stuart Davis, 'The controversy over geminates and syllable weight', presents a formal analysis of inanimate plurals in Sinhala, which is intended to provide evidence that word-initial geminates in that language are underlyingly moraic, as proposed by Hayes (1989) for other languages. The article concludes with a discussion of two languages in which word-initial geminates have been argued to be underlyingly nonmoraic, namely Leti and Nglatan. Although Davis does not present a formal treatment of these two languages, he suggests that in the former the word-initial geminate is extraprosodic and in the latter the facts can be reanalyzed in terms of certain high-ranking constraints. Although I found Davis's analysis of Sinhala to be convincing and well argued, I have a general problem with the way in which constraint FINAL-ŋ is stated ('Word-final nasals must be

velar' (85)). This (undominated) constraint is necessary to rule out an incorrect, fully faithful output form in Sinhala like *[kand] 'trunks' (from /kand/, which surfaces as [kaŋ]) (86). In the representation for [kand] on that page, this output form is assumed to violate FINAL-ŋ even though the [n] is not 'word-final'; thus, one wonders how the constraint could be restated in a formally precise way so that [kand] would indeed violate it. Note that reference to 'coda nasals' is not a possible option because there is no constituent 'coda' in the moraic model; hence, the general challenge is how to define 'coda' in a model without this consitituent.

Haruo Kubozono's 'The syllable as a unit of prosodic organization in Japanese' examines a number of lengthening and shortening processes from Japanese in order to show that the syllable is an essential unit of Japanese prosody. These processes include truncations in loanwords, the secret language of jazz musicians, mother-baby language, sporadic lengthenings and weakenings, and emphatic mimetics. It is argued that all of these processes have in common the fact that the heavy-light (HL) pattern is preferred and the light-heavy (LH) pattern is avoided. The author supports these findings by demonstrating that independent word formation processes of Japanese also prefer HL to LH structures at the level where three or more feet are organized to form a prosodic word. Since HL and LH structures cannot be captured without reference to the syllable structure of words, the author concludes that the syllable is no less dispensable in Japanese than the mora. (Japanese is often described as a 'mora' language, which could lead one to the erroneous conclusion that the syllable plays no role.)

Draga Zec, in 'Prosodic weight', argues that not only the syllable and the mora but also higher levels of the prosodic hierarchy, namely the foot and the prosodic word, can impose their own minimal sonority thresholds. Her proposal can therefore be seen as an alternative to approaches in which weight distinctions are based on the sonority of the nucleus (Hayes 1995, Gordon 1999). The chapter consists of case studies dealing with heavy and light syllable nuclei in English, stress in Mordwin, the lowering of jer vowels in strong positions in Old Church Slavonic and the role of the prosodic word in Asheninca. Zec's proposal can be illustrated with the examples she presents from English, in which syllables with [l] or a nasal in the nucleus (e.g. the [l̩], [n̩] and [m̩] in *bottle*, *button* and *bottom*, respectively) have a restricted distribution in the sense that they never occur in syllables which are stressed (e.g. in monosyllabic words). By contrast, [r̩] can surface in stressed syllables, e.g. *murky*, *bird*. Zec concludes that this distribution can best be explained by positing minimal sonority thresholds at the level of the syllable and at the level of the foot (127). The latter constraint demarcates the set of foot-bearing segments in English, i.e. vowels and [r̩] – the [−consonantal] segments – whereas the former captures the class of English syllable nuclei (i.e. [+sonorant]).

In the chapter by Paul Kiparsky, 'Syllables and moras in Arabic', an impressive analysis of syllable- and mora-based phenomena in fifteen dialects of Arabic is presented. As in a number of other contributions in the volume, Kiparsky's analysis hinges on semisyllables, which, according to his view, are unsyllabified segments dominated by a mora and licensed by a higher prosodic constituent, namely the prosodic word. For example, in the word /baab-ha/ 'her door' (156), /baa/ and /ha/ form 'core' syllables, and the /b/ between them is a semisyllable dominated by a mora, which is linked to the prosodic word. In this sense, Kiparsky's view of semisyllables differs from that held by McCarthy (see above), by Cho & King, and by Féry (see below), who see semisyllables as being moraless. It is Kiparsky's claim that the Arabic dialects differ in whether or not they license semisyllables adjoined to the prosodic word. Operating within a constraint-based version of Lexical Phonology and Morphology, the author argues that the dialects differ in terms of the level at which semisyllables are licensed. Thus, certain dialects allow semisyllables both at the word level and postlexically, whereas some dialects allow them only at the word level and others do not permit semisyllables at all.

The contribution by Young-mee Yu Cho & Tracy Holloway King, 'Semisyllables and universal syllabification', deals with apparent surface exceptions to the Sonority Sequencing Principle (SSP) in Georgian, Polish and Bella Coola. The authors argue that the word-edge segments in these languages that seem to violate the SSP are neither part of the core syllable, nor are they extrasyllabic (as argued by many other authors), but instead they project their own semisyllables. In contrast to Kiparsky, Cho & King see semisyllables as being moraless. I found the arguments presented by Cho & King to be the least convincing arguments for semisyllables of all the articles in the volume. Consider the (monosyllabic) Georgian word [msχverp'ls] 'victim-dat.', which can be taken as a representative example. The authors present a formal analysis (198) in which the output form is selected in which the [m], [p'l] and [s] are analyzed as semisyllables ([p'l] is argued to be a complex segment). This is accomplished by ranking not only the SSP high (to rule out the fully syllabified candidate [.msχverp'ls.]), but also the constraint EXHAUSTIVE SYLLABIFICATION (to prevent [m], [p'l] and [s] from being analyzed as extrasyllabic). The constraint penalizing semisyllables (SYLL-μ) is analyzed as low-ranking. One alternative analysis I see (which is not discussed in the chapter) is that EXHAUSTIVE SYLLABIFICATION outranks SYLL-μ – a ranking which would predict that the candidate with extrasyllabic segments wins out over the one with semisyllables. The authors posit a Peripherality Condition (194), capturing the generalization that SSP violations occur only at morpheme edges, but it is not clear why the generalization does not refer to the edge of a Prosodic Word (the prefixes *si-* and *še-* and the suffix *-ma* in (11b) on page 189 could be analyzed as being external to the Prosodic Word). In a later section,

dealing with stress and semisyllables, the authors introduce data from Czech and propose that [r] in that language is stressed in disyllabic words only if it is moraic, e.g. in a word like [zŕno] 'corn'. By contrast, in a monosyllabic word like [rvát] 'pull' the [r] is not stressed because it projects its own semisyllable. It is unclear why the authors do not consider parsing words like [rvat] without semisyllables, i.e. as fully-syllabified [.rvát.] in violation of the SSP, which would be low-ranking in Czech.

The chapter by Caroline Féry, 'Onsets and nonmoraic syllables in German', presents an analysis of several topics in German phonology (the distribution of the velar nasal, [h] and the glottal stop) which hinges on semisyllables. Like Cho & King, Féry sees semisyllables as moraless unsyllabic consonant(s) which are dominated by their own syllable. The proposed treatment is very different from the ones proposed in the past in the literature on German phonology. According to Féry semisyllables occur at the end of a superheavy syllable, i.e. the final C in VCC and V:C. For example, the word *fünf* [fʏnf] 'five' consists of a core (moraic) syllable [fʏn] plus the final [f], which projects its own semisyllable. Féry's analysis also requires that certain syllables be moraless but with a nucleus, namely schwa syllables (e.g. the final syllable in *Lampe* [lampə] 'lamp'). Concerning her analysis of the German velar nasal (which derives from /ng/ and /nk/), Féry argues that [g] 'is pronounced only if it is the onset of a higher prosodic constituent but not if it would be the onset of a nonmoraic syllable' (222). Thus, the /g/ in a word like *Tango* 'tango' surfaces as [taŋ.go] but the one in an example like *Zunge* [tsʊŋə] 'tongue' (from /tsʊngə/) does not because the final schwa in the latter word is the nucleus of a moraless syllable. In a word like *lang* [laŋ] 'long' (from underlying /lang/) the /g/ deletes because the incorrect form [laŋg] (or [laŋk]) would project a semisyllable (which is also a 'nonmoraic syllable'). Although this discussion might lead one to believe that the semisyllable is crucial in order to account for the distribution of the German velar nasal, an examination of the tableaux presented (227 f.) reveals that this is not the case because all of the candidates with semisyllables are penalized by constraints that are higher-ranked than the constraint that bans semisyllables (i.e. NUC; see, for example, candidate c in tableau (23), page 227). One serious problem I see with Féry's proposed analysis is that it cannot account for the fact that the /k/ in a final /nk/ cluster does not delete. Thus, given the constraints and rankings proposed in the tableau for *lang* (in (23) on page 227) one would expect the correct output form for a word like *Bank* [baŋk] 'bank' (from /bank/) to be *[baŋ].

Antony Dubach Green argues in his contribution 'Extrasyllabic consonants and onset well-formedness', that certain right-edge consonants in certain languages are extrasyllabic. These extrasyllabic segments are licensed by higher levels in the prosodic hierarchy, e.g. the foot and the prosodic word. Focussing on the behavior of consonant clusters at the left edge of the

word, Green presents evidence from Icelandic, Attic Greek and Munster Irish that 'clusters that are not licit syllable onsets may nonetheless be licit left-edge clusters at higher prosodic levels' (239). His analysis hinges crucially on a series of universally and intrinsically ranked Onset Well-Formedness (OWF) constraints against specific onset clusters; thus, constraints militating against onset clusters with falling sonority are ranked above constraints against onset clusters with shallow-rising sonority (e.g. $*_{\sigma}$[stop-nasal), which in turn outrank constraints against onset clusters with steep-rising sonority (e.g. $*_{\sigma}$[stop-liquid). Green demonstrates in his article how the onset clusters in a particular language will be determined by the rank of NoCoda with respect to these OWF constraints. For example, in Icelandic NoCoda is ranked between $*_{\sigma}$[stop-nasal and $*_{\sigma}$[stop-liquid, a ranking that predicts that a sequence like VknV is parsed Vk.nV but one like VtrV as V.trV. In Attic Greek and Munster Irish, certain segments in the left-margin are argued to be extrasyllabic. In the former language the first member of a shallow-rising cluster is linked directly with the prosodic word and, in the latter language, the first member of any rising-sonority cluster is linked to the foot. Thus, Munster Irish provides evidence that there are also foot-level OWF constraints. The extrasyllabicity results from the interaction of the OWF constraints and the constraint Exhaustivity, which says that '[n]o category immediately dominates a constituent more than one level beneath it' (243).

Caroline R. Wiltshire presents evidence in her chapter, 'Beyond codas: word and phrase-final alignment', that alignment constraints not only refer to syllable edges, but also to edges of higher-level prosodic constituents, and in particular to prosodic words and phrases. Such constraints allow word- and phrase-final positions to impose specific conditions which differ from those regarding word-internal codas. The analysis, therefore, has the advantage that generalizations pertaining to syllable-final position can be upheld while simultaneously capturing the special requirements regarding word- or phrase-final position. Wiltshire's chapter provides four separate sections with examples of languages which right-align their words and phrases with a vowel and a consonant, respectively (Atampaya Uradhi, Leti, Yapese and Pitjantjatjara). Here it is argued that specific alignment constraints outrank certain faith constraints. A separate section discusses languages which tolerate the input in the sense that a right-edge consonant potentially violates some alignment constraint but the constraint is satisfied by parsing the consonant so that it is extrasyllabic. For example, in Kamaiurá, only open syllables are allowed word-internally but they are tolerated word-finally. Wiltshire argues that word-final consonants in that language do not violate the alignment constraint, guaranteeing that words end at the right edge of a syllable because word-final consonants are extrasyllabic.

Junko Itô & Armin Mester, in their chapter 'On the sources of opacity in OT: coda processes in German', discuss examples of opacity from

Modern German. Their examples involve various processes affecting segments in the 'coda', e.g. Final Devoicing, Spirantization and g-Deletion. Itô & Mester reject an analysis of the German data in terms of alternant rankings at different lexical levels (recall Kiparsky's chapter) and in terms of sympathy (recall McCarthy's chapter and McCarthy 1999), arguing instead that the most insightful treatment requires the local conjunction of faith and markedness constraints (as well as conjunctions involving two markedness constraints). As a precedent, Itô & Mester refer to Łubowicz's (1998) treatment of derived environment rules, which involves the local conjunction of faith and markedness. As a simple example of a constraint conjunction, Itô & Mester posit the constraint *VC (275), which conjoins two markedness constraints, namely one penalizing voiced obstruents, and the other any segment in the coda. If this conjoined constraint outranks the faith constraint IDENT(VOICE), then, as Itô & Mester point out, underlying voiced obstruents will always devoice in the coda. The authors also argue that certain conjunctions involve faith and markedness constraints and that the general ranking of these conjunctions over the relevant nonconjoined faith constraint will always result in the change of some segment in the coda. This is precisely the ranking that is proposed to account for the g-Deletion after nasals (e.g. /lang/→[laŋ]; recall Féry's examples above). In the analysis of g-Deletion, Itô & Mester focus only on the deletion of /g/ in word-final position; thus, one question I had is how their analysis would predict the deletion of /g/ before schwa (e.g. *Zunge* [tsʊŋə] 'tongue', from /tsʊngə/) and before certain vowel-initial suffixes (e.g. *abhängig* [aphɛŋɪç] 'dependent', from /ap-hɛng-ɪg/), but its retention before full vowels (e.g. *Ganges* [gaŋgɛs] 'Ganges'; see (18), page 279).

The chapter by Marc van Oostendorp, 'Ambisyllabicity and fricative voicing in West Germanic dialects', provides an analysis of the relationship between voicing and frication in Frisian, Thurgovian German, Roermond Dutch and Standard Dutch. Van Oostendorp argues that voicing does not play a distinctive role in the first three of these languages and only a limited role in the fourth one. From a theoretical point of view the author argues that in the few environments in which voiced and voiceless fricatives contrast (i.e. intervocalically) the contrast involves only one of length (i.e. ambisyllabicity). For example, in the two Frisian words [pɒsər] 'compass' and [hazə] 'hare', the [s] in the former is underlyingly ambisyllabic and the [z] in the latter is not. (Richness of the Base implies that the input segments in both words can be either /s/ or /z/.) Van Oostendorp argues that ambisyllabic consonants in words like [pɒsər] are represented with two root nodes (as in Selkirk 1990) and not in terms of moraic theory (e.g. Hayes 1989, Davis's chapter discussed above). Although van Oostendorp makes passing reference to Standard German in his chapter, it would be interesting to see how the data in that language could be reconciled with his analysis of the other West Germanic languages. For example, in Standard German,

there do not seem to be contrasts between [s] and [z] after a sonorant consonant and before a vowel, a context in which only [z] occurs, e.g. [hɛlzə] 'necks'. The absence of [s] in this position would probably fall out from van Oostendorp's analysis. The reason is that if [s] were bipositional (as in Frisian), then words like [hɛlsə] would not occur because there would be a superheavy syllable (i.e. [hɛls]) within a word. (Van Oostendorp notes in his analysis that superheavy syllables in West Germanic languages surface word-finally and not word-medially.) However, other examples from Standard German seem to be problematic. In particular, consider the fact that [s] and [z] contrast intervocalically after long vowels/diphthongs (e.g. [z] in *reisen* 'travel' vs. [s] in *reißen* 'to tear', *gießen* 'to water', *fließen* 'to flow', *draußen* 'outside', *außer* 'besides'). What is more, [s] can occur word-finally in Standard German after a long vowel. On the basis of similar data from Roermond Dutch, van Oostendorp argues that vowels in that language are distinguished not in terms of length (as in Frisian), but instead in terms of tenseness. However, an analysis of German vowels in terms of tenseness and not in terms of length might solve this particular problem but it is problematic for the distribution of [s] and [z] after sonorant consonants as discussed above.

Ruben van de Vijver, in his contribution 'The CiV generalization in Dutch: what *petunia*, *mafia*, and *Sovjet* tell us about Dutch syllable structure', discusses a phonotactic generalization which, he says, is found in most Germanic languages, and specifically in Dutch, which is the focus of the chapter. The generalization is that a vowel immediately preceding CiV is tense, where 'i' is either the vowel [i] or the glide [j], e.g. Dutch *f*[i]*liáal* 'branch office', *pet*[ý]*nia* 'petunia'. The OT analysis presented by van de Vijver argues in favor of treating the distinction between vowels like /i y e/ and /ɪ ʏ ɛ/ in terms of tenseness and not in terms of length. The treatment hinges on a markedness constraint which penalizes lax vowels (i.e. *LAX), which, due to its ranking, has the function of filtering out incorrect forms like *f*[ɪ]*liáal* and *pet*[ʏ]*nia* in which a lax vowel precedes CiV. Words like *mafia* are exceptions to the CiV generalization because the sequence CiV is preceded by a lax vowel (i.e. [ɑ]). By specifying that the C preceding the /i/ in such words is underlyingly ambisyllabic (i.e. linked to two root nodes, recall van Oostendorp's chapter), the author shows that the proposed constraint ranking correctly selects the output form in which a lax vowel precedes it.

In the chapter entitled 'The relative harmony of /s+stop/ onsets: obstruent clusters and the sonority sequencing principle', Frida Morelli discusses obstruent phonotactics from a cross-linguistic perspective, ultimately arguing that the attested patterns cannot be accounted for in terms of sonority. Morelli makes the interesting observation – based on the commonly assumed claim that fricatives are more sonorous than stops – that the preferred pattern for onset clusters should be (a) stop+sonorant, fricative+sonorant, STOP+FRICATIVE (since these three sequences exhibit a rising sonority), as

opposed to (b) stop+sonorant, fricative+sonorant, FRICATIVE+STOP (since the latter cluster shows a sonority fall). However, Morelli points out that the (b) pattern is the preferred one, while the (a) one is apparently unattested. Her conclusion is that fricative+stop and not stop+fricative represents the unmarked case for onset clusters. The analysis hinges on two constraints related to the Obligatory Contour Principle, one banning a sequence of stops and the other a sequence of fricatives, as well as a constraint penalizing a sequence of stop followed by obstruent in the onset (SO). Given these three constraints, a fricative+stop sequence is the most harmonic of all of the onset clusters because it incurs no violations. By contrast, both fricative+fricative and stop+fricative violate one of the OCP constraints, and stop+stop does not satisfy SO.

The chapter by Juliette Blevins, 'The independent nature of phonotactic constraints: an alternative to syllable-based approaches', questions one of the most basic assumptions within syllable theory, in particular, that phonotactic constraints are largely syllable-based. Although she stresses at the outset that she does not deny the existence of syllables (which can play a role in the form of rules, e.g. stress assignment, syncope, etc.), Blevins argues that phonotactic constraints on consonant sequencing are best viewed as statements that do not refer to syllables. (Blevins does concede, in note 3 (396), that some phonotactic constraints might be syllable-based, but she considers such cases to be rare.) Basing her analysis on an impressive array of genetically unrelated languages, Blevins puts forth several arguments for her claim. First, the syllable structure required for the phonotactics often does not converge with that necessary for other aspects of the phonology (e.g. metrical structure assignment). Second, one often finds the same phonotactic constraint in two separate languages which have distinct syllabifications. And third, there are examples of phonotactic constraints that defy formalization in terms of syllables altogether. Blevins points out that in a theory such as OT, in which constraints are violable, several unattested languages would be expected and therefore suggests that one might want to explore analyzing certain subsystems as being inviolable (395).

In sum, the book under review contains several novel OT analyses of various problems with respect to syllable structure and syllabification. The volume is well worth reading.

REFERENCES

Gordon, M. K. (1999). *Syllable weight: phonetics, phonology and typology*. Ph.D. dissertation, University of California at Los Angeles.

Hayes, B. (1989). Compensatory lengthening in moraic phonology. *Linguistic Inquiry* **20**. 253–306.

Hayes, B. (1995). *Metrical stress theory: principles and case studies*. Chicago: The University of Chicago Press.

Łubowicz, A. (1998). Derived environment effects in OT. Ms., University of Massachusetts at Amherst. [ROA-239-0198.]

McCarthy, J. (1999). Sympathy and phonological opacity. *Phonology* **16**. 331–399.
Prince, A. & Smolensky, P. (1993). *Optimality theory*. Ms., Brandeis University & University of Colorado at Boulder.
Pullum, G. K. (1976). The Duke of York gambit. *Journal of Linguistics* **12**. 83–102.
Selkirk, E. (1990). A two-root theory of length. *University of Massachusetts Occasional Papers* **14**. 123–171.

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(Received 2 June 2003)

J. Linguistics **40** (2004). DOI: 10.1017/S0022226703272364

Stephen C. Levinson, *Presumptive meanings: the theory of generalized conversational implicature*. Cambridge, MA: MIT Press, 2000. Pp. xxiii + 480.

Reviewed by Robyn Carston, University College London

The basic thesis of this book is that there is a level of utterance-type meaning, which is distinct from, and intermediate between, sentence-type meaning and utterance-token meaning. That is, it is more than encoded linguistic meaning but generally less than the full interpretation of an utterance. Here are some examples, where (a) is a sentence and (b) is its utterance-type meaning:

(1) (a) Some of the children passed the test.
    (b) Some **but not all** of the children passed the test.
(2) (a) Mary looked at John and he smiled.
    (b) Mary looked at John and **then** he = **John** smiled.
(3) (a) Nick was instrumental in lighting the fire.
    (b) There was **something odd in the way** Nick lit the fire.
(4) (a) Can you pass the salt?
    (b) **I request** that you pass the salt.

The highlighted elements in each of the (b) representations are not derived by linguistic decoding but are pragmatically inferred.

In the Gricean pragmatics tradition, pragmatically inferred meaning is usually closely associated with context-dependence and with maxims or principles which are geared to the recovery of the speaker's intended meaning. However, while Levinson agrees that this is the right way to view the processes of full interpretation of an utterance token, he takes a quite different stance on the pragmatics of utterance-type meaning, which is a matter of preferred or default (or 'presumptive') interpretations, 'which are carried by the structure of utterances, given the structure of the language, and not by virtue of the particular contexts of utterances' (1). And while these default

interpretations are licensed by certain pragmatic principles or heuristics, they are 'based *not* on direct computations about speaker-intention but rather on general expectations about how language is normally used' (22). That is, they are generated automatically by default usage rules associated with certain linguistic expressions and structures. So, for instance, the quantitative term *some* in (1a) carries a default rule licensing the inference to 'not all' and the conjunction *and* in (2a) carries a default rule to the effect that the event described in the first conjunct preceded that described in the second conjunct. Since these are default inferences, hence defeasible, their results can be overridden, and this is where context does play a role: if the default output is inconsistent with the context, it is dropped. In the case of (1a), for instance, if there is a contextual assumption to the effect that all of the children passed the test then this will defeat the default inference given in (1b).

Levinson mentions a number of pragmatic phenomena, including illocutionary force (as in (4) above), conversational routines and presuppositions, which contribute to the level of utterance-type meaning, but the focus of the book is on a class of conversational implicatures, exemplified in (1b)–(3b) above. He makes a sharp distinction between these generalized conversational implicatures (GCIs) and conversational implicatures of a particularized sort (PCIs):

(5) A: Did the children's summer camp go well?
B: Some of them got stomach 'flu.
GCI: Not all of the children got stomach 'flu.
PCI: The summer camp didn't go as well as hoped.

While the PCI of B's utterance depends on the context provided by A's question and would not arise in a different context (e.g. a context in which the issue is whether all the children were able to sit their exams), the GCI would arise quite generally across contexts. These two domains of pragmatic inference work in totally distinct ways: PCIs depend on some (unspecified) maxim of relevance which is responsive to particular contextual assumptions, while GCIs are underpinned by three informativeness principles (based roughly on Grice's quantity and manner maxims), each of which licenses the hearer to employ a corresponding heuristic:

(6) Q-HEURISTIC: What isn't said to be the case is not the case.
I-HEURISTIC: What is said in a simple (unmarked) way represents a stereotypical situation.
M-HEURISTIC: What is said in an abnormal (marked) way represents an abnormal situation.

The Q-heuristic has to be relativized to a relevant scale of lexical alternates, e.g. $<$*all*, *some*$>$ for (1) and (5) above. The I-heuristic and the M-heuristic are responsible for the implicatures in (2b) and (3b), respectively. As Levinson

https://doi.org/10.1017/S0022226703212366 Published online by Cambridge University Press

acknowledges, this system is similar to that of Horn (1984), with the effects of the I- and M-principles reflecting his 'division of pragmatic labour': two coextensive expressions differing in formal markedness tend to become associated with complementary subsets of the original extension (e.g. *kill* and *cause to die*).

These, then, are the core ideas explored in the book, which is organized into a short introduction, four long chapters and a short epilogue. The first big chapter sets out to make the case that GCIs comprise a distinct domain within pragmatics. It traces the Gricean background within which the distinction between generalized and particularized conversational implicature arose and argues that an approach like Relevance Theory (RT; Sperber & Wilson 1986/1995), which does not give the distinction any theoretical weight and employs the same communicative principle and comprehension procedure in the derivation of all conversational implicatures, cannot do justice to the nature of these generalized inferences. The case for GCIs is given empirical support by the observation, again from Horn, that languages do not lexicalize the meanings 'not all', 'not always', 'not both' (as opposed to 'none', 'never', 'nor'). The idea is that this is because each of these meanings is inferred by default from the words *some*, *sometimes* and *or*, respectively.

The second chapter explores the three species of GCI in considerable detail. Levinson provides a wealth of examples of each kind and candidly acknowledges that some of them raise problems for his account. For example, the scales at issue in the generation of scalar Q-implicatures may be context-dependent (e.g. a scale consisting of celebrities ordered in terms of their popularity) rather than a matter of semantic entailment (as in the cases of *all*/*some*, *and*/*or* and the number terms), so that this kind of Q-inference crosscuts the generalized/particularized distinction. A quite disparate range of phenomena fall in the class of I-based inferences, including conjunction buttressing, bridging inferences, some cases of pronominal reference resolution as in (2) above, lexical narrowings, and possessive interpretations. Several of these can have more than one outcome and so don't seem to be cases which have a default/preferred interpretation after all. The chapter ends with a discussion of the potential conflicts among the three principles and resolves the problem by imposing an order of priority on them: first Q-inferences, then M-inferences and finally I-inferences.

The third chapter is, to my mind at least, the most interesting, as it is here that Levinson confronts the role of pragmatic inference in determining the truth-conditional content of an utterance. That pragmatics plays this role is widely acknowledged nowadays by pragmatists across various frameworks, but it tends still to be resisted by advocates of a truth-conditional semantics for natural language, as it causes obvious problems for a compositionality principle conceived in truth-conditional terms and calls into

question the traditional semantics/pragmatics distinction. Although he doubts that it will ultimately work, Levinson would like to 'limit the damage' with the hypothesis that it is just his chosen domain of pragmatic inferences, GCIs, that can affect truth conditions. They can do this in a range of ways, including playing a role in processes of disambiguation and reference resolution, but most significantly, there are certain situations in which their own content is actually composed into the truth conditions of the utterance. This occurs in the class of what he calls 'intrusive' constructions (which include negations, conditionals, disjunctions and comparatives). He calls them intrusive because they have the property that 'the truth conditions of the whole expression depend on the implicatures of some of its constituent parts' (213–214):

(7) (a) If both teams got three goals the game was a draw.
    (b) If both teams got **exactly** three goals the game was a draw.
(8) (a) It's better to drive home and drink a bottle of wine than to drink a bottle of wine and drive home.
    (b) It's better to drive home and **then** drink a bottle of wine than to drink a bottle of wine and **then** drive home.

For (7a), the GCI of the embedded sentence *both teams got three goals*, namely 'at most three goals', is composed with the encoded semantics 'at least three goals' to give the truth conditions in (7b); similarly, mutatis mutandis, for (8).

Thus, what is a non-truth-conditional element (an implicature) of the simple sentence becomes part of the truth conditions of the more complex sentence in which the simple one is embedded. This seems barely coherent and leads to the prediction that the intuitively valid argument in (9) is invalid, since the truth conditions of premise 2 don't match those of the antecedent of the conditional in premise 1:

(9) Premise 1: If both teams got three goals then the game was a draw.
    Premise 2: Both teams got three goals.
    Conclusion: The game was a draw.

Relevance theorists, on the other hand, predict the intuitive validity of (9), since they take the view that utterances of the complex sentences in (7a) and (8a) AND utterances of the simple sentences on their own are equally likely to be pragmatically enriched; this is not a matter of implicature in either case but of pragmatic development of the schematic encoded logical form of the utterance (see Carston 2004). For a recent bid to save the traditional semantic picture by limiting the truth-conditional effects of pragmatics to the saturation of linguistically given variables, see King & Stanley (2004).

https://doi.org/10.1017/S0022226703212366 Published online by Cambridge University Press

The fourth chapter argues for the very interesting hypothesis that the three Binding Conditions of generative grammar can be reduced to a single grammatical condition, with the effects of the other two being secured by default pragmatic inferences of the Q and M variety.

There is no space here for detailed assessment of Levinson's important project, which challenges much received thinking. (For a recent thoughtful critique, see Bezuidenhout 2002.) However, as a relevance theorist, I am bound to issue the following caveat: readers not well-acquainted with relevance theory will get a rather skewed view of it from this book. Levinson repeatedly claims that, since RT is a theory of context-sensitive inference, it is inherently incapable of accounting for generalized inferences such as those above – he gives NO argument to substantiate this serious allegation. He makes other claims about RT: '[A]ccording to [Sperber & Wilson] all inference involved in implicature derivation is deductive, hence the inferences must be monotonic' (56); 'Relevance theorists propose that there is a special kind of implicature, an explicature, that embellishes logical forms in limited ways' (238); 'Wilson and Sperber … have argued that pragmatics amounts to nothing more than central reasoning processes applied to linguistic stimuli' (371). The first claim here is false, the second a distortion, and the third, which did appear in an early RT paper, has long since been superseded (see any RT publication since 1994, in particular Sperber & Wilson 1995, Carston 2002, Wilson & Sperber 2003).

The issue of whether or not default inferences of the sort that Levinson proposes are, in fact, carried out in the on-line process of utterance interpretation is currently one of the main foci of work in the newly-developing field of experimental pragmatics (see, in particular, Bott & Noveck 2003, Katsos et al. 2003). Bott & Noveck asked adult subjects to respond with 'true' or 'false' to utterances of underinformative sentences such as 'Some robins are birds' or 'Some elephants are mammals'. Subjects who respond on the basis of linguistic meaning alone will say 'true' while those who have performed the pragmatic scalar inference, giving 'some but not all robins are birds', etc. will say 'false'. Responses were given under one of two conditions: (a) with a short time lag (900 milliseconds) between presentation of the sentence and subjects' response, and (b) with a longer time lag (3 seconds). The point of this was to control for the amount of processing effort subjects could expend before giving their response. The default inference account predicts that the inference is drawn automatically and only subsequently cancelled when checked against context (general knowledge that all robins are birds, etc.), so that one would expect fewer 'true' responses in the short time condition than in the longer time condition. The reverse is predicted by RT, which does not assume any automatic default pragmatic inferences: the pragmatically enriched interpretation (prompting the response of 'false') should take longer than

the encoded logical response. The results were statistically significant: 72% of the subjects responded 'true' in the short time-lag condition, while only 56% responded 'true' in the longer time-lag condition. This is at odds with the view that the pragmatic interpretation arises from an automatic default inference which is only subsequently cancelled. The authors conclude that there is no evidence that *some* has a default interpretation of 'some but not all'. Needless to say, much more empirical testing of the predictions of different pragmatic theories is needed before final judgement is made, but the GCI theorist cannot take heart from the results so far.

Finally, although much of the material in this book has been around in some form or other for well over a decade, it is very useful to have it all collected together in one volume. There are many interesting and provocative lateral thoughts to be found in the notes to the chapters, and the short epilogue sets out issues which will be debated in pragmatics for many years to come.

REFERENCES

Bezuidenhout, A. (2002). Generalized conversational implicatures and default pragmatic inferences. In Campbell, J., O'Rourke, M. & Shier, D. (eds.), *Meaning and truth: investigations in philosophical semantics*. New York: Seven Bridges Press. 257–283.

Bott, L. & Noveck, I. (2003). Some utterances are underinformative: the onset and time course of scalar inferences. Ms., Institute of Cognitive Science, Lyon.

Carston, R. (2002). *Thoughts and utterances: the pragmatics of explicit communication*. Oxford: Blackwell.

Carston, R. (2004). Truth-conditional content and conversational implicature. In Bianchi, C. (ed.), *The semantics/pragmatics distinction*. Stanford, CA: CSLI Publications.

Horn, L. (1984). Toward a new taxonomy for pragmatic inference: Q- and R-based implicature. In Schiffrin, D. (ed.), *Meaning, form, and use in context*. Washington, DC: Georgetown University Press. 11–42.

Katsos, N., Breheny, R., Williams, J. & Lee, M. W. (2003). Are generalised conversational implicatures generated on-line by default? Ms., Research Centre for English and Applied Linguistics, University of Cambridge.

King, J. & Stanley, J. (2004). Semantics, pragmatics, and the role of semantic content. In Szabo, Z. (ed.), *Semantics vs. pragmatics*. Oxford: Oxford University Press.

Sperber, D. & Wilson, D. (1986/1995). *Relevance: communication and cognition*. Oxford: Blackwell. [Second edition with new postface 1995.]

Wilson, D. & Sperber, D. (2003). Relevance theory. In Horn, L. & Ward, G. (eds.), *Handbook of pragmatics*. Oxford: Blackwell. 607–632.

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(Received 12 June 2003)

J. Linguistics **40** (2004). DOI: 10.1017/S0022226703282360

Angela Marcantonio, *The Uralic language family: facts, myths and statistics* (Publications of the Philological Society **35**). Oxford & Boston, MA: Blackwell Publishers, 2002. Pp. xxiii + 335.

Reviewed by JANNE SAARIKIVI, University of Helsinki

Angela Marcantonio's monograph calls for the radical re-evaluation of the research paradigm of Uralic comparative studies. The author's thesis is that the genetic affinity of Uralic languages is not a valid theory, but a hypothesis which is 'not even wrong' (4), i.e. a thesis too vaguely formed to be verified or disqualified. In Marcantonio's opinion the Uralic languages, along with the Altaic and some Siberian languages, form a linguistic continuum divided by several isoglosses. However, according to Marcantonio, the comparative method fails when examining the affinities among the Uralic languages.

The book is divided into ten chapters, each dealing with various issues relating to the historical study of Uralic. It is written in a thoroughly provocative style and includes various accusations against the 'traditional views' of the Uralists, which are said to be based on outdated research and a careless use of the comparative method. Regrettably, however, the book under review is itself plagued by fuzzy and irrelevant arguments, misinterpretations of research material and scholarly history, and obscure use of certain concepts. Self-evidently, this state of affairs seriously weakens the credibility of the author's radical thesis.

The first chapter outlines the standard Uralic theory and describes the methods chosen by Marcantonio to undermine it. These include re-evaluating the historical and extralinguistic foundations of Uralistics and the statistical analysis of some correspondences in basic Uralic vocabulary and in morphology corpora.

The second chapter deals with the history of Uralic studies. It contains some quite apparent misinterpretations. For example, the claim that the Uralic theory was in its early phase based solely on the similarity between the ethnonyms for the Hungarians (*Hungarus*, *Magyar*) and those of the Ob-Ugric peoples (*Jugra*, *Mansi*) is clearly mistaken, and even more peculiar is the view that the hypothesis of Ural-Altaic genetic affinity was abandoned for no reason at the beginning of the twentieth century. In fact, Uralic linguistics began expressly with the comparison of case and declension suffixes in Finnish, Sami and Hungarian, research conducted by János Sajnovics at the end of the eighteenth century. Ural-Altaic comparisons were in turn abandoned as a result of systematic research into sound correspondences both within and outside Uralic, at the beginning of the twentieth century.

Chapter 3 discusses the inner taxonomy of the Uralic family as well as the possible remote genetic affinity of Uralic with other language families. While scholars agree that the Uralic family consists of seven branches, there is no agreement on the relationships between these branches, nor on the possible links between the Uralic and other language families. However, this state of affairs doesn't undermine Uralic comparisons any more than, for example, the possible existence of intermediate Indo-European protolanguages (Balto-Slavic and the like) undermines the assumption of Indo-European linguistic unity.

In chapter 4 – which bears the awkward title 'Reconstructing the sound structure and lexicon of the Uralic family tree' – the core issue of the book is finally touched upon, namely the credibility of Proto-Uralic reconstructions. Here, the author states that the basic Proto-Uralic etymological corpus of 140 items presented by Janhunen (1981) includes 'more sound-rules than regular etymologies' (72).

Regrettably, the analysis provided by Marcantonio is fuzzy and unconvincing. To start with, she artificially reduces the number of etymologies in Janhunen's corpus to 65. This is partly done by eliminating all the etymologies which the author of the original paper considers somehow irregular. Given that Janhunen's corpus is itself a minimal corpus for comparative purposes, these irregularities are of minor significance (such as, for instance, the meaning 'to fall' in the Finno-Permian branch of Uralic vs. the meaning 'to rain' in the Samoyed branch for the root **sådå*). Thus, most of the 'irregular' comparisons should, in fact, be acceptable by the normal criteria of etymological research.

What is worse, it seems that the author is not aware of the distinction between methodologically incorrect comparisons and the limitations of knowledge that are embedded in the comparative method. This is shown by the fact that she even questions all the etymologies which contain a Proto-Uralic phoneme **x* (a laryngeal semivowel or a glide), describing it as 'an unspecified consonantal segment to account for some particularly problematic parallels' (71) and even 'a type of a joker in the pack' (104). In fact, though the phonetic characteristics of **x* are not wholly reconstructable, its reflexes are regular. So the reconstructions that contain **x* are methodologically entirely correct and all the uncertainties surrounding this phoneme are due to the usual limitations of the comparative method.

After the questionable double reduction of her corpus, the author states that the residue corpus contains '58 sound rules for vocalism' (71). The choice of terminology here is quite awkward, but 'sound rule' cannot mean sound law, because there are only 18 sound laws affecting vowels in Janhunen's material; nor can it mean sound correspondences either, because they number 18 too (12 for first-syllable vocalism, 6 for second). It seems that the author has counted combinations of vowel correspondences, being misled by the

way the material in the original paper is organized (this is done by combinations of first- and second-syllable vowels with their correspondences in Proto-Finno-Permian and Proto-Samoyed). These correspondences of sound combinations, however, can hardly be called 'rules' because they have no predictive force. Another possibility is that the author has counted phonemic contexts of sound laws as 'rules'.

It should be further noted that even if the analysis provided were accurate, it would only prove that there are no systematic sound correspondences between Proto-Finno-Permian and Proto-Samoyed, because this is what the original paper sets out to reconstruct. This being the case, there would still be a mass of evidence for genetic affinity among the Finno-Permian languages, which constitute five out of the seven Uralic branches. But Marcantonio rejects even the most obvious genetic affinity between two Uralic branches, namely that between Finnic and Samic (125–126). As the Finnic-Samic etymological correspondences by *Gleichsetzung* include at least 500 shared items, and even bilingual Sami laymen are usually aware of the proper etymological correspondences between these groups, Marcantonio's view is, in fact, quite stunning. The reader can only wonder why a statistical analysis of Finnic-Samic etymological parallels was not conducted in this case before the author drew her conclusions. In this connection, the arguments put foward by the author also include some misleading referencing. According to her, Robert Austerlitz considers Samic an isolate, whereas it is expressly stated in his paper that what is unclear is 'the position of Lapp [i.e. Samic] within the [Uralic] family' (Austerlitz 1990: 177). What is worse, this careless use of references also occurs in connection with several other issues.

Chapter 5 continues the fuzzy statistical reasoning. Marcantonio compares sound correspondences in two Uralic corpora with a chance resemblance analysis. She concludes that these could be, in most cases, 'false matches' resulting from chance. Once again, however, the result is reached by obscure methods. In this case only the consonantal correspondences are measured; developments that result in the loss of phonemes are discounted, and only nine consonants out of the 16 Proto-Uralic consonant phonemes are used 'for the purpose of the analysis' (142). As a result, most of the Proto-Uralic stems have only one or two phoneme correspondences which count here. In addition, no account is taken of the cumulative effect of the occurrence of predicted phonemes in specific positions within a word.

All these preconditions dramatically affect the results of the analysis. There is every reason to assume that if it were conducted on a non-reduced corpus, both on consonantal and vocalic correspondences, and taking into account the cumulative effect, a statistical analysis of the sound correspondences in the Uralic languages would prove them to be highly significant.

In chapter 6, the author aims to demonstrate that the Uralic lexical correspondences are, in fact, shared by a number of other languages. She refers to a 'neogrammarian principle', which supposedly suggests that 'borrowed words can be identified because they are mostly irregular' (155), and this, according to Marcantonio, can be seen as outdated in the light of recent research. It is hard to see, however, what kind of 'irregularity' is meant here, and what the 'neogrammarian principle' referred to actually is. Phonotactic methods used for identifying loanwords of different origin and age seem to be unknown to the author, who even states that in the Finnish *Risto* (personal name), *pelto* 'field' and *kinkku* 'ham' (loanwords from Germanic), there is no 'atypicalness … on the basis of which one could identify them as borrowed words' (155). In fact, all these words have phonotactic clues (such as a second-syllable labial vowel and a cluster of three consonants) which reveal to a Uralist that from a purely structural point of view they should be either derived or borrowed. This is, in fact, first-course knowledge of Uralic historical phonology.

Equipped with these peculiar prerequisites, Marcantonio turns to the lexical correspondences between Uralic and other language families. Strangely enough the author, who throughout the book demands rigorous evidence for the genetic affinity of Uralic languages, now approves even slight and superficial similarities as 'parallels' between Uralic and Turkic, Tungusic, Dravidian, Mongolian or Yukaghir. These lexical and morphological 'parallels', however, do not follow any regular patterns. A good example of this would be the similarity (first pointed out by Castrén) between the ethnonym of the Finns, *Suomi*, and the place name, *Sumi*, in the Sayan mountains in East Siberia (254–256), or the superficial similarity between the ethnonym of the Hungarians, *Magyar*, and that of the *Bashkirs*, Turkic people of the Central Urals. It should be clear to any scholar working in the field of historical linguistics today that such comparisons are unscientific and outdated.

After this, the reader will not be surprised to learn that in chapter 8, which is devoted to the morphological reconstruction of Uralic, the author considers the possible common origin of Proto-Uralic genitive *-*n* and lative *-*n* as a reason to remove both of them altogether from Proto-Uralic reconstruction, or that she doubts the existence of Proto-Uralic accusative *-*m*, which is present in every branch of Uralic except Permian, in which a new case system has recently emerged. The grammaticalization processes that are found in several Uralic languages give her reason to argue that the 'ancestors of the Uralic languages … were relatively young' (251). What this might mean is simply not clear.

The book also discusses issues related to the prehistory of the Uralic-speaking peoples. Even these passages (in chapters 2, 7 and 9) contain obscure claims. Thus the fact that the historical records are 'inconsistent or

neutral' (50) from the point of view of the Uralic theory is hardly surprising. The author also points to the absence of common Uralic ethnonyms, toponyms, archaeological cultures or genes (253–267). It should be clear for the comparativist, however, that identifying the language of an archaeological culture is seldom unambiguous, that toponyms are seldom shared by languages divided by millennia of developments, that ethnonyms tend to be subject to borrowing and that genes and language are not inherited in a uniform way. The book also includes a most peculiar discussion of the assumed 'political factors' behind the Uralic theory (51–54). These factors supposedly include both anti-German and Communist motives ascribed to the Hungarian scholars, and anti-Swedish and anti-Russian sentiments ascribed to the Finns, but the arguments put forward for this Uralic conspiracy are not convincing.

In conclusion, it should be noted that Angela Marcantonio's book includes several claims that can be characterized as obscure, poorly grounded or straightforwardly wrong. These are found in discussion of issues related to Uralistics and to general comparativistics, in small details and big issues alike. Also, the statistical analysis the book provides is conducted in a way that makes its results unacceptable. Thus, the book fails to present adequate evidence for its central thesis, namely that the genetic affinity of the Uralic languages is a myth. On the contrary, it is likely that the methods applied for this purpose would prove just the opposite, if implemented using relevant materials in a relevant way.

A possible advantage of the book may nevertheless be to provoke discussion, which means that it might lead to a more specific consensus among scholars on why the Uralic languages ARE INDEED GENETICALLY RELATED. The book should also provoke discussion on the implementation of statistical methods in comparativistics and should be a step forward in developing more reliable statistical tests.

REFERENCES

Austerlitz, R. (1990). Uralic languages. In Comrie, B. (ed.), *The major languages of Eastern Europe*. London: Routledge. 177–184. [First published in Comrie, B. (ed.) (1987), *The world's major languages*, New York: Oxford University Press, 567–576.]

Janhunen, J. (1981). Uralilaisen kantakielen sanastosta. *Journal de la Société Finno-Ougrienne* **77**. 219–274.

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(Received 16 September 2003)

J. Linguistics **40** (2004). DOI: 10.1017/S0022226703292367

Deborah Schiffrin, Deborah Tannen & Heidi E. Hamilton (eds.), *The handbook of discourse analysis* (Blackwell Handbooks in Linguistics). Oxford: Blackwell Publishers, 2001. Pp. xx + 851.

Reviewed by STEVE NICOLLE, SIL International

The editors begin the introduction to this volume with the question 'What is discourse?' (1), to which they offer no definitive answer. Instead, they group the possible referents of DISCOURSE into three categories: '(1) anything beyond the sentence, (2) language use, and (3) a broader range of social practice that includes nonlinguistic and nonspecific instances of language' (1). Given the range of topics covered by the term discourse, the variety of techniques used to study these phenomena is correspondingly diverse, and this diversity is reflected in the following 41 chapters. The editors write that they 'find the theoretical and methodological diversity of discourse to be an asset' (5), and 'hope that the range of chapters … will enhance the ability of discourse analysts to deal with a variety of problems and phenomena in ways that are not only internally coherent, but also enriched by multiple connections with one another' (6). In this review, I will try as far as possible to establish some connections, but unfortunately the range of phenomena and approaches covered is so diverse that very few connections are made explicitly within the volume itself.

The volume is divided into four parts: I, 'Discourse analysis and linguistics' (chapters 1–9); II, 'The linking of theory and practice in discourse analysis' (chapters 10–17); III, 'Discourse: language, context, and interaction' – subdivided into A, 'Political, social, and institutional domains' (chapters 18–26), and B, 'Culture, community, and genre' (chapters 27–33); and finally IV, 'Discourse across disciplines' (chapters 34–41). Parts I, II and IV contain chapters which illustrate a wide variety of approaches to many different topics, whereas part III is more coherent as each chapter deals with the application of discourse analysis to a specific domain of language use. Section A, beginning with chapter 18, 'Critical discourse analysis' by Teun A. van Dijk, covers various areas of critical discourse analysis research, which van Dijk describes succinctly as 'the relation between discourse and power' (363). This functions as an introduction to the following chapters, which cover the application of discourse analysis to racism, politics, media, legal contexts, educational situations, institutions (that is, organisations), and medical situations (two chapters: chapter 23, 'The discourse of medical encounters' by Nancy Ainsworth-Vaughn, and chapter 24, 'Language and medicine' by Suzanne Fleischman). Section B deals with discourse analysis as applied to the study of intercultural communication, gender, ageing,

child language, narrative (in the sense of Labov & Waletzky 1967), conflict, and communication mediated by networked computers. Another chapter which addresses the relation between discourse and power is chapter 37, 'Discourse analysis in communication' by Karen Tracy, for whom '[t]alk is not just a phenomenon to be scientifically described and explained, it is moral and practical action taken by one person toward others' (738).

Because of the variety of topics and approaches dealt with in each of parts I, II and IV, in this review I discuss chapters from the rest of the volume in the light of the connections which I perceived amongst them. Given the diversity and the length of the volume, I have been highly selective regarding which chapters I discuss, focusing for the most part on the more positive contributions, and the discussions themselves must necessarily be brief.

PRACTICAL ASPECTS OF DISCOURSE ANALYSIS. Discourse analysis, however conceived, is an activity, and there are a few chapters in the volume which deal with practical aspects of discourse analysis. Although brief, chapter 1, 'Intonation and discourse: current views from within' by Elizabeth Couper-Kuhlen, contains analyses of a number of naturally occurring discourse segments, and discusses not only pitch but timing, volume and voice-quality. Perhaps the most practical chapter in the volume is chapter 17, 'The transcription of discourse' by Jane A. Edwards. Edwards discusses a range of issues, including appropriate formats, the marking of pauses, prosody and turn-taking, and available software (she includes a number of useful website addresses). Transcription is also discussed by Wallace Chafe in chapter 34, 'The analysis of discourse flow'. Here, Chafe addresses the identification of topics, that is, 'segments of discourse during which one or more of the speakers talk about "the same thing"' (674), through detailed analysis of a segment of discourse, or text. Chafe provides a good sample analysis, combined with practical observations on how to identify a topic, and the utility and ontological status of a text as opposed to the string of intonation units on which it is based. It is a pity that this chapter did not appear more prominently and appropriately in part I or II. It is also unfortunate that there was not an additional, complementary chapter dealing with text charting, and with the glossing and interlinearisation of texts in languages other than the language of description (usually English).

CORPUS-BASED AND CROSS-LINGUISTIC DISCOURSE ANALYSIS. The chapters just mentioned deal with issues pertaining to the detailed analysis of individual texts. While this might be considered the typical activity of discourse analysts, a number of chapters present analyses based on the investigation of large corpora. In contrast to the qualitative nature of traditional approaches, the quantitative nature of corpus-based discourse analysis allows more general patterns to emerge; as Michael Stubbs writes in chapter 16,

'Computer-assisted text and corpus analysis: lexical cohesion and communicative competence' (316):

> Chomskyan linguistics has emphasized creativity at the expense of routine, which is seen as habit and as the unacceptable face of behaviorism. … Corpus linguistics provides new ways of studying linguistic routines: what is typical and expected in the utterance-by-utterance flow of spoken and written language in use.

Stubbs does not assume much prior familiarity with this field and is careful to define all of the terms used, including COHESION and COHERENCE (306). The focus of his study is the analysis of collocations, practical applications of which are provided in chapter 36, 'Discourse analysis and language teaching', where Elite Olshtain & Marianne Celce-Murcia note that 'so-called equivalent words in two different languages might function quite differently in terms of collocations, range of specific meanings, and typical discourse functions' (175). They also provide clear definitions of coherence and cohesion (717–718), which supplement those provided by Stubbs, and make a very strong case for the importance of discourse analysis to communicative language teaching.

Another link between corpus-based discourse analysis and pedagogy is provided by Douglas Biber & Susan Conrad in chapter 9, 'Register variation: a corpus approach', in which a corpus-based analysis reveals features of academic prose that are rare in colloquial registers, and hence potential sources of difficulty for beginning students. A welcome feature of this chapter is that it considers oral and literate registers in Korean and Somali as well as in English. It also demonstrates how cross-linguistic comparison is possible using multidimensional analyses, in which language-specific linguistic features which distinguish registers are identified and then used for cross-linguistic comparison. This approach promises to overcome at least some of the problems discussed by John Myhill in chapter 8, 'Typology and discourse analysis'. Despite the ideological compatibility between discourse analysis and typology, both of which are 'based on empirical data rather than thought experiments' (161), Myhill notes the practical difficulties facing typologists who attempt to take discourse phenomena into account. For a start, typologists rely heavily on reference grammars, which typically contain little in the way of discourse analysis (162), and where discourse phenomena are included, the variety of terminology used makes comparisons difficult. After discussing more theory-neutral approaches such as the measurement of topicality in terms of referential distance and topic persistence (the number of times an item is referred to in the following text), Myhill suggests that the most likely source of progress in discourse-oriented typology 'is the development of a megacorpus of translation materials from a single text into a wide variety of genetically unrelated languages, with interlinear glosses' (171).

A sociolinguistic, corpus-based analysis of enumeration in French is the central topic of chapter 15, 'The variationist approach toward discourse structural effects and socio-interactional dynamics' by Sylvie Dubois & David Sankoff. The variationist approach which they illustrate takes into account four general principles: (1) the specific, non-sentential, nature of oral speech; (2) the type of corpus; (3) the specific levels of discourse organisation applicable in a given corpus; and (4) the nature of the interaction between these levels.

The final example of corpus-based discourse analysis I will mention is chapter 6, 'Discourse and information structure' by Gregory Ward & Betty J. Birner. This study makes use of 'a combined corpus consisting of several thousand naturally occurring tokens … collected from both speech and writing' (124) to investigate the functions of various non-canonical word orders in English. Apart from the use of a corpus, the activity of linking discourse functions with syntactic constructions is one which would commonly be associated with the field of pragmatics. There are a number of other chapters in which the close relation between discourse analysis and pragmatics is particularly evident, and it is to these that I turn next.

Discourse analysis and pragmatics. The problematic nature of the distinction between discourse analysis and pragmatics is noted by Laurel J. Brinton (138), in chapter 7, 'Historical discourse analysis' (which, incidentally, provides an excellent summary of three related approaches: historical discourse analysis, discourse-oriented historical linguistics, and diachronically oriented discourse analysis). The relation between discourse analysis and pragmatics is addressed more obliquely in chapter 4, 'Discourse and semantics' by Neal R. Norrick. Norrick provides a tour-de-force of historical detail, which purports to reveal a shift in semantic studies from truth-conditional to discourse-oriented approaches (78). In fact, the shift that he describes is better understood as being towards cognitive/pragmatic approaches, rather than towards discourse-oriented approaches, if the latter are understood as the study of 'naturally occurring connected spoken or written discourse' (Stubbs 1983: 1) rather than fabricated or experimental data. The closest Norrick gets to truly bringing considerations of discourse to bear on a semantic concern is his final section, 'Metalinguistic perspectives on figurative meaning', which uses evidence from 'clarifications, corrections, and explicit metalinguistic comments in everyday talk' (88) to shed light on the cognitive processing involved in the production and interpretation of figures of speech. Despite his use of naturally occurring data, however, the concern with process (specifically cognitive processing) over product is typical of a pragmatic rather than a discourse-oriented approach, particularly in cognitively-based theories such as relevance theory.

Differences between the questions asked and the methods of investigation adopted by discourse analysis and pragmatics are evident if we compare

chapter 3, 'Discourse markers: language, meaning, and context' by Deborah Schiffrin, and chapter 5, 'Discourse and relevance theory' by Diane Blakemore. Blakemore's main claim is that

> a theory of discourse comprehension should not be regarded as a by-product of a theory of discourse acceptability (or coherence), but is actually the key to the explanation of our intuitions about coherence. In other words, it is the notion of coherence that is derivative. (102)

She argues that coherence (or acceptability) is symptomatic of the search for relevance, which amounts to an attack on discourse analysis itself, since, she claims, in both structural and functional approaches to discourse analysis 'the main concern is with the ACCEPTABILITY of discourse' (101). In the light of the volume under review, however, this view is decidedly outdated.

According to Blakemore, discourse analysis studies external phenomena, such as coherence relations, whereas 'the concern in relevance theory is with something internal to the human mind' (101). Central to her account is the claim that 'in a relevance theoretic framework a coherence relation should never be computed unless its identification contributes to adequate contextual effects' (106), where 'computing' a coherence relation involves 'recovering [the] proposition that a particular coherence relation holds' (108). However, in discussing reformulations, Blakemore includes these in a typology of interpretive representations, including reported speech, free indirect speech, interrogatives, irony and metaphor, whilst reiterating that the identification of an utterance (by an addressee) as a reformulation is only a possible by-product of the process of utterance interpretation, 'and will not itself contribute to the identification of contextual effects' (112). This demonstrates that even relevance theory has recourse to descriptions of external phenomena (interpretive representations) rather than dealing only with processes or 'objects internal to the human mind' (101) when describing reformulation. Perhaps tellingly, the only naturally occurring (non-fabricated) example in the chapter (109) is one in which the identification of a coherence relation (in this case, exemplification) is necessary for the recovery of adequate contextual effects. What is needed to support Blakemore's account is an example where the recognition of exemplification is NOT necessary for adequate contextual effects to be recovered, and none is provided.

According to Schiffrin, discourse can be viewed as consisting of different PLANES: 'a participation framework [turn-taking, etc.], information state, ideational structure, action structure, exchange structure' (57). Although a given discourse marker has a primary function related to a specific plane, it can also connect utterances across different planes, and this 'helps to integrate the many different simultaneous processes underlying the construction of discourse, and thus helps to create coherence' (58). Thus in Schiffrin's model, coherence is a by-product of the integration of various processes,

just as in relevance theory it is a by-product of the search for relevance. But whereas in relevance theory, discourse markers always guide the search for adequate contextual effects, defined in terms of information processing, discourse markers in Schiffrin's model perform different primary functions.

In addition to her own model, Schiffrin discusses Halliday & Hasan's (1976) analysis of cohesion (55–56) and Fraser's (1990, 1998) pragmatic model (58–59). She notes that Fraser's account is procedural (as opposed to conceptual, a distinction which is important, but not unique, in relevance theory), and proposes a unitary semantic content for each expression. She argues that such an account necessarily downplays (and fails to deal with) processes such as semantic bleaching and metaphorical extensions of meaning from a 'source domain', or the apparently gradual nature of grammaticalisation; yet these issues have all been tackled in relation to future expressions (whether successfully or not is debatable) from a semantically unitary, procedural perspective in Nicolle (1998a, b).

The main differences which Schiffrin notes between the discourse analytic and pragmatic approaches are the data-driven nature of the discourse analytic approach, in which meaning is located in 'the sequential and interactional contingencies of actual language use' (67), as opposed to the theory-driven nature of the pragmatic approach, in which meaning is constructed by speakers and recovered by addressees; this is a view that is supported by comparison of Schiffrin's and Blakemore's contributions. (Although Schiffrin's is almost the only contribution containing cross-references to other chapters, she does not refer explicitly to Blakemore's chapter.)

Critical assessment. As I mentioned above, I have focused for the most part on positive contributions to the volume, so I now offer some more critical remarks. A few chapters, particularly in part IV 'Discourse across disciplines', were at best tangential to discourse analysis no matter how widely construed, and yet some important topics were overlooked. For example, there was no single account of conversation analysis (viewed either as a subdiscipline within discourse analysis or as an alternative approach), and the few contributors who mentioned conversation analysis assumed familiarity with it. In addition, given that discourse analysis was conceived of widely enough to include the study of oral and written narratives in addition to conversations, there was scant reference to text linguistics, which also goes by the name of discourse analysis (e.g. Dooley & Levinsohn 1994/2000). Studies in this area have revealed a number of cross-linguistic discourse-related features worthy of mention, such as typical ways of introducing new participants into a discourse, less explicit reference to major participants as opposed to minor participants and props, and so forth. Perhaps most disappointing of all was the paucity of 'raw' data analysis in many of the contributions, including chapter 29, 'Discourse and aging' by Heidi Hamilton, one of the editors. This is particularly surprising since the editors state that

they encouraged contributors 'to illustrate and substantiate general points by drawing upon concrete analyses of real discourse data' (7). Although there are many references to prior analyses of real data (indeed, it would be difficult not to cite examples of empirical research in such a volume), a few contributions contain no 'raw' data at all.

In summary, the volume as a whole is less coherent than I was expecting, and the quality of the contributions varies considerably. There is also more emphasis on theoretical than on practical considerations, and this is reflected in the lack of sample data analyses.

REFERENCES

Dooley, R. A. & Levinsohn, S. H. (1994; revised 2000). *Analyzing discourse: a manual of basic concepts*. SIL International/University of North Dakota. [http://www.und.nodak.edu/dept/linguistics/textbooks/DooleyLevinsohn.pdf]

Fraser, B. (1990). An approach to discourse. *Journal of Pragmatics* **14**. 383–395.

Fraser, B. (1998). Contrastive discourse markers in English. In Jucker, A. & Ziv, Y. (eds.), *Discourse markers: description and theory*. Amsterdam & Philadelphia: John Benjamins. 301–326.

Halliday, M. & Hasan, R. (1976). *Cohesion in English*. London: Longman.

Labov, W. & Waletzky, J. (1967). Narrative analysis: oral versions of personal experience. In Helm, J. (ed.), *Essays on the verbal and visual arts: Proceedings of the 1966 Annual Spring Meeting of the American Ethnological Society*. Seattle, WA: University of Washington Press. 12–44. [Reprinted in 1997, *Journal of Narrative and Life History* **7**. 3–38.]

Nicolle, S. (1998a). A relevance theory perspective on grammaticalization. *Cognitive Linguistics* **9**. 1–35.

Nicolle, S. (1998b). 'Be going to' and 'will': a monosemous account. *English Language and Linguistics* **2**. 223–243.

Stubbs, M. (1983). *Discourse analysis: the sociolinguistic analysis of natural language* (Language in Society **4**). Chicago: The University of Chicago Press.

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(Received 2 June 2003)

J. Linguistics **40** (2004). DOI: 10.1017/S0022226703302361

Jae Jung Song, *Linguistic typology: morphology and syntax* (Longman Linguistics Library). Harlow: Longman, 2001. Pp. xix + 406.

Reviewed by DUNSTAN BROWN, University of Surrey

The back cover of this book characterizes it as 'an up-to-date critical introduction to linguistic typology'. The title might suggest that it gives equal coverage to morphology and syntax, but it is mainly about syntax. Chapter 1, 'Introducing linguistic typology', is a useful introduction to typology. For someone new to the area, it lays out the object of linguistic typology and discusses some of the important underlying assumptions (e.g. the Principle of Uniformitarianism). As an introduction, the book is up-to-date in that

it discusses language sampling, an issue which has certainly increased in importance.

Since Greenberg's work in the early 1960s, word order has been a major topic of research in linguistic typology. Chapter 2, 'Basic word order', takes the reader from these beginnings to the work of Hawkins, Siewierska and Dryer. There is also a concentration on the explanations put forward for the statistical relationships found between word order types. The author discusses theories based on operator-operand, head-dependency, and Dryer's Branching Direction Theory, which treats word order relationships in terms of whether a language is left- or right-branching. For a student new to this topic, the chapter provides a sound overview. It has been demonstrated by Mithun that there are languages where word order is pragmatically based, with no basic order, and this poses a particular problem for claims about basic word order. There is a brief discussion of this work at the beginning of the chapter.

Chapter 3, 'Case marking', covers work on the marking of verbal arguments. The explanation of ergative-absolutive and nominative-accusative alignment is clear. However, as the absolutive arguments in the Avar examples ((27) and (28) on page 145), taken from other sources, are glossed as NOM, following the Russian tradition, the lack of explanation for this means that there is potential to confuse a reader who is just coming to grips with the concept of ergative-absolutive alignment. Such quibbles aside, the overview and clarity of writing indeed make for a good introduction to the topic of the marking of verbal arguments, and the final part of the chapter looks at work on the relationship between case marking types and word order types.

Relative clauses are the subject of chapter 4. As one would expect, Keenan & Comrie's Accessibility Hierarchy, and responses to it, form the core of this chapter, which also discusses work on processing and structural complexity, such as that of Hawkins, as explanations for the rankings of grammatical relations which can be relativized.

Chapter 5, 'Causatives', contrasts the author's own typology with what is termed 'morphologically based typology'. The author's typology identifies causative constructions in terms of a COMPACT type, an AND type and a PURP type. The first of these typically includes causatives which are lexical or morphological. The AND and PURP types are syntactic. The AND type involves conjunction or juxtaposition of the cause and the effect clauses, whereas the PURP type 'consists of two clauses, one denoting $event_x$ carried out for the purpose of realizing $event_y$ denoted by the other' (294).

Chapter 7 discusses the application of linguistic typology to historical linguistics, as well as to first and second language acquisition. Consideration of historical linguistics is clearly useful in a critical introduction to typology, as typological knowledge is a useful tool for evaluating historical

reconstruction. The discussion of accessibility to relativization in first and second language acquisition concludes that '[t]he data from L1 acquisition have turned out to be disappointingly inconsistent when compared with those from L2 acquisition' (334).

The final chapter, 'European approaches to linguistic typology', claims to provide an overview of European schools of linguistic typology which are not considered Greenbergian. It is always brave to undertake surveys of this type, as important groups can easily be left out. The author concentrates on three particular schools, the Leningrad Typology Group, the Cologne UNITYP Group and the Prague School. These are chosen because the author sees them as standing out from the other non-Greenbergian approaches 'in terms of depth or breadth of their typological investigations and, more importantly, in terms of theoretical coherence of their respective approaches to linguistic typology' (339). But theoretical coherence can be a difficult notion to pin down. As noted, surveys of this kind can attract criticism, because of who they leave out, and this one is no exception. Why, for instance, is the group of Aleksandr Kibrik in Moscow not mentioned?

This book is a sound critical introduction to linguistic typology. However, it concentrates only on a particular set of the issues which typologists have addressed, and in the preface the author explicitly opts for theoretical depth rather than broad coverage. Typological work which concentrates on individual grammatical categories is not covered, for example. However, as an introduction to some of the major topics within linguistic typology, this book will prove to be valuable reading.

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(Received 11 September 2003)

J. Linguistics **40** (2004). DOI: 10.1017/S0022226703312368

Marina Vigário, *The prosodic word in European Portuguese* (Interface Explorations **6**). Berlin & New York: Mouton de Gruyter, 2003. Pp. xvi + 440.

Reviewed by Pilar Prieto, ICREA and Universitat Autònoma de Barcelona

This book is a slightly modified version of the author's dissertation, completed at the University of Lisbon in November 2001. The monograph investigates the properties of a specific prosodic constituent in European Portuguese (henceforth EP), the Prosodic Word (ω, also PW). The investigation of the relevance of prosodic domains in the phonological component, as well as their relationship with morphological and syntactic domains, is in

itself an important contribution to the literature on prosodic phonology. Moreover, it constitutes an innovative contribution to Portuguese phonology. As Vigário demonstrates throughout her book, the prosodic word domain plays a very important role in EP phonology, as it allows for the establishment of significant generalizations regarding the domains of occurrence of a number of phonological processes in this language.

Chapter 1 provides a useful introduction to the theoretical background on prosodic phonology and, specifically, to the concept of prosodic word in the literature and the diagnostics commonly used to detect it. Chapter 2 revises previous traditional studies of EP word phonology. Chapter 3 presents a brief description of various EP phonological phenomena, ranging from segmental processes to prominence and tonal phenomena; in this chapter, initial evidence is given in favor of the relevance of the prosodic word domain for the application of some of these processes. Chapter 4 reviews the phonological facts about pronominal clitics in EP and argues for their non-affixal status. Chapter 5, which could be considered the core of the book, concentrates on phonological facts serving as reliable diagnostics for the presence of the prosodic word in EP; it also discusses the status of stressless prefixes and pronominal clitics, and how they should be integrated into the prosodic word structure. In chapter 6, Vigário deals with the contrasting behavior between combinations of two prosodic words within the phonological phrase and combinations of two prosodic words that exhibit more than a single word stress. She proposes that the elements belonging to these constructions are grouped together within a 'compound prosodic word domain'. Chapter 7 deals with the reduction phenomena that specifically affect clitics. Finally, chapter 8 gives a thorough summary of the main results presented in the book together with directions for future research.

One of the main issues tackled by Vigário in her book is the definition of the prosodic word domain and its relevance for the phonology of EP. One of the common crosslinguistic tests for the prosodic word domain, which is taken by Vigário to be the most reliable for EP, is the one-to-one correspondence observed between a lexical stress domain and a prosodic word. That is, the main diagnostic used for the detection of the prosodic word in EP is the presence of one primary word stress. Independently, the prosodic word is used as a domain by the following phonological phenomena in EP: (1) phonological processes such as initial /ɾ/-strengthening, V2 semivocalization, syllable degemination, etc.; (2) phonotactic restrictions: prosodic words in EP do not start with [ʎ], [ɲ], [ɾ] and [ɨ]; (3) stress-related phenomena: apart from being the domain for word stress assignment, prosodic words are the domain for initial secondary stress assignment, emphatic and focal stress; (4) tonal association: the presence of pitch accents signals a prosodic word; (5) deletion processes involving whole prosodic words under identity (e.g. *alegremente e tristemente* > *alegre e tristemente* 'happily and sadly'). In chapter 5, the reader finds a

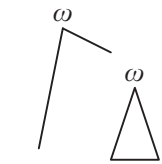
comprehensive description of these processes. In my view, one of the main contributions of Vigário's book is that it presents in a clear way sound and convincing evidence that the prosodic word domain is really crucial in EP phonology.

Another important issue in Vigário's book is the relationship between the morphosyntactic component and the phonological component; that is, how morphosyntactic structures are mapped onto prosodic domains. First, languages vary in the ways they use morphosyntactic information to construct phonological domains, and this book presents good evidence that EP differs from northern European languages in the way the prosodic word domain is constructed (see section 6.5 for the different behavior of German and Dutch suffixes). Similarly, recent work on the p-phrase construction has revealed crucial crosslinguistic differences across Romance languages (Ghini 1993, Sandalo & Truckenbrodt 2002, Elordieta et al. 2003, Prieto 2003). Second, the book demonstrates that proposals expounding the idea that the prosodic word domain is isomorphic with a morphosyntactic domain (that is, that the prosodic word domain corresponds to the morphological word node which dominates a stem and any adjacent affixes) are not possible, or at least are very difficult to maintain. In section 5.6, Vigário offers an example of the non-isomorphism between morphosyntactic and prosodic structure: she establishes that the prefix *des-* selects either an adjectival or a verbal base, showing that this prefix does not really attach to the nominal base *organização* but to the theme *organiz-* in an example such as *des-organização* 'disorganization'. As a reader, I would have liked to see more evidence adduced for the requirement of prosodic domains to be prosodically encoded. Something that could be regarded as further evidence in favor of the independence of prosodic structure concerns the minimality requirements on prosodic words: in languages like Spanish or Italian, prefixes can form prosodic words if they are bisyllabic (cf. Peperkamp 1997). The fact that in these languages one needs at least bisyllabic bases to construct a prosodic word cannot be straightforwardly explained within the morphosyntactic approach (see chapter 6 for an account of these particular data).

Another very interesting topic addressed by Vigário's book is how the morphological structure is incorporated into the prosodic word structure in EP. While the study of the morphology–prosody interface has remained an important topic in prosodic phonology studies from its inception, we still have a long way to go to answer basic questions about how morphological structure is integrated into prosodic structure. Morphosyntactically, the minimal prosodic word in EP (and in many languages) is basically formed by a stem plus suffixes that do not constitute independent domains for lexical stress assignment. Stressed affixes (prefixes or suffixes), that is, affixes that constitute independent domains for word-level stress assignment, form separate prosodic word domains. But what is the status of stressless prefixes and clitics? How are they incorporated into prosodic structure? In section

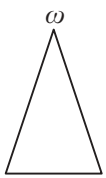
5.3, Vigário presents ample evidence that prefixed words display a phonological behavior that clearly contrasts with that of suffixed forms. For example, unlike ɾ-initial suffixes, /ɾ/-initial stems and prefixes undergo /ɾ/-strengthening (*rerubricar* 'to sign again' is pronounced [ʁ]*e*[ʁ]*ubricar*). As shown in (1), while the majority of EP suffixed forms are instances of INCORPORATED structures, forms with unstressed prefixes are instances of ADJOINED structures.

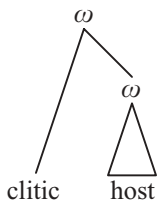
(1) (a) EP suffixed forms (b) EP words with stressless prefixes



The need for adjoined structures in the prosodic hierarchy is further evidenced by host plus clitic combinations. In section 5.4, Vigário presents convincing phonological evidence that pronominal enclitics display a special phonological behavior with respect to the way they are prosodized with their hosts. The fact that enclitics show the maximal degree of cohesion with their hosts is interpreted by Vigário as strong evidence that pronominal enclitics are directly INCORPORATED into the prosodic word dominated by their host, while pronominal proclitics are ADJOINED to the following prosodic word, as the representation in (2) shows.

(2) (a) EP enclitics (b) EP proclitics





This contrasting phonological behavior between proclitics and enclitics is commonly found crosslinguistically. As Vigário points out in chapter 1, Dutch clitics display similar behavior (for a parallel proposal, see Booij 1996). The contrast is explained by Vigário by appealing to the difference between lexical and postlexical phonologies: '[only] the left edges of a lexical prosodic word are postlexically projected' (213). I wonder if this behavior can be interpreted more generally as the crosslinguistic tendency for prosodic domain-initial positions to behave in a specially strong way (this would also derive the effect that only the left edge of the prosodic word is preserved,

https://doi.org/10.1017/S0022226703212366 Published online by Cambridge University Press

while the right edge appears to be invisible). This special strength of domain-initial positions is found elsewhere in EP (see section 5.4.1 in chapter 7 on the importance of the intonational phrase-initial position in EP) and other languages.

Another type of structure needed in EP prosodic phonology is the 'compound structure': this occurs when two prosodic words ω are grouped together within a constituent which is of the same type as the constituents it dominates (ω^{max}). This structure does not behave as if it were the next highest constituent in the prosodic hierarchy. Compound prosodic words are formed, for instance, by: (a) derived words with suffixes which receive stress independently of their bases (e.g. *-mente* words such as *alegremente* 'happily', cf. (3a) below); (b) derived words with stressed prefixes such as *pós-modernismo* 'postmodernism' (cf. (3b)); (c) compounds where both forms receive stress (stem plus stem compounds).

(3) (a) words with stressed suffixes (b) words with stressed prefixes

In sum, the prosodic structures proposed by Vigário crucially rely on adjunction and compound structures, in violation of the Strict Layer Hypothesis. As Vigário contends, 'EP provides additional arguments in favor of the weakening of SLH, as well as against the clitic group as a constituent of the prosodic structure' (331).

I see this book as a very strong contribution to the fields of prosodic phonology and Romance linguistics. Detailed prosodic studies of particular languages are valuable contributions to the cumulative effort of describing grammar. Thus, this work represents a key case study of phonological and morphological interactions, and adds to the recent crosslinguistic work undertaken for other prosodic domains. Readers who follow issues in prosodic phonology will recognize Vigário's work as one of the most recent additions to a group of works published over the past decade that analyze in detail the interactions between the phonology and the morphology components of grammar.

Finally, I am sure that, as the author concludes, this thorough, very informed and accurate description of the interactions between phonology, prosody and morphology in Portuguese will spark interest in further crosslinguistic work in prosodic phonology. This most recent addition to the Mouton Interface Exploration series, *The prosodic word in European*

Portuguese, will definitely provide scholars, teachers, students and other readers with valuable insights that should lead to a fuller appreciation of the interactions between prosody and morphology.

REFERENCES

Booij, G. (1996). Cliticization as prosodic integration: the case of Dutch. *The Linguistic Review* **13**. 219–242.

Elordieta, G., Frota, S., Prieto, P. & Vigário, M. (2003). Effects of constituent length and syntactic branching on intonational phrasing in Ibero-Romance. In Solé, M. J., Recasens, D. & Romero, J. (eds.), *Proceedings of the XVth International Congress of Phonetic Sciences, Barcelona, August 3–9, 2003* (vol. 1). 487–490.

Ghini, M. (1993). N-formation in Italian: a new proposal. *Toronto Working Papers in Linguistics* **12**. 41–77.

Peperkamp, S. (1997). *Prosodic words* (HIL Dissertations **34**). The Hague: Holland Academic Graphics.

Prieto, P. (2003). Syntactic and eurhythmic constraints on phrasing decisions in Catalan. Paper presented at the GLOW Workshop on Intonation Boundaries. [Forthcoming in *Studia Linguistica*.]

Sandalo, F. & Truckenbrodt, H. (2002). Some notes on phonological phrasing in Brazilian Portuguese. *MIT Working Papers in Linguistics* **42**. 285–310.

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(Received 29 July 2003)

J. Linguistics **40** (2004). DOI: 10.1017/S0022226703322364

Yoad Winter, *Flexibility principles in Boolean semantics: the interpretation of coordination, plurality and scope in natural language*. Cambridge, MA: MIT Press, 2001. Pp. x + 297.

Reviewed by ROBERTO ZAMPARELLI, Università di Bergamo

The goal of this book is to develop a unified theory of coordination, plurality and (some) scope phenomena in natural language. The author, Yoad Winter, is a lecturer at the Technion, trained in the Dutch logical semantics tradition. Parts of this book (in particular chapters 2 and 3) come from his 1998 Ph.D. dissertation at the University of Utrecht; all parts have been reworked and modified, and the book reads as a single, well-integrated piece of work, assuming a reasonable working knowledge of formal semantics.

It is not a simple book, even by the standards of other monographs on similar topics (e.g. Lasersohn 1995 and Schwarzschild 1996). Winter writes with extreme clarity and an excellent sense of structure; the complexity arises from the many internal connections and from the scope and originality of the solutions proposed. Indeed, one of the merits of this work is the ability to integrate classic semantic problems like coordination and plurality with

a general view on TYPE-SHIFTING and CATEGORY-SHIFTING semantic operators, which are in turn linked to the syntax of Determiner Phrases (DPs) in ways that go much beyond Partee-Rooth's (1983) original insights. Other highlights of the book are a theory of CHOICE FUNCTIONS (CF) fully integrated with Generalized Quantifier (GQ) theory, a new typology of predicates and a theory of the effect of number on many distributivity puzzles. In short, an extremely interesting and valuable book for anybody interested in formal linguistics. I will sketch the contents of the six chapters, then go back to some of the issues for a more critical discussion.

The starting point for Winter's theory is the idea that coordination should be viewed as a unitary operation over domains that satisfy the property of being Boolean algebras (BOOLEAN DOMAINS, Keenan & Faltz 1985). In these domains, conjunction is the MEET operation ($\sqcap$), disjunction is JOIN ($\sqcup$).

This generalized meaning for *and* is spelled out as logical conjunction for propositions (type *t*), and as set intersection for singular predicates ($<et>$-types). *E*-type entities do not have the appropriate Boolean structure, so Boolean conjunction cannot apply to them. As a consequence, no category has *e*-type in this theory. Even examples like (1), often taken as evidence for a non-intersective $<ee>e$ conjunction, are derived from the application of covert operators to the intersection of two Montagovian GQs for *John* and *Mary*.

(1) John and Mary met.

Winter introduces two type-shifting operators, *min* (MINIMUM SORT), which extracts the set of minimal sets in a GQ, and **E** (EXISTENTIAL RAISING), which applies to a set of pluralities and returns an existential GQ over these pluralities. **E** and min are composed in a COLLECTIVITY RAISING operator ($\mathbf{C}=\lambda Q_{<<et>t>}\mathbf{E}(\min(Q))$). In (1), **C** gives the set of properties of the plurality formed by John and Mary. Note that Winter adopts the Bennett-type system, where singular individuals are *e*-type and plural ones are $<et>$-type, so **C**([[John and Mary]]) is an $<<<et>t>t>$-type quantifier ($<ettt>$).

This system is successfully applied to more complex coordinations such as *John and* [*Mary or Sue*] *met* (resolved as *John and Mary met or John and Sue met*) and *Dylan and* [*Simon and Garfunkel*] *wrote many hits in the 1960s*, whose most salient reading is illustrated in (2a).

(2) (a) $[\mathbf{C}(D) \sqcap [\mathbf{C}(\mathbf{S} \sqcap G)]](\mathbf{write\_many\_hits}')$ (Winter's (73), ch. 2)
(b) $[D_{<ett>} \sqcap [\mathbf{C}(\mathbf{S} \sqcap G)]_{<ettt>}](\mathbf{write\_many\_hits}')$

Note that the alternative structure in (2b) doesn't cause any type mismatch at the level of the conjunction. Winter concludes that Partee & Rooth's last-resort strategy for type-shifting ('type-shift only to avoid a type mismatch') is too restrictive: **C** should then be free to apply whenever possible.

https://doi.org/10.1017/S0022226703212366 Published online by Cambridge University Press

In chapter 3, 'The choice-function treatment of indefinites', Winter turns to the question of why simple singular and plural indefinites can scope out of syntactic islands (Fodor & Sag 1982). The answer is the CHOICE FUNCTIONAL account of Winter (1997), illustrated in (3).

(3) (a) If some building in Washington is attacked by terrorists then US security will be threatened. (Winter's (28), ch. 3)
(b) $[\exists f[\mathrm{CH}(f) \wedge \mathbf{attacked}'(f(\mathbf{building}'))]] \rightarrow \mathbf{threatened}'(\mathbf{security}')$
if > some
(c) $[\exists f[\mathrm{CH}(f) \wedge [[\mathbf{attacked}'(f(\mathbf{building}'))] \rightarrow \mathbf{threatened}'(\mathbf{security}')]]$
some > if

One advantage of this approach is that, as observed in Ruys (1992), distributive effects over indefinite subjects remain island-bounded even when the indefinite appears to take scope outside islands: the pragmatic oddness of (4a) is due to the impossibility of obtaining the reading in (4b), where both the indefinite and the distributivity operators take wide scope (WS) outside the conditional. (4c), where the indefinite has wide scope and the distributivity operator has narrow scope (NS), is pragmatically odd but possible.

(4) (a) #If three women gave birth to John, then he has a nice mother. (Winter's (3), ch. 2)
(b) There is a set A of 3 women such that, for each member of A, if that member gave birth to John, then he has a nice mother.
WS of '3 women' and distributivity
(c) There is a set A of 3 women such that if each member of A gave birth to John, then he has a nice mother.
WS of '3 women', NS for distributivity

In the CF account the indefinite never really leaves the island, and distributivity (D) simply applies to its standard scope position within the conditional:

(5) $[\exists f[\mathrm{CH}(f) \wedge [\mathrm{D}(f(\mathbf{3\ women}'))(\mathbf{give\_birth\_to\_John}')] \rightarrow$
$\mathbf{has\_nice\_mother}'(\mathbf{John})$

Winter proposes that CFs are the ONLY system to interpret indefinites, and that their *e*-type output (which couldn't be accepted by Boolean coordination) is lifted to the type of an existential GQ by two operators: $<\cdot>_{<ett><ettt>}$ and $<\cdot>^{d}_{<ett><ett>}$ (the latter is the distributive version of the former). This move allows a uniform treatment of cases where the denotation of the nominal restriction is empty (i.e. $\forall f <f>(\emptyset)=\emptyset$). The CF treatment is then extended to Skolem functions and intensional cases.

Chapter 4, 'Predicate-quantifier flexibility', examines the difference between argumental and predicative uses of determiners. The basic empirical claim is that determiners pattern together with respect to the possibility of (i) taking scope past islands; (ii) appearing in canonical predicative

positions; (iii) introducing the subjects of predicates such as *be numerous*/*be a good team*. Simple indefinites have all of these properties; *no*, *each*, *every*, *most* and 'complex numerals' (e.g. *many*, *at most 3*, *exactly 3*) have none. Winter's explanation rests on two ideas: first, some determiners are lexically quantificational (*no*, *each*, *every*, *most* and complex numerals), others (*the*, *a* and the simple numerals) are predicate modifiers; second, determiners belong to different parts of the DP structure:

(6) (a) *no*, *each*, *every*, *most*, *exactly 3*, *both* (in *both John and Mary*) are in [Spec,DP]. They are unambiguously GQs.
(b) *Some* (singular and plural) and its empty counterpart $\emptyset_{cf}$ are in D, projecting a D′ nominal, not a full DP. They originally denote GQs, but can shift to a predicative meaning.
(c) *A*, *one*, *two*, *the* and its empty counterpart $\emptyset_{the}$ are within NP. They are originally predicate modifiers, but can shift to GQs.
(d) Proper names are Ns that project a lexical structure [D′ $\emptyset_{cf}$ [NP $\emptyset_{the}$ PN]].

There is a connection between the position of determiners and the possibility of them type-shifting. Elements in [Spec,DP] can neither type-shift into predicate nominals nor be interpreted via CF; they are RIGID. Elements in D′ are FLEXIBLE: their original denotation can be changed by the operator min. Determiners within NP are also flexible as long as the whole D′ structure is projected, but in syntactic environments which obligatorily select bare NPs (e.g. the verbless predications discussed in section 4.3.4 of the book), NPs have only a predicative reading (CFs are excluded). This syntax/semantics mapping pulls together the three properties mentioned above, and gives an account of the necessity, in Hebrew, of an overt copula with conjunctions such as *these two women are an author and a teacher*.

The last two chapters, 'Plural quantification and the atom-set distinction' and 'On distributivity', are devoted to distributivity and collectivity phenomena. One central theme is the issue of which distributive phenomena should be accounted for as a matter of logic and which should be left to the lexical semantics of predicates. Winter's position is that the inference from (7b) to (7b), to the extent that it is possible, comes from the meaning of *sleep*. Similarly, the contrast in (8) is not due to a type problem.

(7) (a) The girls slept.
(b) Every girl slept.
(8) The {committee / *student} gathered.

A second theme is connected to the paradigm in:

(9) (a) {The girls / three girls} {slept / met / were a good team}.
(b) {All the girls / exactly three girls} {slept / met / *were a good team}.
(c) {Every girl / exactly one girl} {slept / *met / *was a good team}.

https://doi.org/10.1017/S0022226703212366 Published online by Cambridge University Press

The determiners in (9b) and (9c) are all rigidly quantificational, yet this is not sufficient to explain the difference between *meet* and *be a team*, both normally classified as 'collective predicates'. A better classification – Winter claims – should distinguish between set-denoting predicates (like *meet*) and atom-denoting predicates (like *sleep* and *be a team*; the latter contains special 'impure' atoms, BUNCHES). Only set-denoting predicates are sensitive (in meaning or grammaticality) to the morphological number of their subjects (witness *no boys*/**boy met*). In the final analysis, collectivity depends on three factors:

(i) Whether the predicate ranges over atoms or sets.
(ii) Whether the number of the subject and predicate is singular or plural. Plural morphology is by itself meaningless, but it creates a type-mismatch which triggers the application of semantic pluralization (*pdist*) on atom predicates (section 5.4.1).
(iii) Whether the determiner in the nominal is flexible or rigid.

Winter assumes that all quantificational determiners, whether plural or singular, require singular, $<et>$ restrictions. When the restrictor is syntactically plural, Det must be lifted by another type-fitter, *dfit*. For illustration, consider (10).

(10) (a) ⟦No girls slept⟧ =
(b) $(dfit(\mathbf{no}_{<et><ett>}))(\text{PL}_{<ett><ett>}(pdist_{<et><ett>}(\mathbf{girl}'_{<et>})))$
$(\text{PL}(pdist(\mathbf{sleep}')))=$
(c) $\mathbf{no}_{<et><ett>}(\cup(pdist(\mathbf{girl}')))(\cup((pdist(\mathbf{girl}'))\cap(pdist(\mathbf{sleep}'))))$

In (10), PL is the identity function and *pdist/dfit* are abstract operators whose introduction solves type mismatches. The existence of *dfit* (and its counterpart *qfit*, QUANTIFIER FITTING) is justified in section 5.5 on the basis of the property of conservativity. The book ends with a discussion of whether distributivity should be atomic or non-atomic (based on COVERS).

The theory proposed by Winter is vast, and there are many issues worth discussing. I will limit myself to four aspects.

(i) BOOLEAN COORDINATION. Winter tries to explain the cross-categorial morphological uniformity of conjunction by appealing to the idea that, at an abstract level, all *ands* denote the same Boolean operator. This argument is weakened by the fact that *not*, another Boolean operator, cannot apply to most categories which *and* can apply to, and can have different morphologies (e.g. German *nein/kein*). Moreover, as pointed out in Schwarzschild (2001), it might be possible to construct a Boolean domain even assuming *e*-type denotations for some singular and plural nominals. On the empirical side, one problem is the treatment of 'split' readings of predicates, as in (11).

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(11) (a) These two women are an author and a teacher.
(Winter's (133), ch. 4)
(b) My guests were {linguists and philosophers / in the kitchen and in the bedroom}.
(c) The metal objects in the box are 200 screws and more than 500 nails.

Winter deals with (11a) applying min to $\langle f \rangle$(**author**′)$\sqcap\langle f \rangle$(**teacher**′) (see section 4.3.4); he also discusses some very interesting restrictions on the predicates which can undergo this type of conjunction. But his solution doesn't easily extend to (11b, c): the application of CF to bare plurals and PPs would give wrong scope predictions, and it would require a non-standard GQ type for PPs (see **the places we are looking for are Oslo and in the North of Norway*, contrasting with Winter's example (19), chapter 4). Finally, (11c) would be the conjunction of rigid GQs, which shouldn't allow CF/min at all. The second device Winter uses to obtain 'split' predicative readings, the STRONGEST MEANING HYPOTHESIS (section 2.4), is too strong; for instance, since *linguist* and *philosopher* denote lexically compatible properties, (11b) should only have the meaning that each one of my guests is both. A possible alternative approach might be to take (11b) as evidence for a non-Boolean semantics for *and* (SET-PRODUCT in Heycock & Zamparelli 2003), and to derive intersective and 'cumulative' readings from it.

(ii) CHOICE FUNCTIONS. Winter's analysis uses CFs for indefinites, and lifts them to a GQ domain. The motivation for this last move is the behavior of CFs with empty restrictions: in a non-empty domain where no cows exist, *some cow is red*, analyzed as in (12), would give absurd truth conditions if f(**cow**′) returned an individual rather than the empty quantifier.

(12) $\exists f[\mathrm{CH}(f) \wedge \mathbf{red}'(f(\mathbf{cow}'))]$ (Winter's (109), ch. 3)

Now, an integrated analysis of wide and narrow scope indefinites is surely desirable, but strictly speaking CFs are crucial only for the former, the 'specific' indefinites that give WS in (3a) above. For narrow scope indefinites, garden-variety existential quantifiers are sufficient. Existentials capture empty restrictions quite smoothly (too smoothly, in my view – nothing in them accounts for the residual infelicity of indefinites such as *a square circle was wide*). Thus, in order to test whether CFs suffer from an empty restriction problem, we need to ask what would be the WIDE SCOPE for (3a) if buildings in Washington didn't exist. Can we have intuitions about specific non-existent buildings? I doubt it. In conclusion, NS readings with an empty restriction tell us little about CFs, and WS readings that require CF give no evidence of an empty restriction problem.

The more general question, of course, is whether technical devices as powerful as CFs should find a place in a restrictive theory of grammar. The problems are known: the existential quantifier that closes a CF is always (and perhaps universally) invisible; some intermediate scopes that should in

principle be available with this mechanism are in fact not (see section 3.3.3); and the problem of connecting the free *f* variable with its existential without having the latter bind 'too much' (e.g. free pronouns) is non-trivial (see section 3.5.2). It is interesting in this respect to contrast CFs with the SINGLETON INDEFINITE approach (Schwarzschild 2002). In this theory, indefinites never really take WS – they just appear to. This is because, in context, an indefinite may end up being implicitly restricted to a property which applies to a single individual, and such an indefinite would be scopeless. While some problems remain in downward entailing contexts (see Chierchia 2001), this approach naturally fits Ruys' observations about distributivity and WS. Moreover, by switching the focus of the explanation from the determiner to its restriction, it covers one often overlooked difference between the WS of, say, *every N* and that of *a N*:

(13) (a) A dog followed [every person]. $\forall > a,\ a > \forall$
(b) If you meet [a person ??(with … / that …)], call me. *with* $a >$ *if*

Out of the blue, the scope of *every* in (13a) can easily switch around *a*; but, to give *a person* wide scope in (13b), additional material in the restriction is virtually necessary. The scope of quantifiers is determiner-driven, the scope of indefinites is restrictor-driven.

One important difference between singular indefinites and CFs is that the latter are more general: Winter applies them quite successfully to complex cases of Boolean disjunctions (section 4.2.6). A residual question, however, is why CFs cannot give disjunction a scope as wide as that of indefinites in the same position (contrast (14a) and (b)):

(14) (a) A man [who had met two women I know] arrived. *WS*: $2 > a$
(b) A man [who had met (either) Sue or Mary] arrived.
(b) CANNOT MEAN: 'Either a man who had met Sue arrived or a man who had met Mary arrived (but I don't know which of the two).'

(iii) THE SYNTAX OF RIGIDITY. Winter's mapping between meanings and DP positions requires some syntactic assumptions which are non-standard. One is the idea that X′ and XP levels might be independently selected by lexical and non-lexical heads (moreover, the discussion of *both … and* in section 4.3 shows that what matters semantically is whether a DP is projected or not, not whether its Spec is actually filled). Next, all rigid quantifiers are located in [Spec,DP] (a position usually reserved for possessor phrases, which aren't necessarily rigid). There are arguments for the idea that complex numerals are XPs in some Spec position (see Zamparelli 1995, section 6.3), but as Winter acknowledges, there is no evidence that *every*, *each* and *most* are anything but heads (cf. the failure of putative [Spec,DP] coordinations like *[*every or exactly one*] *person*). This is not a serious

problem, since the whole system could be easily recast with multiple levels of DP-internal projections. A harder empirical challenge is the fact that, in at least two cases, complex numerals pattern with simple numerals rather than with universal quantifiers: they are fine in Existential Sentences (*There were* (*exactly*) *three girls*) and (by and large) in predicative position, see (11c) and (15) from Italian. This suggests that the rigid/flexible typology might be insufficient.

(15) (a) I ragazzi erano {tre / esattamente tre / molti / tra
the boys were {three / exactly three / many / between
i venti e i trenta / *alcuni}
the twenty and the thirty / some}
'There were {three / exactly three / many / between twenty and thirty / some} boys.'

(b) Il ragazzo era {uno / esattamente uno / *ognuno /
the boy was {one / exactly one / everyone
*ciascuno}
each-one}
'There was {one / exactly one / everyone / each one} boy.'

(iv) INVISIBLE OPERATORS. Winter distinguishes two types of invisible semantic operators: TYPE-SHIFTERS, which apply in order to resolve type mismatches (e.g. *dfit*, *qfit*, *pdist*), and CATEGORY-SHIFTERS, which may apply any time they can (min, perhaps $<f>$ if we want to preserve a quantificational account for *a Norwegian is always tall*). To say that the latter are 'free' is misleading: in (2b), the application of **C** is not due to a mismatch, but if **C** didn't apply SOMEWHERE the whole coordination couldn't compose with the predicate. It may be that ultimately all semantic shifters apply only because they have to.

If this is so, perhaps the reason is that covert shifts have a cost (as in various current proposals on the syntax/semantics interface, Chierchia 1998, not to mention Minimalism). Isn't it possible, then, to perform derivations like (10) above in a way that doesn't require almost every word in the lexicon to be type-shifted twice? (Once, to satisfy a semantically null element; the second time, for the requirement that quantifiers input $<et>$ objects, which is odd, considering cases like *no two fingerprints are alike*, which seem to quantify over pairs.)

To be fair, it is difficult to know whether the rather baroque-looking machinery of (10) may, after all, turn out to be lean and necessary. To find out, one would need to compare it with another analysis with the same coverage, and I know of none. However, given that mass nouns and bare plurals are not in the package, the search for a full and adequate analysis remains open.

https://doi.org/10.1017/S0022226703212366 Published online by Cambridge University Press

REFERENCES

Chierchia, G. (1998). Plurality of mass nouns and the notion of 'semantic Parameter'. In Rothstein, S. (ed.), *Events and grammar*. Dordrecht: Kluwer. 53–104.
Chierchia, G. (2001). A puzzle about indefinites. In Cecchetto, C., Chierchia, G. & Guasti, M. T. (eds.), *Semantic interfaces: reference, anaphora and aspect*. Stanford, CA: CSLI Publications. 51–89.
Fodor, J. D. & Sag, I. A. (1982). Referential and quantificational indefinites. *Linguistics and Philosophy* **5**. 355–398.
Heycock, C. & Zamparelli, R. (2003). Friends and colleagues: plurality, coordination, and the structure of DP. Ms., University of Edinburgh & Università di Bergamo.
Keenan, E. L. & Faltz, L. M. (1985). *Boolean semantics for natural languages*. Dordrecht: Kluwer.
Lasersohn, P. (1995). *Plurality, conjunction and events*. Dordrecht: Kluwer.
Partee, B. H. & Rooth, M. (1983). Generalized conjunction and type ambiguity. In Bauerle, R., Schwarze, C. & von Stechow, A. (eds.), *Meaning, use and interpretation of language*. Berlin: Walter de Gruyter. 361–383.
Ruys, E. (1992). *The scope of indefinites*. Ph.D. dissertation, Research Institute for Language and Speech, Utrecht, The Netherlands.
Schwarzschild, R. S. (1996). *Pluralities*. Dordrecht: Kluwer.
Schwarzschild, R. S. (2001). Review of Yoad Winter's Ph.D. dissertation, *Flexible Boolean semantics: coordination, plurality and scope in natural language*. *GLOT International* **5**. 141–149.
Schwarzschild, R. S. (2002). Singleton indefinites. *Journal of Semantics* **3**. 289–314.
Winter, Y. (1997). Choice functions and the scopal semantics of indefinites. *Linguistics and Philosophy* **19**. 337–391.
Zamparelli, R. (1995). *Layers in the determiner phrase*. Ph.D. dissertation, University of Rochester. [Published by Garland, 2000.]

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(Received 15 September 2003)

J. Linguistics **40** (2004). DOI: 10.1017/S0022226703332360

Moira Yip, *Tone* (Cambridge Textbooks in Linguistics). Cambridge: Cambridge University Press, 2002. Pp. xxxiv + 341.

Reviewed by Scott Myers, University of Texas at Austin

Whenever I touch on tone in an introductory course on phonetics or phonology, there are always students who come up afterwards to talk about how cool it is and to ask questions. Perhaps they just find it intriguing to find that people speaking vary pitch, as if they were singing. Perhaps they like finding out that there is more to speech than consonants and vowels. But they often want to know what they can read to find out more about the topic. Up to now, there has been little to offer them. There are good discussions of tone in introductory textbooks such as Kenstowicz (1994) or Ladefoged (2001), but there is no space in such works to get very far into the subject. There has also been nothing one could recommend to colleagues looking for a review of the

tone literature. Even practising phonologists sometimes find the vocabulary and traditions of tonologists to be mysterious and daunting. There has been a need for a book that demystifies the area for non-specialists.

Now Moira Yip, one of the leading scholars in this area, has put together a clearly written introduction to tone that manages to address both needs at once. It explains the basics of the field in such a way that it is accessible to beginning students who have just had the rudiments of phonetics and phonology. But it is precise and scholarly enough that it serves also as an excellent review of the tone literature for practising linguists. Indeed, Yip's survey of the field is so wide-ranging that even those who specialize in the study of tone will find themselves learning. She has been an important contributor to our understanding of tone, so her views on the field are always of interest.

The book covers all the central issues in the study of tone. The various points of view are presented clearly, and with admirable even-handedness. Yip has clearly seen her task as presenting the state of the art in the field, rather than highlighting her personal view of how tone works.

The first chapter of the book deals with various background issues such as the distinction between tone and pitch, and how pitch differences are produced. In the second and third chapters, the range of tone contrasts and tone inventories is explored, together with the feature systems that have been developed to express them. Chapter 4 reviews the basic arguments for an autosegmental representation of tone, and outlines how tone patterns can be analyzed in Optimality Theory. Chapter 5 looks at the interaction of tone with morphology and syntax. Chapters 6–8 survey tone systems by language family, covering Africa, Asia, and the Americas. Chapter 9 is about the interaction of lexical tone with stress and intonation. Chapter 10 presents the basic results from work on perception and acquisition of tone contrasts and tone patterns.

There is no other work on tone that covers as broad a range of languages and theoretical issues. By the end of the book, the reader has encountered tone patterns from all over the world. Yip began her career by demonstrating that autosegmental representations which were developed originally for African languages were appropriate also for gaining insight into the quite different tone systems in East Asia. This book extends that line of inquiry further, showing how the same applies to the tone systems of the Americas and the Pacific.

The book is published as part of the series Cambridge University Press Textbooks in Linguistics, and as a gesture toward this classification, Yip includes exercises for students. These exercises focus on rather superficial points (e.g. nuances of the OT analysis of the tone system just described) and appear as if they were tacked on as an afterthought. It is unclear what sort of course would be using such a book as a textbook. It seems unlikely that many programs offer an introductory course on tone. Most courses given on

such a specialized topic are advanced courses, which usually are built around readings from the literature rather than a textbook. I expect that this book will be read widely, but not often as a class textbook.

Because the book is aimed at reflecting the current state of the art in the study of tone, it shares some of what I would consider to be the deficiencies of the current state. Phonetic work such as Pierrehumbert & Beckman (1988) is referred to, but only as work in a related field. Yet such work (starting with Bruce 1977) demonstrates clearly the dangers of relying heavily on transcription data in the study of tone and intonation, as well as showing how more reliable information can be obtained. One could certainly argue that experimental evidence about the nature of the tone representation is the most solid available, and so is central to understanding tone.

The book also instantiates a widespread habit of casualness of the constraint definitions in OT analyses, so that it is often unclear how exactly violations would be assigned (e.g. '6T/4T/2T: Distinguish 6/4/2 tonal distinctions', on page 191). It is puzzling how little attention is given in the OT literature to the question of what the constraints are, given that the set of constraints is the core of any OT account of a domain.

But, of course, Yip is not attempting in this book to establish a new approach to tone, or to provide a formal model of the domain. Rather, she is attempting to explain what we know at this point about tone and what the central remaining questions are. She has done an excellent job of this, and produced a valuable resource for students and phonologists.

REFERENCES

Bruce, G. (1977). *Swedish word accents in sentence perspective* (Travaux de l'Institut de Linguistique de Lund **12**). Lund: CWK Gleerup.

Kenstowicz, M. (1994). *Phonology in generative grammar*. Oxford: Blackwell.

Ladefoged, P. (2001). *A course in phonetics* (4th edn.). Fort Worth, TX: Harcourt College Publishers.

Pierrehumbert, J. & Beckman, M. (1988). *Japanese tone structure*. Cambridge, MA: MIT Press.

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(Received 29 July 2003)