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SHORTER NOTICES

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John Archibald (ed.), *Second language acquisition and linguistic theory*. Oxford: Blackwell Publishers, 2000. Pp. viii + 256.

Reviewed by Susan M. Braidi, West Virginia University

The seven chapters in this volume present an overview of second language (L2) acquisition research from the perspective of generative linguistics. The goal of the book is to provide L2 researchers with an up-to-date account of the current knowledge in the study of different aspects of L2 acquisition (i.e. phonology, morphology, syntax and semantics). This goal is a laudable one and, in general, the book delivers on its stated goal. Several of the contributions follow a similar format: an introduction to the subfield, an update on current theoretical issues in first language (L1) acquisition, an update on the relevance of these issues to L2 acquisition, an analysis of L2 research findings, and a look forward to future research issues. This format allows for a well-situated presentation of the current knowledge in L2 acquisition concerning the particular issues examined. Other contributions focus on the current relationship between generative theory and L2 research only.

The chapters on phonology explore L2 acquisition of segments and syllable structure. In 'The interrelation between speech perception and phonological acquisition from infant to adult', Cynthia Brown cogently argues for a model of speech perception that 'accounts for the influence of the native grammar in both infant and adult speech perception' (5). Her model highlights the role of the Feature Geometry of the L2 learner's L1, which constrains the learner's ability to perceive non-native phonological contrasts in the L2, and predicts that speakers of diverse L1s exhibit different rates of success in acquiring targeted segmental contrasts, as demonstrated. This chapter raises the issue of perception versus production data as well as the familiar issues of Universal Grammar (UG) availability and the initial state of L2 acquisition. Martha Young-Scholten & John Archibald, in 'Second language syllable structure', also address the issues of perception versus production and UG availability, and discuss the nature of L1 transfer and ultimate attainment. In their broad overview of L2 prosodic development, they explore phenomena such as the effects of sonority on syllable structure and the development of onsets before rhymes. The authors argue that a phonological model including sub-syllabic constituents, feature geometry and derived sonority can better account for L1 transfer of segmental sequences in syllable onsets than can a phonetic analysis of the properties of specific segments.

Donna Lardiere's chapter on 'Mapping features to forms in second language acquisition' focuses on morphological form and its relation to syntactic competence as evidenced in syntactic structures such as verb raising. She presents the phenomena from two alternative approaches. The Separation Hypothesis distinguishes between abstract morphosyntactic features (e.g. [+finite]) and their overt morphophonological forms (e.g. He walk-*s* to school). From this perspective, the absence of overt morphology does not necessarily indicate the lack of the abstract feature and the related syntactic structure in the learner's grammar. A non-separatist approach views overt morphological form as representative of the abstract features it encodes; thus, L2 learners would not have acquired a given functional syntactic category until they have learned the corresponding verbal agreement morphology. Lardiere presents data that show a lack of overt morphology but nevertheless demonstrate knowledge of the corresponding abstract syntactic features. She proposes that there may exist an additional layer of mapping accounting for these effects.

Alan Juffs explores 'Links between verb semantics and morpho-syntax', in the L2 acquisition of different types of verb classes based on their semantic structure and on their argument structure (e.g. dative alternation). The analysis focuses on the role of the L1 semantics in L2 acquisition, the L2 learner's ability to retreat from overgeneralizations, and the function of universal and language-specific constraints on the learning of verb semantics–argument structure links. Juffs concludes that there is evidence of both L1-based and universal constraints,

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and calls for more cross-linguistic data. His chapter nicely demonstrates the differences between syntactic and semantic accounts of verb learning, showing the need for a more complete semantic-syntactic-morphological account of this aspect of language.

In 'Second language acquisition: from initial to final state', Lydia White examines the different configurations of factors in L2 acquisition with regard to the L2 initial state, access to UG, the course of L2 development, and the learner's ultimate attainment. White characterizes different theories of L2 acquisition based on two factors: the role of the L1 (full transfer, partial transfer or no transfer) and access to UG (full, partial or no access), and examines each in terms of the predictions made for L2 development and ultimate attainment.

Bonnie Schwartz & Rex Sprouse discuss the difficulties of theory-based research in light of changing syntactic theories in 'When syntactic theories evolve: consequences for L2 acquisition research'. The authors illustrate how in several instances a change in the technicalities of the syntactic theory prompted the opposite analysis than was suggested by the original theory. They argue for the need for independent evidence consisting of UG-derived poverty of stimulus proof, which is further augmented by structural evidence from at least one natural language grammar. They convincingly show how such evidence is free from the constraints of a developing theory while, at the same time, consistent with the rigors of theory-based L2 research.

The final chapter, by Gary Libben, 'Representation and processing in the second language lexicon: the Homogeneity Hypothesis', departs from the previous UG-based approaches. Libben reviews historical perspectives on lexical knowledge in monolinguals, bilinguals and L2 learners, and argues for the Homogeneity Hypothesis, which claims that the lexical knowledge of monolingual, bilingual and L2 learners 'can be represented in a single lexical architecture and there is no need to postulate individual lexicons for individual languages' (229).

This volume presents both a broad and narrow picture of the generative paradigm in L2 acquisition research and gives the reader the necessary context from which to access and assess current research in several subfields. The individual chapters pique the interest of the reader to explore the arguments raised further. However, readers unfamiliar with a particular subfield may feel slightly disadvantaged because a certain level of familiarity with technical terminology and concepts is assumed. Nevertheless, this does not greatly detract from the value and effectiveness of the text. One comes away with a sense of the common threads running through all of these areas of study.

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Andrew Carnie & Eithne Guilfoyle (eds.), *The syntax of verb initial languages* (Oxford Studies in Comparative Syntax). New York: Oxford University Press, 2000. Pp. vii + 256.

Reviewed by DAVID WILLIS, University of Cambridge

This volume contains twelve chapters relating to aspects of the clause structure of verb-initial languages. A wide range of languages is considered, including Arabic, Biblical Hebrew, Breton, Irish, Jakaltek, Malagasy, Niuean, Scottish Gaelic, Straits Salish, Welsh and Zapotec. The chapters raise questions about the degree to which verb-initial languages manifest common syntactic structures. Certain features – preverbal particles, the absence of a verb 'to have', and various agreement asymmetries – recur as characteristics of verb-initial languages. On the other hand, the variety of derivations proposed for basic clause structure may lead to the conclusion that verb-initial word order is not a unitary phenomenon at all.

The central issue of the book is how to derive verb-initial word order. Chapters by Diane Massam; Andrea Rackowski & Lisa Travis and Felicia Lee consider various versions of the proposal that some languages achieve verb-initial order through (remnant) VP-fronting rather than head movement. Massam notes parallels between verb-initial orders and other cases of predicate-initial orders (typically with clause-initial predicate nominals) in Niuean. For instance, both occupy the same position with respect to negation. In her chapter, Lee notes striking

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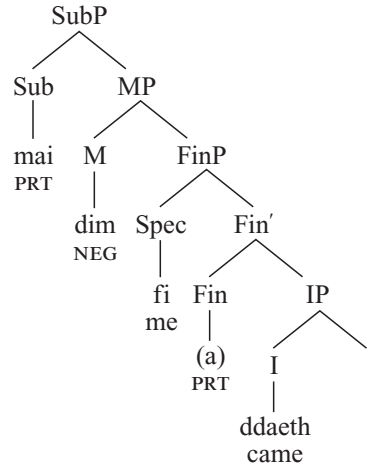
parallels between fronted verbs and other fronted predicates in Zapotec, both hosting adverbial clitics such as *-zhya* 'might'. Such parallels suggest that movement targets the same position in both cases. For Massam, verb-fronting is VP-fronting to [Spec, IP], either with the object moving out of the VP before movement, resulting in remnant VP-fronting and VSO order, or with the object remaining in VP, and hence full VP-fronting and VOS order. Fronted nominal predicates also occupy [Spec, IP] on this analysis. Rackowski & Travis consider the same problem in Malagasy, and come to much the same conclusion although the details of their rather convoluted analysis of Malagasy postverbal adverbs differ significantly from Massam's.

Remnant VP-movement seems convincing for these languages, and this raises the question of whether there are two (or perhaps more) basic types of verb-initial language: this type, and a second type, where the verb undergoes head movement to the head of a functional projection higher than the subject. This sort of analysis is assumed in the chapters on Celtic, but even in Celtic, intriguing parallels could be mentioned: Welsh and Breton have fronting of predicate nominals, adjectives and prepositional phrases in copular constructions; and Middle Welsh had topicalisation of subjects, objects and the nonfinite verb (without its object). These phenomena raise similar problems to the one addressed in these chapters, suggesting that Massam's VP-fronting analysis has potential for extension.

Of the three Celtic chapters, the one by Andrew Carnie, Heidi Harley & Elizabeth Pyatt deals with word order most directly, considering how high the verb raises in the derivation of Irish VSO. The authors argue that whereas Modern Irish has only verb-raising to I, Old Irish had both raising to C and to I, correlating with the morphological distinction between the absolute verbal form (in C) and the conjunct (in I). This analysis raises one big question, namely, how Irish lost verb-movement to C, and both this and the issue of the exact relationship between the absolute-conjunct system of Old Irish and the more or less extensive remnants of the system found in the daughter languages are left open. One synchronic problem is worth highlighting too: Old Irish had absolute particles as well as conjunct ones (that is, complementisers followed by the absolute form of the verb, for instance, *má beid* 'if it may be (absolute)'), and these do not sit easily with the authors' analysis.

Randall Hendrick's chapter 'Celtic initials' considers the structure of the left periphery of the clause and argues that the structure in (1), illustrating the relevant part of the Welsh sentence (2), provides a framework within which all modern Celtic languages can be accommodated (where SubP is subordinator phrase, MP is mood phrase and FinP is finiteness phrase).

(1)



(2) Roedd e 'n gwybod mai dim fi (a) ddaeth â 'r anrheg.
was he PROG know PRT NEG I PRT came with the present
'He knew that it wasn't me who brought the present.'

This analysis is broadly in line with recent treatments of the left periphery in Welsh. The most innovative aspect of the chapter is an Optimality account of microvariation in subject-verb agreement between Irish and Scottish Gaelic as against Welsh and Breton. Three constraints

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apply: IDENTIFY is violated if an empty category is not identified by a head bearing its grammatical features; AVOIDPRO is violated if a pronoun is overt; AVOIDAGR is violated by rich agreement. For Welsh and Breton, these constraints are ranked IDENTIFY > AVOIDPRO > AVOIDAGR. As Hendrick himself concedes (31), rich agreement forms may co-occur with pronouns in Welsh and Breton ((3b) below), alongside rich agreement forms with null subjects, (3c). ((3) is adapted from Hendrick's (70).)

(3)

	IDENTIFY	AVOIDPRO	AVOIDAGR
(a) *V-default agreement + overt pronoun		*	
(b) V-rich agreement + overt pronoun		*	*
(c) V-rich agreement + null pronoun			*

Option (c) violates only the lowest-ranking constraint and is therefore grammatical, but the grammaticality of (b) is problematic, since it seems to be at least as bad as ungrammatical (a). The chapter also contains a number of data errors, the most serious in (36a), where T. Arwyn Watkins is misquoted: the source gives only the Welsh sentences *Ni welodd y bachgen ddyn* 'The boy didn't see a man', and *Welodd y bachgen* (*ddi*)*m o'r dyn* 'The boy didn't see the man'.

Eithne Guilfoyle's paper on Irish subjects addresses a second major theme of the book, whether features of verb-initial languages can be derived from their word order. Subjects in Irish fail to appear in a number of constructions requiring non-agentive subjects, for instance, in *Tá eagla orm* 'I'm afraid' (lit. 'Fear is on me'), and Guilfoyle attributes this to the low structural position of subjects in VSO languages. Although this is attractive as an idea, there clearly are cases of non-agentive verbal subjects in other verb-initial languages (Welsh *Dwi'n synnu* 'I'm surprised') and the restrictions in question are common in non-VSO languages too, so the correlation is questionable.

The most successful chapter with this approach is that by Edit Doron. She notes that it is common in VSO languages for the verb to agree only with the first element of a conjoined subject, and relates this to the absence or optionality of the EPP-feature on T. If there is no movement, Agree seeks out the closest D-head for agreement, whereas if there is movement of the subject to T, Agree targets the whole DP-subject.

Chapters by Ray Freeze & Carol Georgopoulos and Seth Minkoff link verb-initial word order respectively to the absence of lexical 'have' and to animacy restrictions on subjects (that is, a restriction that the subject must be at least as animate as the object). Freeze & Georgopoulos's analysis is oriented largely towards VOS languages (with, for instance, the subject in a rightward-projecting [Spec, IP]) and it is hard to see how it would generalise to any standard analysis of VSO languages, even though the same absence of 'have' is frequently attested there. Minkoff derives animacy restrictions from sentence processing strategies, but there are ready counterexamples from null-subject verb-initial languages (for instance, all Celtic languages) that lack the animacy restriction. The final chapter, by Eloise Jelinek, outlines Straits Salish syntax, emphasising those properties consistent with it being a 'pronominal argument language', that is, a language in which only pronouns or variables can serve as arguments.

The most striking fact that emerges from this book is how similar the surface syntax of the different verb-initial languages can be, and readers familiar with one language will constantly be reminded of that language in the discussion of the syntax of the others. On the other hand, the basic phrase structure of these languages seems to differ vastly, such that many of the attempts to unify these similarities meet with considerable difficulty.

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Paul D. Kroeber, *The Salish language family: reconstructing syntax* (Studies in the Anthropology of North American Indians). Lincoln, NE & London: University of Nebraska Press, 1999. Pp. xxxi + 461.

Reviewed by Donna B. Gerdts, Simon Fraser University

Salish is a large, diverse family of northwestern North America. This work gives a comparative/historical treatment of the syntax of Salish languages, more specifically, of interclausal syntax. It is significant in being the first work of its kind for Salish. It also makes a contribution to typological studies on subordination, nominalization and relativization, and to perspectives on the historical development of clause types. This book is dense with detail, but it is essential reading for anyone interested in Salish, for anyone attempting comparative syntax on an under-described language family, and for anyone seeking to make claims about clause types in the world's languages. The patterns described here are very different from what one finds in the better-studied languages of Europe and Asia, though Salish syntax bears resemblances to the syntax of other verb-initial languages. Kroeber's study provides an accessible catalog of information that will allow for broader comparison.

The book commences with notes on sources. Salish is a non-controversial family that extends over southern British Columbia, Washington, northern Idaho, western Montana and northwestern Oregon. The 23 languages are grouped into five branches based on phonological and morphological data. Kroeber suggests a time depth of at least 3000 years for Proto-Salish. Drawing on a variety of old and new sources, Kroeber is able to provide data from 15 of the 23 languages, and at least one language per branch. The job of mining the data varies greatly from language to language. In some cases, explicit syntactic analyses of the constructions under study were available, but more often Kroeber had to search texts, dictionaries and grammatical sketches for relevant data. The task of standardizing orthographies and interlinear glosses was mammoth. Especially noteworthy is Kroeber's treatment of the extinct Oregon language Tillamook based on the texts of Franz Boas and May Edel. Tillamook is important because it is the sole member of the southernmost branch. In addition, Kroeber provides data from original fieldwork on languages from two branches – the Interior Salish language Thompson and the Central Salish language Sliammon. His thorough knowledge of the morphosyntax of these languages greatly contributes to his authoritative use of secondary sources. Chapter 1 gives an introduction to Salish. Kroeber reviews the phonemic inventory reconstructed for Proto-Salish and gives an overview of morphosyntax sufficient to understand the copious examples encountered later.

The main thrust addresses the form and function of a variety of clause types. For each type, Kroeber presents the data from one branch at a time and then concludes with some careful comparative remarks. Unfortunately, he does not use charts, tables or lists for purposes of summary, so it takes some effort to follow his claims regarding the retention and innovation of structures in the various languages and branches. Fortunately, Kroeber's writing is clear and lucid and the examples are well-chosen and thoroughly discussed. Chapters 2 and 3 describe subordinate clauses that function as complement and adverbial clauses. There were two major types of predicative inflection in Proto-Salish subordination. Conjunctive inflection, used for conditionals, is reflected in some of the modern languages as a special subject pronominal paradigm (246). Propositional nominalization was used for most complement clauses other than interrogative clauses (249). Kroeber concludes that Proto-Salish was like present-day Interior Salish: nominalizations with transitive predicates have transitive subject inflection, not possessive inflection (109). Since the pan-Salish pattern is to represent objects in nominalizations with object inflection, not oblique marking, and to represent agent and patient nominals as caseless NPs (like subjects and objects), Salish nominalizations are rather unusual typologically.

The second half of the book deals with relativization or, more precisely, various headed constructions including relative clauses, *wh*-questions, clefts and other cleft-like constructions. Chapter 4 briefly introduces their morphosyntactic characteristics. The head generally precedes the relative clause, which contains a gap corresponding to the head. The relative clause is usually introduced by a determiner, sometimes agreeing with the head. It is also possible to have determiner-headed relative clauses (aka 'headless' relative clauses) consisting solely of a

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determiner followed by the relative clause. Chapter 5 deals with the relativization of direct participants, i.e. nominals that appear as caseless NPs in Salish. These are subjects, objects and possessors. Kroeber concludes that direct participants in Proto-Salish were extracted without any special inflection, merely by omission of subject or object pronominal inflection or, in the case of possessors, with retention of the possessive inflection in the relative clause (307–308). Chapter 6 discusses the relativization of various oblique-marked nominals, including patients in antipassives and applicatives, and true obliques such as instruments and locatives. Kroeber concludes that oblique patients were relativized in Proto-Salish by means of the nominalizing prefix **s-* (362). True obliques also seem to have been extracted this way, though the prefix **s-* is sometimes followed by an additional prefix. However, locatives are also frequently relativized through conjunctive inflection with no nominalization. Thus, an alternative means of relativizing locatives may go back to Proto-Salish (362). Chapter 7 deals with various cleft constructions (semiclefts, quasiclefts), with *and*-fronting, where the modifying clause is introduced by a conjunction, and with cases of unmarked fronting, where an element appears before the verb with no inflectional effect on the clause. Unmarked fronting is used in some Salish languages, mainly Tillamook and the Interior Salish languages, for NPs (including possessors), PPs and adverbials, especially temporals and locatives. We know from the work of Aissen (1992) that verb-initial languages often make use of one or more pre-verbal positions for the purpose of topic and focus. Gardiner (1993) shows that there are three distinct pre-verbal positions in the Interior Salish language Shuswap. Kroeber points out that the kind of data used by Gardiner is not yet available for other Salish languages (393). Thus, no conclusion can be reached regarding the number or status of the pre-verbal positions in Proto-Salish.

Chapter 8 takes a brief look at patterns of retention and innovation in Salish languages from an areal perspective. Kroeber makes a convincing case that many of the trends that are seen in some branches of Salish are influenced by the syntax of neighboring languages. The picture that emerges for Proto-Salish matches most closely the Central Salish languages and the Northern Interior languages. Tillamook, an outlier language, diverges from the Salish norm in freely allowing unmarked fronting, a trait found in the neighboring non-Salish languages of Oregon, Lower Chinook and Alsea. Southern Interior languages also allow unmarked fronting and have no distinctive relative clause inflection. Both of these are properties of the neighboring Sahaptian languages. Given other similarities, the net effect is that, in clausal syntax, Southern Interior Salish resembles Sahaptian to a greater degree than other Salish languages do (425). In terms of the core Proto-Salish properties, Kroeber points out that many are shared by the other language families in the area – Chemakuan, Wakashan, Tsimshian and Haida – and thus we see that Proto-Salish possessed many of the areal features of the central Northwest Coast *sprachbund* (421).

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Howard Lasnik (with Marcela Depiante & Arthur Stepanov), *Syntactic structures revisited: contemporary lectures on classic transformational theory* (Current Studies in Linguistics **33**). Cambridge, MA & London: MIT Press, 2000. Pp. ix + 212.

Reviewed by Tibor Kiss, Ruhr-Universität Bochum

Lasnik's book (written together with Marcela Depiante and Arthur Stepanov) is concerned with Chomsky's classic generative analysis of the English auxiliary system and its implications for current syntactic theory. The book consists of three chapters.

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Chapter 1, 'Structure and infinity of human language', starts out at a basic level, but evolves nicely in presenting Chomsky's famous proof that English is not a regular language. In addition, the introduction comprises central concepts such as phrase markers or the distinction between equivalent and non-equivalent derivations. The second part of chapter 1 outlines the empirical setting by discussing English verbal morphology, focusing on auxiliary and modal verbs. At the end of chapter 1, we are presented with the phrase structure tree of sentence (1), whose terminal nodes are given as in (2).

(1) John might have been kissing Mary.
(2) John C may ∅ have en be ing kiss Mary.

Lasnik sets the stage for Chomsky's famous transformation AFFIX HOPPING in concluding that '[a]pparently, we end up with something we don't want to generate' (49).

Chapter 2, 'Transformational grammar' is a re-examination of Chomsky's (1957) analysis. It introduces transformations starting with T15, NUMBER TRANSFORMATION, and T20, AFFIX HOPPING. T15 changes (2) to (3), and successive applications of T20 change (3) to (4), which can be spelled out as (1).

(3) John past may ∅ have en be ing kiss Mary.
(4) John may-past have-∅ be-en kiss-ing Mary.

The analysis illustrated in (2) and (4) is presented in great detail in the first three sections of chapter 2. Section 2.4 discusses the ordering of transformations as well as the distinction between optional and obligatory rules. As its number indicates, T15 must be applied BEFORE T20 can be applied to a phrase marker. If T15 or T20 can be applied, they have to be used. Optional rules are T18, SUBJECT AUXILIARY INVERSION, and T16, NEGATION PLACEMENT.

The chapter mentions various conceptual problems with the analysis. Here, we find a painstaking clarification concerning the intended interpretation of the WORD BOUNDARY TRANSFORMATION (T21a) in section 2.5.3, as well as a discussion of Boolean disjunctions in the structural analyses of T16 and T18. The structural descriptions of these transformations make use of the terms C (inflection), C + M (inflection + modal), C + have, and C + be without offering an explanation of what these elements have in common. In addition, three of the four relevant elements are non-constituents.

While chapter 2 provides the reader with a careful introduction to Chomsky's initial proposal, chapter 3, 'Verbal morphology: *Syntactic structures* and beyond', follows the empirical and conceptual implications of Chomsky's analysis up to recent stages of generative syntax. The first three sections summarize the relevant changes from 1965 to 1989. Focused on the ramifications of the theoretical developments for a theory of head movement, these sections are among the highlights of Lasnik's book.

Section 3.4 discusses the role of the HEAD MOVEMENT CONSTRAINT (HMC) in an analysis of the English auxiliary system. Beginning with this section, Lasnik's book changes from an introduction to Chomsky's classic monograph to an original contribution to current syntactic theory.

Two empirical issues are at stake here: first, if negation is considered a head, the HMC predicts its position in English. In particular, negation is located between IP and VP and thus blocks raising of V to I. The HMC thus correctly blocks movement of the verb across the negation in (5). But why, then, is (6) grammatical? Here, the modal verb *can* moves across the negation to I and then further on to C.

(5) *John left_i not t_i.
(6) Can_i John t_i not t_i leave?

Second, Lasnik makes it clear that an analysis of the ENGLISH auxiliary system cannot be considered satisfactory if it does not account for similar phenomena in related languages. Particularly, the HMC correctly blocks (7b) since a movement of *be* to the head position of C across the head position of *will* does not conform to it.

(7) (a) Will John be happy?
    (b) *Be John will happy?

However, the HMC also has to account for the ungrammaticality of (8a) and the possibility of (8b).

(8) (a) *Left John?
    (b) Did John leave?

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Obviously, the HMC cannot be formulated to prohibit the movement of finite non-auxiliary verbs universally. In other Germanic languages, such a distinction between auxiliary and non-auxiliary verbs does not play a role. The discussion reaches a certain climax in the following remark:

> [Examples like (6)] look like flagrant violations of the HMC. There are about a dozen really fancy ways in the literature to keep these sentences from violating the HMC. To the best of my knowledge, not one of them really works. (151)

Lasnik's book concludes by contrasting various proposals in the framework of the Minimalist Program (Chomsky 1995) with his own proposal.

Two further points merit being mentioned. First, Lasnik also shows in sections 3.5–3.7 that examples like (6) cannot be saved by replacing the HMC by a derivational account of movement. But most crucially, Lasnik's discussion of Chomsky's (1991) analysis makes it clear that a derivational system is preferred in Chomsky's current proposals not because a derivational theory is more elegant than a representational theory, but because a representational theory of negation placement and subject-auxiliary inversion is simply not tenable within a representational version of transformational generative grammar. It is quite surprising, in this light, that non-transformational generative grammars (LFG, HPSG) have not yet provided compelling representational accounts of these data.

The reader of Lasnik's book should have had some exposure to generative syntax. Chapter 1 will be useful to brush up some basic theoretical assumptions and empirical observations, both relevant for a full understanding of why current transformational theory makes use of derivational operations again. Chapter 2 is a very clear introduction to Chomsky (1957). Chapter 3, finally, is a must read for every theoretical linguist who wants to understand why simple negative sentences in English still form such a challenge for generative linguistics.

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Anna Papafragou, *Modality: issues in the semantics–pragmatics interface* (Current Research in the Semantics/Pragmatics Interface **6**). Amsterdam: Elsevier, 2000. Pp. xii + 238.

Reviewed by Raphael Salkie, University of Brighton

This book offers a systematic analysis of some English modal verbs within the framework of Relevance Theory (Sperber & Wilson 1995). Papafragou argues that *may*, *can*, *must* and *should* all have a unitary semantics, with pragmatic factors accounting for the interpretations these words have in particular contexts. She proposes that these modals express a relationship between the proposition p, embedded under the modal, and the context. In keeping with Relevance Theory, the context – which may or may not be explicitly specified by the speaker – is treated as a domain D of propositions. The individual modals are analysed as follows:

may: p is compatible with all the propositions in D (D is unrestricted).
can: p is compatible with all the propositions in D (D is factual).
must: p is entailed by all the propositions in D (D is unrestricted).
should: p is entailed by all the propositions in D (D is normative).

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For *may* and *must*, the Principle of Relevance will determine which domain of propositions bears most directly on p in a specific context. Papafragou compares:

(1) The accused must remain silent throughout the trial.
(2) You must love your fellow humans.

In (1), the domain D is the rules of judicial procedure. If (2) is uttered in a context where the hearer is aware of the speaker's desires and factual assumptions, the speaker has authority over the hearer, and the hearer is in a position to bring about the state of affairs described in p, then the sentence will be interpreted as deontic (imposing an obligation).

For epistemic interpretations, Papafragou suggests that p is more abstract, and that it is a 'metarepresentation': instead of representing a state of affairs in the external world, it represents part of the speaker's belief-set. She considers this example:

(3) Some of the neighbours must have seen the burglars.

If the speaker had complete knowledge of the burglary she could have uttered the unmodalised counterpart of (3). The most plausible interpretation is, therefore, that she has incomplete knowledge, and that p is a necessary conclusion from incomplete and partly-supported evidence.

Papafragou treats *should* as differing from *must* only in that D is restricted to norms or expectations. She reanalyses a pair of examples from Lakoff (1972):

(4) John must be easy to talk to.
(5) John should be easy to talk to.

Lakoff noted that (5) is used for a likelihood based on present conjecture and verifiable in the present, whereas (4) is used in the case of a likelihood based on future expectation and verifiable in the future. In Papafragou's system, the most accessible evidence for (4) is evidence that is currently available. In (5), however, only evidence based on norms or expectations is admissible, so this sentence is appropriate when there is no direct experience of John's behaviour, but there is likely to be some experience in the future.

In the same way, *can* is claimed to be more restricted than *may* in that only factual propositions are admissible. This is intended to capture the intuition that *can* encodes potentiality – that is, something in the actual world makes it possible that p will be actualised at some point in the future. The potentiality may reside in the capacities of a person, in which case we get the ability sense of *can* as in the most salient interpretation of (6a); or it may come from a broader domain of factual propositions, which gives the interpretation '… if she wants to be understood' in (6b):

(6) (a) Mary can speak German.
(b) Mary can speak German at the meeting, because everybody will understand.

Papafragou argues against analyses of English modals such as Palmer (1990), which regard them as ambiguous, and those such as Sweetser (1990), which treat them as polysemous. She reviews some of the evidence about how children acquire modals and the history of modals in English, claiming that these support her theory.

The book shares the virtues of two previous relevance-theoretic treatments of modals – Klinge (1993) and Groefsema (1995) – while being superior to both of them. Although it is based on a Ph.D. thesis, it obligingly dispenses with an exhaustive review of the vast literature on modality: the author only refers in any detail to the studies mentioned so far and Kratzer (1991), to which she acknowledges a large debt.

Papafragou's arguments for treating the English modals as monosemous are the strongest that I have seen; nonetheless, they are not without problems. Most obviously, if *should* is identical in meaning to *must* except for being restricted in the type of propositions in D, then *must* ought to be acceptable wherever *should* is (though not the other way round). This is not the case, as this pair of sentences, taken from Rivière (1981), illustrates:

(7) *John is a brilliant student, he must pass his exam easily.
(8) John is a brilliant student, he should pass his exam easily.

By the same reasoning, the sense of *may* in Papafragou's system encompasses the sense of *can*. It should, therefore, be possible for *may* to have, inter alia, the ability sense of *can*, but this is not generally the case.

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Another point where Papafragou is unconvincing is her account of the following pair, taken from Quirk et al. (1985: section 4.56):

(9) There should be another upturn in sales shortly.
(10) ?There should be another disaster shortly.

She argues that '*should* encode[s] normative concepts … in [(10)], it is odd to suggest that the occurrence of a disaster follows from our expectations about the normal/prescribed course of events' (76). Arguably, though, a downturn in sales is just as predictable as an upturn, but I find (11) as bad as (10):

(11) ?There should be another downturn in sales shortly.

For me, (11) is only acceptable in a context where a downturn is seen as desirable, for instance, if it was followed by '… and then we'll have an excuse to fire that useless salesperson'. It appears to be desirability rather than predictability which is crucial here, and Papafragou's attempt to reduce the former to the latter does not seem to work.

A third issue, not considered by Papafragou, is whether this system for modals only works for English. Attempts to construct a cross-linguistic theory of modality are in their infancy, however, and any serious work will owe a great debt to studies of this high quality. The book is an important contribution to our understanding of English modals, and anyone working in this area should read it carefully.

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