J. Linguistics **39** (2003), 167–200. © 2003 Cambridge University Press
Printed in the United Kingdom

REVIEWS

J. Linguistics **39** (2003). DOI: 10.1017/S0022226702211974

Joan Bybee & Paul Hopper (eds.), *Frequency and the emergence of linguistic structure* (Typological Studies in Language **45**). Amsterdam: John Benjamins, 2001. Pp. vii + 492.

Reviewed by HOLGER DIESSEL, Max Planck Institute for Evolutionary Anthropology

One of the central tenets of generative linguistics is the distinction between competence and performance. The notion of competence refers to a speaker's grammatical knowledge, which is assumed to be independent of language use, i.e. performance. This view has been challenged in recent work by functionally oriented linguists (Bybee 1985, 1995, 2001; Hopper 1987; Barlow & Kemmer 2000) and psychologists (Elman et al. 1996), who have argued that a speaker's linguistic knowledge is fundamentally grounded in language use. In this usage-based approach to grammar and grammatical development, grammar is seen not as something autonomous but as a dynamic system that emerges from frequently occurring patterns in language use.

The articles in Bybee & Hopper's collection *Frequency and the emergence of linguistic structure* provide an excellent overview of some of the research in this new approach. They are concerned with a wide variety of topics: argument structure, subjectivity, phonological and morphological variation, diachronic change and child language acquisition. What all of the papers have in common is that they demonstrate the significance of frequency for the emergence of linguistic structure.

The most striking feature of the book is perhaps the wealth of data presented in the articles. In contrast to much other work in contemporary linguistics, in which the researcher's linguistic intuitions often provide the only data source, the authors of the papers in this volume back up their theoretical claims with statistically analyzed data from large corpora, psycholinguistic experiments and linguistic surveys.

The first paper, by Sandra Thompson & Paul Hopper, entitled 'Transitivity, clause structure, and argument structure: evidence from conversations', challenges standard accounts of argument structure. Using data from English conversations, Thompson & Hopper found that prototypical transitive clauses are rare in spoken discourse, which primarily consists of copular constructions and clauses that involve a single participant. Having described

the frequency distribution of the various clause structures in spoken discourse, Thompson & Hopper argue that their data are not compatible with standard accounts of argument structure. Specifically, the authors show that many clauses include partially lexicalized constructions such as verb-object compounds (e.g. *make sense*) or verb-particle constructions (e.g. *play with*), which have properties of both two-participant and one-participant clauses. Moreover, there are clauses, such as copular constructions, that do not really describe a scene including a certain number of participants. Thus, Thompson & Hopper conclude that in many instances the number of participants encoded in a clause cannot really be determined and therefore they suggest abandoning the standard notion of argument structure in favor of a probabilistic theory that captures the full range of phenomena in this domain.

In 'Local patterns of subjectivity in person and verb type in American English conversations', Joanne Scheibman investigates the combination of person, verb type, and tense in spoken discourse. Her data show that the distribution of these three categories is highly skewed: certain combinations of person, verb type, and tense are much more frequent than others. Looking at the meaning of these combinations, Scheibman finds that the most frequent constructions express personalized information from the subjective perspectives of the interlocutors.

Betty Phillips' paper, 'Lexical diffusion, lexical frequency, and lexical analysis', examines the direction of phonological change. It is well known that phonological change often progresses from the most frequent to the least frequent items (Bybee 2001). Phillips shows that there are also phonological changes that progress in the opposite direction. For instance, the stress alternation between nouns and verbs in words such as *convict* spread through the lexicon from low-frequency words to words that are highly frequent. Phillips argues that the direction of change is determined by the grammatical analysis that may or may not be involved in the application of a phonological rule: phonological changes that do not involve grammatical analysis originate in the most frequent forms, whereas changes that do involve grammatical analysis, like the stress alternation that emerged in homophonous verb-noun pairs, affect low frequency items first.

In 'Emergent phonotactic generalizations in English and Arabic', Stefan Frisch, Nathan Large, Bushra Zawaydeh & David Pisoni consider the role of frequency in phonotactics. The first part of the paper reports the results of an experiment in which English-speaking participants were asked to judge the well-formedness of nonce words that instantiate phonotactic patterns of existing words. In accordance with previous work by Janet Pierrehumbert, Frisch et al. found a clear correlation between lexical frequency and acceptability: the more frequent a specific phonotactic pattern in the English lexicon, the higher the acceptance rate. The result of this experiment suggests that phonotactic generalizations emerge from patterns

that frequently occur in English words. The second part of the paper reports the results of a parallel experiment in Jordanian Arabic, which indicates that speakers also draw on their knowledge of natural classes when asked to judge the well-formedness of nonce words. Furthermore, this experiment showed that if a nonce word is highly similar to an existing item, participants judged it as well-formed, suggesting that phonotactic generalizations are represented not only by abstract schemas but also by more concrete exemplars that speakers use when categorizing highly similar phonotactic items.

In 'Ambiguity and frequency effects in regular verb inflection', Mary Hare, Michael Ford & William Marslen-Wilson take up a topic that has been extensively discussed in psycholinguistics: are regularly inflected expressions stored as whole words in the lexicon or are they derived by combining the stem with the inflectional ending? There is consensus in the literature that irregularly inflected words are stored in the lexicon and that these expressions are easier to access if they occur with high token frequency. However, if regularly inflected words are not stored as whole forms in the lexicon, they cannot be immediately accessed and thus it has been claimed that they are not affected by frequency (cf. Prasada & Pinker 1993). Challenging this claim, Hare et al. present experimental evidence suggesting that access to regular past tense forms in English is affected by token frequency just like access to irregular past tense forms and thus they conclude that at least the most frequent regular past tense forms are represented as whole words in the lexicon.

The paper by Greville Corbett, Andrew Hippisley, Dunstan Brown & Paul Marriott, entitled 'Frequency, regularity and the paradigm: a perspective from Russian on a complex relation', examines the occurrence of irregular plural forms in Russian nouns. It is well known that the occurrence of irregularity correlates with high token frequency. The question that Corbett et al. address is whether the irregularity in plural nouns correlates with the absolute frequency of the plural form or whether it correlates with the relative frequency of the plural compared to the singular. Using frequency data from a large Russian corpus, Corbett et al. found strong evidence for the first hypothesis: irregularity correlates with high absolute token frequency. They also found some evidence for the second hypothesis, that irregularity correlates with relative frequency; however, the evidence is much weaker.

Daniel Jurafsky, Alan Bell, Michelle Gregory & William Raymond examine the occurrence of phonological reduction in spoken discourse in a paper called 'Probabilistic relations between words: evidence from reduction in lexical production'. Jurafsky et al. hypothesize that the amount of phonological reduction correlates with token frequency. The first part of the paper is concerned with phonological reduction in frequent function words such as *and*, *the* and *of*. The data present strong support for the above

hypothesis: the more frequent a lexical item, the more likely it is that it will undergo vowel reduction and shortening. The second part of the paper investigates *t/d* deletion at the end of frequent content words (e.g. *good*, *went*). Again, the amount of deletion correlates with token frequency. However, in this case, it is primarily the absolute frequency of the content word that correlates with the amount of reduction whereas in the case of function words there is also a strong correlation between the amount of reduction and the conditional frequency of a particular function word given a particular adjacent word.

In 'Frequency effects and word-boundary palatalization in English', Nathan Bush found that the occurrence of palatalization across word boundaries is largely restricted to words that frequently cooccur. For instance, *would you* is a very frequent combination that often involves palatalization whereas the infrequent sequence *good you* is almost never palatalized. This suggests, according to Bush, that high frequency strings such as *would you* are stored as 'agglutinated chunks of information' (271).

The paper entitled 'The role of frequency in the realization of English *that*' by Catie Berkenfield shows that the pronunciation of the word *that* varies systematically with its meaning or function. When *that* is used as a demonstrative pronoun it has a significantly longer vowel than in other functions, in which *that* serves as a demonstrative adjective, complementizer or relative marker. In the latter three uses, vowel duration correlates inversely with token frequency: the more frequent the use, the shorter the vowel. The study provides strong evidence for the hypothesis that there are meaningful sound contrasts at the subphonemic level (Bybee 2001).

In 'Frequency, iconicity, categorization: evidence from emerging modals', Manfred Krug discusses the development of a new modal category in English. The category subsumes four highly frequent verbs, *be going to*, *have got to*, *have to* and *want to*. Krug shows that these forms serve basically the same function as the central modals. However, they behave differently syntactically: central modals, such as *can* or *must*, are fronted in questions and negated without *do*. Krug argues that these features are relics of an earlier stage of English when all verbs were fronted in questions and negated without *do*. The central modals preserved these features because they were used with high token frequency, which made them resistant to analogical change. Since fronting of the main verb in questions and negation without *do* are no longer productive, the new modals are grammatically distinguished from the modals that emerged earlier.

In 'Frequency effects on French liaison', Joan Bybee shows that the occurrence of French liaison is subject to the same frequency effects as word-internal phonological alternations: liaison is productive in constructions that subsume a large number of types and it is gradually regularized in unproductive patterns. What makes this case particularly interesting is that it suggests the storage of multiple word units in the lexicon: if strings of lexical

items show the same frequency effects as words, it is reasonable to assume that they are stored and processed as holistic units.

Shana Poplack's paper, 'Variability, frequency, and productivity in the irrealis domain of French', examines the distribution of subjunctive, conditional, and inflected future verb forms in French. Using a large database of spoken Canadian French, Poplack shows that the use of the subjunctive in complement clauses is lexically specific: the subjunctive is very common in complement constructions including some high-frequency verbs, such as *être*, *avoir* or *aller*, that are governed by one of the frequent matrix verbs *falloir*, *vouloir* or *aimer*. Other verbs that occur in complement constructions governed by less frequent matrix verbs are now often used in the indicative, suggesting that the use of the subjunctive has changed. What is interesting about this change is that it has affected individual verbs at different times and that the course of the development is determined by token frequency: low-frequency verbs have changed first and most rapidly, whereas high-frequency verbs are still often used in the subjunctive.

In addition to the papers I have reviewed, there are seven other papers dealing with frequency issues and the emergence of linguistic structure. They are concerned with the acquisition of locational prepositions and adverbs (Naomi Hallan), the formalization of frequency effects in phonology (Janet Pierrehumbert), the diachronic development of the English anterior (K. Aaron Smith), the role of frequency in hypercorrections (Joyce Boyland), frequency and information flow (Gertraud Fenk-Oczlon), the up-scaling of connectionist networks (Brian MacWhinney) and semantic bleaching (Östen Dahl).

In sum, the volume presents an important contribution to the growing body of literature in which grammar is seen as a dynamic system that emerges from language use. I was especially impressed by the amount of data presented in the papers and the attention that has been given to methodological issues. Linguistics is often criticized for being non-empirical, but this critique certainly does not hold for the book under review.

REFERENCES

Barlow, M. & Kemmer, S. (eds.) (2000). *Usage-based models of language*. Stanford, CA: CSLI Publications.

Bybee, J. (1985). *Morphology*. Amsterdam: John Benjamins.

Bybee, J. (1995). Regular morphology and the lexicon. *Language and Cognitive Processes* **10**. 425–455.

Bybee, J. (2001). *Phonology and language use*. Cambridge: Cambridge University Press.

Elman, J. L., Bates, E. A., Johnson, M. H., Karmiloff-Smith, A., Parisi, D. & Plunkett, K. (1996). *Rethinking innateness: a connectionist perspective on development*. Cambridge, MA: MIT Press.

Hopper, P. J. (1987). Emergent grammar. In Michaelis, L., Filip, H., Beery, N. & Aske, J. (eds.), *Proceedings of the Thirteenth Annual Meeting of the Berkeley Linguistics Society*. Berkeley, CA: Berkeley Linguistics Society. 139–157.

Prasada, S. & Pinker, S. (1993). Generalization of regular and irregular morphological patterns. *Language and Cognitive Processes* **8**. 1–56.

Author's address: Max Planck Institute for Evolutionary Anthropology, Inselstr. 22, 04103 Leipzig, Germany.
E-mail: diessel@eva.mpg.de

(Received 1 May 2002)

J. Linguistics **39** (2003). DOI: 10.1017/S0022226702221970

Carlo Cecchetto, Gennaro Chierchia & Maria Teresa Guasti (eds.), *Semantic interfaces: reference, anaphora and aspect*. Stanford, CA: CSLI Publications, 2001. Pp. xvii + 361.

Reviewed by Eric Mathieu, University College London

This book deals with semantics and its interfaces – most prominently, the syntax–semantics interface. The introductory chapter gives an excellent summary of each paper and clearly sets out the goals of the volume. The first four papers deal with reference and anaphora, and the last four with tense and aspect.

Robert May's 'Frege on identity statements' is a tribute to the German philosopher's work. The essay reviews the semantic puzzles that the mathematical concept of identity brings when it is applied to language. The fact that the identity symbol can carry non-trivial information (as in 'The Evening Star is the Morning Star') led the philosopher to posit the now well-known difference between sense and reference.

Gennaro Chierchia's paper, 'A puzzle about indefinites', focuses on the interpretation of NPs that have previously been argued to introduce an existential quantifier (as in the Russellian tradition). Concentrating on indefinites, he reviews recent proposals that indefinites are not quantificational but introduce a choice-function instead. Chierchia shows that these proposals are not all in agreement. While Reinhart (1997) and Winter (1997) allow existential closure at any level (i.e. at the topmost or at the intermediate level), Matthewson (1999) argues, on the basis of Lillooet Salish data, that existential closure applies at the topmost level only, and Kratzer (1998) puts forward the hypothesis that choice functions are simply not existentially quantified. In the latter case, the interpretation that choice functions receive is through context. I will spend a little more time on Chierchia's paper since I have a special interest in choice functions.

The sort of example on which the whole discussion is based is illustrated in (1):

(1) Every linguist studied every conceivable solution that some problem might have.

The most natural reading that such a sentence receives is one according to which the existential takes scope under the first universal quantifier, but above the second one:

(2) $\forall x\,[\text{linguist}(x) \rightarrow \exists y\,[\text{problem}(y) \wedge \forall z\,[\text{solution to}(z, y) \rightarrow \text{studied}(x, y)]]]$.
'For every linguist x, there is a particular problem y (possibly a different one for each linguist) such that x studied every possible solution to y.'

This reading is greatly facilitated when a pronoun is present at the end of the sentence ('Every linguist considered every conceivable solution that some problem that intrigued him or her had') or by adding stress on *some*. (3) informally summarises the different approaches mentioned above (where A = *every linguist* and B = *every conceivable solution*):

(3) (a)	A∃B (f problem)	Reinhart (1997)/Winter (1997)
(b)	∃A B (f problem)	Matthewson (1999)
(c)	A B (f problem)	Kratzer (1998)

On all approaches the indefinite remains in situ (for example, it does not undergo Quantifier Raising and is not subject to the rule of Quantifying In). However, the differences between (3a), (3b) and (3c) are as follows. In (3a), existential closure applies at the intermediate level whereas in (3b) it applies at the top-most level. Finally, in (3c) nothing else happens. There is no existential closure. The value of *f* is supplied by the context and should be something like the speaker's intended reference.

Chierchia convincingly argues that in order for the third approach to be feasible at all, Skolemisation of the choice function is needed. This simply means that the choice function must contain some implicit arguments, akin to pronouns. Like other pronouns, these argumental variables can be bound or free. The configuration we obtain on this view is something like (4).

(4) A_i B $f(x_i)$

The first quantifier (i.e. *every linguist*) binds the argumental variable (call it *pro*) and the value of *f* is picked up via the context assuring that it is interpreted over the second quantifier (i.e. *every conceivable solution*).

Conflating Matthewson's approach with Kratzer's, Chierchia asks: can we decide between their strategy or the Reinhart/Winter strategy on empirical grounds? The answer to the question is that the first view is right for some kinds of contexts (downward entailing ones) and the second approach is correct for other kinds of contexts (namely, those related to weak crossover configurations).

Let us start with the first kind of contexts. In a nutshell, the argument is that in negative environments, the Matthewson/Kratzer approach yields the

wrong results. Chierchia asks us to consider a natural context in which one would regard sentence (1) as true:

(5) Situation 1: the systematic linguist
Linguist A (who considered many problems) studied every conceivable solution to the problem of weak crossover.
Linguist B (who considered many problems) studied every conceivable solution to the problem of donkey sentences.
Linguist C (who considered many problems) studied every conceivable solution to the projection problem for presuppositions.
…

Imagine now a situation in which some linguist, say, Linguist C, did not actually study every solution to some particular problem:

(6) Situation 2: the unsystematic linguist
Linguist A studied every conceivable solution to the problem of weak crossover.
Linguist B studied every conceivable solution to the problem of donkey sentences.
Linguist C is such that there is no problem for which s/he studied all its solutions.
…

The formula we obtain for (6) on the Reinhart/Winter approach is:

(7) $\neg\forall x$ [linguist (x)$\rightarrow\exists f\ \forall z$ [solution to (z, f(problem))$\rightarrow$studied (x, z)]]

This comes out as true while what we had in (2) will come out as false. So far, so good. Now, consider the semantic representation for (6) on the Matthewson/Kratzer view:

(8) $\exists f\neg\forall x$ [linguist (x)$\rightarrow\forall z$ [solution to (z, f_x (problem))$\rightarrow$studied (x, z)]]

This is the only possible representation on Matthewson's account, since on this approach existential closure applies at the topmost level only. On the other hand, according to Kratzer's theory, (8) MAY be the formula for (6), but need not be.

The problem with (8) is that it will come out true not only for (6) but also for (5). This is because in situation 1 there may be some problem considered by some linguist who, however, did not study all of its solutions.

Now, the Matthewson/Kratzer approach fares much better with the following contrast:

(9) (a) A policeman searched every house.
(b) A certain policeman searched every house.

While in (9a) it is relatively easy to obtain a reading according to which *every house* takes wide scope over *a policeman*, that kind of interpretation is

https://doi.org/10.1017/S0022226702211974 Published online by Cambridge University Press

impossible in (9b). This example receives only the reading whereby *a certain policeman* takes wide scope over *every house*. If we assume, following Kratzer, that *a certain policeman* contains a null pronominal (i.e. the indefinite introduces a Skolem function with an implicit argument), then the contrast can be made to follow from the Weak Crossover Principle. In (9b), a trace is coindexed with a pronoun on its left, something which, we know, is impossible in natural languages:

(10) every house$_i$ [a certain policeman *pro*] searched t_i.

On the other hand, nothing stops existential closure from applying here on the Reinhart/Winter view. Therefore, the Kratzer approach (I'm less sure about Matthewson's view here) has a clear advantage in this case.

At this point, Chierchia suggests a very interesting way to proceed. Both theories are right. In a very minimalist spirit, the two mechanisms we considered are subject to an economy condition. Existential closure is argued to be a costly operation while, on the contrary, implicit arguments are freely available, just like any other pronominals (e.g. PRO, *pro*). When there is an option, the Skolem function mechanism must therefore apply. However, in negative contexts the Skolem function account cannot yield the intended interpretations. Thus, existential closure applies as a last resort.

Chierchia's proposal is very interesting. The only problem that I see with his theory is that he is perhaps too optimistic about the use of existential closure over choice functions in general. They, too, seem to overgenerate and yield interpretations that are not attested. For example, as demonstrated by Geurts (2000), nothing stops existential closure from applying in examples such as (11) when it should not:

(11) John didn't eat any biscuit. $\neg > \exists ; * \exists > \neg$

The only reading obtained here is one according to which negation takes wide scope over the existential quantifier. So-called Negative Polarity Items (e.g. *any biscuit*) thus behave differently from other indefinites:

(12) John didn't eat some biscuit. $\neg > \exists ; \exists > \neg$

Similarly, it is not clear what stops existential closure over a choice function from applying in (13).

(13) What every boy saw was a friend of his. (Williams 1994: 62)

The problem is that the wide scope reading after reconstruction is impossible. The only interpretation possible here is one according to which every boy saw a different friend. Nothing stops the existential closure view from assuming a simple choice function in the gap, giving (14).

(14) Which f [every x, boy x, saw f(a friend of his)]

To be fair, I do not think that the Matthewson/Kratzer approach fares any better in this case. Such examples in fact suggest that indefinites are ambiguous. As Williams (1994) has suggested, on the one hand, they introduce an existential quantifier, which takes scope via movement as is traditionally assumed, and which binds a variable ranging over individuals; on the other hand, indefinites introduce a Skolem function, which does not range over individuals. This explains why some indefinites can receive only one interpretation. If they were underspecified rather than ambiguous, then two readings (inverse scope) could be yielded. For completeness, consider (15), where it is clear that some indefinites cannot yield a pair-list, but only an individual reading.

(15) What bothered a friend of mine is every article that appeared.
(Williams 1994: 62)

This closes my discussion of Chierchia's paper.

Building on previous work of his own, Carlo Cecchetto, in 'Syntactic or semantic reconstruction? Evidence from pseudoclefts and clitic left dislocation', argues that the copy theory of traces cannot account for the full set of data. Whereas reconstruction effects in chains derived via movement follow from the copy theory, the analogue of reconstruction (connectivity) in dependencies not created by syntactic movement requires a semantic treatment. He provides examples where an indefinite seems to behave as if it were reconstructed, as far as Binding Theory is concerned, whereas its scope properties are those of the non-reconstructed position.

Reconstruction is also the topic of Luigi Rizzi's paper entitled 'Reconstruction, weak island sensitivity and agreement'. In this contribution, Rizzi tackles the problem of non D-linked versus D-linked WH phrases. As is well known, the former are sensitive to weak islands while the latter are not. Rizzi argues that non-D-linked DP dependencies undergo obligatory reconstruction of the lexical semantic restriction as a consequence of Full Interpretation. Locality effects in such configurations follow from this fact. On the other hand, in the case of D-linked WH phrases, the lexical restrictor can remain in the left periphery in the topic position, which Rizzi has proposed independently (cf. Rizzi 1997). Reconstruction is thus not necessary. This is because the restrictor is contextually given. Weak islands are violated because the chain can be licensed via binding.

In 'On a frequent misunderstanding in the temporal-aspectual domain: the "perfective-telic" confusion', Pier Marco Bertinetto provides new insights into the distinction between Aktionsart and Aspect. He argues that these notions are two independent categories; for example, in many languages with rich morphology, these two concepts are encoded differently.

In 'Ways of terminating', Alessandra Giorgi & Fabio Pianesi argue that the distinction between telic/atelic is less fundamental than – and depends on – the terminative/non-terminative contrast. In their view, these two

concepts are properties of particular events. They propose a theory in terms of the topological properties of event domains. The traditional distinction between telic and atelic is thus recast in terms of how topological closure can be obtained: either by directly introducing the relevant closure operator (atelicity) or by making available an extra event variable for the telos/boundary.

Arnim von Stechow's paper, 'Temporally opaque arguments in verbs of creation', reviews the various proposals that have been put forward in the past to account for so-called 'creation' verbs. Such predicates (e.g. *paint*) differ from others (e.g. *seek*) in that they do not involve a pre-established object. In other words, the object created or coming into existence does not exist at the truth-interval of the VP. Von Stechow argues that none of the accounts so far put forward in the literature are satisfactory.

Sandro Zucchi's contribution, 'Tense in fiction', argues that the point of origin of tenses in fictional texts can remain 'floating', as a reflex of the fact that for these texts it does not matter whether they are true or false. This fact allows the context of evaluation to be left underdetermined.

On the whole, the editing is of a very high standard. But some papers have been edited better than others. In some of the contributions, there are several typos, missing words, and references to examples that have gone wrong. It can thus sometimes be more difficult to follow an argument than it should. Despite these few negative remarks, the book is a very good read.

REFERENCES

Geurts, B. (2000). Indefinites and choice functions. *Linguistic Inquiry* **31**. 731–738.
Kratzer, A. (1998). Scope or pseudoscope? Are there widescope indefinites? In Rothstein, S. (ed.), *Events in grammar*. Dordrecht: Kluwer. 163–196.
Matthewson, L. (1999). On the interpretation of wide scope indefinites. *Natural Language Semantics* **7**. 79–134.
Reinhart, T. (1997). Quantifier scope: how labor is divided between QR and choice functions. *Linguistics & Philosophy* **20**. 335–397.
Rizzi, L. (1997). The fine structure of the left periphery. In Haegeman, L. (ed.), *Elements of grammar*. Dordrecht: Kluwer. 281–337.
Williams, E. (1994). *Thematic structure in syntax*. Cambridge, MA: MIT Press.
Winter, Y. (1997). Choice functions and the scopal semantics of indefinites. *Linguistics & Philosophy* **20**. 399–467.

Author's address: Department of Phonetics and Linguistics,
University College London, Gower Street, London WC1E 6BT, U.K.
E-mail: e.mathieu@ucl.ac.uk

(Received 9 September 2002)

J. Linguistics **39** (2003). DOI: 10.1017/S0022226702231977

J. K. Chambers, Peter Trudgill & Natalie Schilling-Estes (eds.), *The handbook of language variation and change*. Malden, MA & Oxford: Blackwell, 2002. Pp. xii + 807.

Reviewed by JENNIFER SMITH, University of York

Drawing on the expertise of twenty-nine contributors from around the world, *The handbook of language variation and change* is a long-awaited volume which aims to provide a comprehensive overview of the 'sociolinguistic enterprise … in its multifaceted pursuits' (1). This is indeed a challenge, but one that the volume thoroughly meets: it is an authoritative guide, which provides an excellent contribution to the diverse field of variationist studies.

The book is organised around five main parts, which reflect the main concerns of the field: methodologies, linguistic structure, social factors, contact, and language and societies. The editors provide an overview of each topic and paper within it at the beginning of each part, highlighting the main issues discussed. The individual authors are called upon to 'discuss the ideas … that drive their branch of the discipline, and to illustrate them with empirical studies' (1).

Part I, 'Methodologies', includes sections on field methods and evaluation, and concentrates on the different data used in the study of language variation and change, and how best to handle it. Crawford Feagin's article, 'Entering the community: fieldwork', provides a practical description of the planning and implementation issues involved in this part of the research programme. In 'Language with an attitude', Dennis R. Preston focuses on studies which try to disentangle the complex nature of attitudinal reactions to specific linguistic features. Edgar W. Schneider, in 'Investigating variation and change in written documents', discusses the problems a researcher faces when relying on written evidence from the past. Specifically, he investigates to what extent the written documents are valid representations of a particular variety. In 'Inferring variation and change from public corpora', Laurie Bauer provides an extensive overview of the applicability of publicly available corpora for the study of language variation and change.

The section 'Evaluation' concentrates on the tools at the variationist's disposal for dealing with complex sets of data. 'The quantitative paradigm', by Robert Bayley, discusses the rise of quantitative research in language variation and change, and the statistical programmes available to carry out such work. He concentrates on Varbrul and provides an accessible summary of its benefits and possible problems. John R. Rickford's chapter, 'Implicational scales', includes a concise demonstration of how such scales

operate, while Erik R. Thomas reviews the work done to date in his chapter 'Instrumental phonetics', concentrating on a discussion of how its uses could be extended.

Part II, 'Linguistic structure', concentrates on the mapping of variation to theoretical frameworks and vice versa. Arto Anttila discusses how Optimality Theory can be applied to the field, in a chapter entitled 'Variation and phonological theory'. Although the framework is associated with variation across languages, the author demonstrates how these approaches can be applied to dialectal differences also. Matthew J. Gordon's chapter, 'Investigating chain shifts and mergers', discusses sound change and how fine-grained variationist analyses have challenged some long-held beliefs surrounding these two types of language change. The lack of 'communication' between variationists and syntacticians is the focus of Alison Henry's chapter on 'Variation and syntactic theory'; however, she notes that recent research is beginning to redress this problem, to the benefit of both disciplines. Ronald Macaulay's chapter, 'Discourse variation', discusses the difficulties associated with quantitative analyses of variation and, in particular, circumscription of the variable context.

Not surprisingly, part III, 'Social factors', forms the bulk of the *Handbook* and is divided into three sections: Time, Social differentiation and Domains. In the first section is found Guy Bailey's chapter, 'Real and apparent time'. These constructs have been a cornerstone in the analysis of language variation and change since the mid-1960s but Bailey warns that they must be dealt with cautiously. 'Child language variation', Julie Roberts' chapter, concerns a relatively new field in sociolinguistics; however, the few studies which have been carried out clearly show the 'children's ability to acquire … variation early in their language learning process' (345). In 'Patterns of variation including change', J. K. Chambers concentrates on the relationship between variation and age, class and gender, and provides clear demonstrations of the ordered movement of variables through a community when there is change.

The next section focuses on the problems of using predefined categories, such as class and style, in the study of language variation and change. It is suggested that speakers construct these different categories according to the unique and individual contexts in which they find themselves, thus the categories are fluid and dynamic. Natalie Schilling-Estes contributes a chapter entitled 'Investigating stylistic variation' and provides a critique of the major approaches to this area. She suggests that the most common frameworks are too unidimensional, and ultimately we are left with the question 'What is style?' (396). The chapters 'Social class', by Sharon Ash, and 'Sex and gender in variationist research', by Jenny Cheshire, discuss concepts which are central in variation studies, but have not been given the scrutiny they deserve in variationist work. They point out that these and other extra-linguistic categories need to be examined in the light of the community which is under

study. This is summed up by Carmen Fought in her chapter, 'Ethnicity', where she states that it is 'not about what one *is*, but what one *does*' (444).

Some even less well-defined 'Domains' are tackled in the following section. In the chapter 'Language and identity', Norma Mendoza-Denton states that an individual's constructed and reconstructed identity, and the attendant linguistic variation, make an ideal subject for variationist research. In a chapter entitled 'The family', Kirk Hazen states that although this unit is the focus of social interaction, its effects on linguistic variation are not well documented, making it an area ripe for future research. In 'Communities of practice', Miriam Meyerhoff surveys some recent studies which have developed this theoretical framework and what it can add to the more traditional aspects of the speech community. Similarly, in the chapter 'Social networks', Lesley Milroy demonstrates that such networks are a 'participant rather than an analyst concept' (556) and are crucial in explaining the dichotomy between diversity and uniformity of language variation. In the last chapter in this section, 'The speech community', Peter L. Patrick traces the development of this concept in sociolinguistics and provides a critique of its current use in variationist studies.

Part IV, 'Contact', deals with languages and dialects. David Britain points out in 'Space and spatial diffusion' that this topic has been given scant attention since the quantitative revolution in variationist studies. This, despite the fact that it arose from the discipline of dialectology, whose prime focus was geographical space. Gillian Sankoff's chapter, 'Linguistic outcomes of language contact', surveys the different historical and contemporary contexts of contact and how these affect the emerging linguistic situation. In contrast to LANGUAGE CONTACT, Paul Kerswill discusses the linguistic processes and consequences of contact between speakers of different VARIETIES of a language, in his chapter, 'Koineization and accommodation'.

In his chapter, 'Linguistic and social typology', Peter Trudgill seeks to uncover the links between societal type and linguistic structure: in other words, why do 'particular languages select particular structures but not others' (708). In her chapter, 'Comparative sociolinguistics', Sali Tagliamonte states that this field is made up of two key components: historical linguistics and quantitative sociolinguistics. She demonstrates the methodological principles that guide cross-variety comparisons and how these can be used to establish similarities and differences across a diverse range of dialects. In the last chapter of the book, Walt Wolfram examines the complex linguistic processes involved in 'Language death and dying', and how they are intimately tied to the context in which they occur.

As stated at the beginning, this *Handbook* is an excellent addition to the discipline. The contributions encapsulate the enormous diversity in this field, and thus the book does indeed provide 'essential knowledge about the study of language variation and change' (cover blurb). However, the volume goes beyond this. With such a vast enterprise, it is often difficult to get a balance

between coverage of the most pertinent issues while at the same time presenting some challenging material that avoids mere description: this work succeeds in getting the balance just right.

The majority of chapters follow the same format: the authors first situate their theme within the broader historical and theoretical context, then go on to review and critique the current empirical research in this field. However, they extend this remit by highlighting some potentially problematic questions and how these might be dealt with in the future. For example, Henry in 'Variation and syntactic theory' questions how variation is modelled in the grammar of a speaker. Are there competing grammars as Kroch (1994) proposes or is it a case of different parameter setting as Henry suggests? Moreover, at what 'level' does variation arise? Is it 'a core part of linguistic competence or something which is separate from the knowledge of grammar?' (276). Some long-established frameworks also come under scrutiny, one example being the extra-linguistic categories variationists readily assign to speakers. Mendoza-Denton criticises these predefined categories and asks: 'Can we think about identity in a way that does not reduce or simplify individuals to a single dimension?' (476). Despite general scepticism of a relationship between societal type and linguistic structure, Trudgill explores this possibility, asking why particular languages select particular structures and not others. These are challenging questions, but ones which rightly find a place in this volume: they encourage us to go beyond current practice and seek out alternatives which we may otherwise never consider.

Thus, there is a good 'balance between the tried-and-probably-true and the potentially productive' (1), which makes the *Handbook* an excellent resource for relative novices to the field of language variation and change as well as for experienced practitioners.

I have only one criticism of the book: the concentration on extra-linguistic issues in variationist studies to the detriment of linguistic-internal processes. This is, of course, expected when the paradigm takes as its starting place use of language in contact with society. However, given that many studies find that it is actually linguistic-internal processes that exert the strongest effect on variation and change (see for example Preston 1991), this might have been given more attention, as it raises some fundamental questions. For example, are linguistic-internal changes the result of paradigm regularisation, restructuring, drift or some other process? How can language universals versus community-specific changes (see for example Chambers 1995) be disentangled? The variationist paradigm offers insights into these issues, but they are not addressed in this volume to any great degree.

However, this does not detract from an otherwise excellent volume which is a major contribution to the ongoing development in the field of language variation and change. I would thoroughly recommend this *Handbook* to anyone working within the variationist paradigm or indeed linguistics more generally.

REFERENCES

Chambers, J. K. (1995). *Sociolinguistic theory: linguistic variation and its social significance*. Oxford: Blackwell.

Kroch, A. (1994). Morphosyntactic variation. In Beals, K., Denton, J., Knippen, R., Melnar, R., Suzuki, H. & Zeinfield, E. (eds.), *Papers from the 30th Regional Meeting of the Chicago Linguistic Society*, vol. 2: *The Parasession on Variation in Linguistic Theory*. 180–201.

Preston, D. R. (1991). Sorting out the variables in sociolinguistic theory. *American Speech* **66(1)**. 33–56.

Author's address: Department of Language and Linguistic Science, University of York, Heslington Road, York YO10 5DD, U.K.
E-mail: js40@york.ac.uk

(Received 29 July 2002)

J. Linguistics **39** (2003). DOI: 10.1017/S0022226702241973

Hilary Chappell (ed.), *Sinitic grammar: synchronic and diachronic perspectives*. Oxford: Oxford University Press, 2001. Pp. xxv + 397.

Reviewed by CHAOFEN SUN, Stanford University

Recent years have seen a developing interest in the study of historical changes in Chinese syntax. The volume under review is a collection of thirteen revised and edited papers, written in English and presented in July of 1996 at the First International Symposium on Synchronic and Diachronic Perspectives on the Grammar of Sinitic Languages, which was jointly organized by La Trobe University and the University of Melbourne in Australia. The co-organizer of the conference, Yunji Wu, published a companion volume with a collection of twelve papers written in Chinese for the same conference (Wu 1999). The goal of the symposium and the volume under review, as described in the preface, is to connect the insights into Chinese morphosyntax at various stages of development that have been gained from historical studies with those that have been gained from synchronic studies of different modern Chinese dialects. The thirteen papers in this volume were written by prominent researchers in Chinese linguistics and cover a remarkably wide range of data. They provide a compendium of contemporary scholarship on Chinese morphosyntactic changes in the light of typological evidence, synchronic dialectal data and diachronic data from the vernacular texts of different periods in Chinese history.

The volume is divided into five parts: introduction, typological and comparative grammar, historical and diachronic grammar, Yue grammar, and Southern Min grammar. The introduction, written by the editor, Hilary Chappell, presents a clear and concise description of the history of Chinese dialects that is extremely useful for the general reader. Chappell observes that Sinitic languages, whilst sharing analytic or isolating features to varying

degrees, are as diverse as the languages within the Indo-European family. Despite the continuous use of a common writing system, dating back three millennia, the spoken forms of Chinese languages – the terms 'Chinese languages', 'Chinese dialects' and 'Sinitic languages' are used interchangeably in the volume – are not always mutually intelligible. Chappell defines the basic word order for Chinese dialects as agent-verb-object but states that object preposing is commonly used as a contrastive device. The other typological features of Sinitic languages which Chappell identifies include things like MODIFIER PRECEDES MODIFIED, MODAL VERBS PRECEDE MAIN VERB, ADVERBIALS OF MANNER IN GENERAL PRECEDE VERBS, and so on. Unlike the more traditional categorization that divides the Chinese languages into seven major dialect groups (i.e. Northern Chinese, Xiang, Gan, Wu, Min, Kejia and Yue), the contributors to this volume recognize three additional dialect groups (Jin, Pinghua and Hui), resulting in a total of ten major dialect groups. The six oldest dialect groups (Min, Wu, Yue, Gan, Kejia and Xiang), Chappell explains, are considered to be the result of four different series of southward migrations from the area around the Yellow River in the north over a fifteen-hundred-year period. The geographical distribution of these dialect groups and their associated languages is clearly marked on a map of China printed on the inside of the front and back covers.

How to divide the history of Chinese into various periods has long been a problem in the field, and this volume is somewhat controversial in that it divides the history of Chinese into the following nine stages (see table 1.2 on page 10): Pre-Archaic Chinese (14–11 BCE), Early Archaic Chinese (10–6 BCE), Late Archaic Chinese (5–2 BCE), Pre-Medieval (1 BCE–1 CE), Early Medieval (2–6 CE), Late Medieval (7–mid-13 CE), Pre-Modern (mid-13–14 CE), Modern (15–mid-19 CE) and Contemporary (mid-19–21 CE). Although the above periodization is for written Chinese only, it is unclear why the word 'Chinese' has been omitted for all but the first three periods. Historically, there must have been stages in the development of Chinese languages between Archaic Chinese and the various modern Chinese dialects, but there is no extant historical record that can provide us with an understanding of the morphosyntax of these stages comparable to the understanding we have of the modern languages. For this reason, no matter how careful we are in reconstructing the morphosyntax of these stages using data from modern dialects, our hypotheses about the syntax and morphology of, for example, tenth-century Chinese dialects can never really be tested. In a way, it does not mean very much, therefore, to talk about Medieval Yue, even though we are quite certain that such a dialect must have existed, and that many of its constructions must have been derived from Archaic Chinese. On the other hand, vernacular literature reflecting some kind of KOINE (Mei 1994), or common language understood by educated speakers from various dialect areas, does exist for medieval times, allowing us to make claims about its morphosyntax with more certainty than those we might make about the

morphosyntax of individual historical dialects. So why not simply refer to Medieval or Middle Chinese, like we do to Archaic Chinese? It seems unlikely that there was no dialectal variation in Archaic times, since recent archeological evidence clearly shows that the sources of Chinese civilization are not limited to a stretch of the Yellow River region (Ding & Sun 2000). If, despite this, we believe that there was a variety of language during the Archaic period that can properly be called 'Chinese', then the koine of later periods should also be regarded as legitimate stages of 'Chinese'. And calling the koines of different periods 'Chinese' does not create any problems in regard to studying the historical developments of Chinese dialects.

Additionally, the terms 'Old Chinese' and 'Middle Chinese' are commonly used in the literature (Norman 1988; Sun 1996) to refer to roughly the same periods as those called 'Archaic Chinese' and 'Medieval Chinese' above, but in this volume these terms seem to be reserved exclusively for the reconstructed sound systems that correspond to Archaic and Medieval Chinese. I do not see any particular benefit in calling the sound system Old Chinese and the morphosyntactic system Archaic Chinese since they are, after all, just different aspects of the same language. Indeed, doing so may actually serve to confuse the general linguistic readership. For example, the title of Bernhard Karlgren's (1954) classic on the evolution of Chinese sounds is *Compendium of phonetics in Ancient and Archaic Chinese*. Thus, Karlgren not only used Archaic Chinese instead of Old Chinese in his treatment of Chinese historical phonology, he also used a third term (i.e. Ancient Chinese) to refer to the period after it. It would be much less confusing for other linguists if Chinese linguists would agree to adopt just one name for the language of a given period, even if we rely on different materials in our studies of different aspects of it.

Part two of the volume, 'Typological and comparative grammar', includes three papers focusing on the development of aspect markers and their close semantic relatives. The first paper in this part is by Yunji Wu, entitled 'The development of locative markers in the Changsha Xiang dialect'. It shows how only one of the four locative markers in the Changsha Xiang dialect (*tau* 到) developed into a perfective marker from a postverbal preposition introducing a locative of destination, and demonstrates that while other locatives, such as *ta* 哒 and *tɣ* 得, may share a common origin in Xiang dialects, they should not be confused with *tau*. The second paper in part two, 'Evidentials in Sinitic languages', is by Hilary Chappell and argues that the lexical verb *guo* 过, meaning 'to pass' or 'to cross', has not developed into an experiential marker in Sinitic languages as others have suggested (Li & Thompson 1981; Smith 1997), but has instead become grammaticalized into an evidential marker. Chappell presents a large set of data from various Chinese dialects to support her claim. However, even though she correctly observes that only a few languages in the world are like Chinese in having a so-called experiential marker, her argument for treating *guo* as an evidential

marker is still not beyond question, due to a lack of reliable diagnostics. The difficulty arises from the fact that in Northern Chinese and Wu in particular, the suffix-like *guo* does not have any clear sense of 'apparently' or 'evidently' which can be said to be expressing a speaker's attitude towards the truth of a proposition, her/his degree of certainty that an event has taken place, the validation of an event, and so on. Consider the following example, which is expanded from Chappell's example (23), *ta zhong-guo du* 'She has been poisoned before':

(1) (a) 她 去世 以前 中过 毒
ta qushi yiqian zhong-guo du
3SG die before hit-GUO poison
'She had had the experience of being poisoned before death'

(b) *她 去世 以前 中 毒
ta qushi yiqian zhong du
3SG die before hit poison

In (1a), the use of *guo* appears to be more closely related to the sentence's adverbial of time rather than any physical, or hypothetical, evidence. It can simply imply, as a matter of fact, that the subject had the experience of being poisoned when she was alive. If we argue that *guo*'s presence is correlated with the speaker's certainty about the proposition, then it is not clear why the sentence in (1b) is not grammatical without *guo*, given Chappell's example. The use of *guo*, at least in this case, seems to be dictated by the time phrase 'before death' rather than the unclear speaker attitude, to indicate an event occurring before a time in the past. (Note that the sentence in (1a) does not simply mean 'she has been poisoned before death'.)

The third paper in part two is a highly informative piece by Christine Lamarre, entitled 'Verb complement constructions in Chinese dialects: types and markers', which is the result of extensive fieldwork in China on the complement structures in various Chinese dialects. Lamarre classifies Chinese dialects into four types according to their markers for manner, extent and potential verb complements. Some Northern Chinese dialects, like Standard Chinese, belong to Lamarre's type I, in which the same marker, *de* 得, is used to mark all three types of complements. In type II languages, which include some Northern Chinese and some southern dialects, potential complements are marked differently from manner and extent complements. On the other hand, type III languages, e.g. certain Yue, Kejia and Min dialects, distinguish extent complements from manner and potential complements. Type IV is composed of certain Min dialects which maintain a three-way distinction among all three complements.

Part three of the volume, 'Historical and diachronic grammar', contains three papers on different topics in Archaic Chinese. Laurent Sagart's paper, entitled 'Vestiges of Archaic Chinese affixes', uses dialectal evidence from Jin, Min, Yue and Kejia to reconstruct an Archaic Chinese prefix **k-* that

serves to derive verbs, nouns and adjectives, and an Archaic Chinese infix *-*r*- that serves to code various grammatical meanings in nouns and verbs. This is an interesting study, but one cannot help but wonder how, for example, cognates deriving from the Archaic infix *-*r*- are semantically related, or what the semantic links between grammatical meanings as diversified as plural objects, a classifier for a set of objects, iterative actions, and the intensive function with adjectives might be in different modern dialects. The paper by Redouane Djamouri, entitled 'Markers of predication in Shang bone inscriptions', presents data which show that five morphemes indicating various modal meanings (*wei* 唯, *hui* 惠, *qi* 其, *wu* 勿 and *bu* 不) should properly be regarded as abstract operators of predicators. The third paper, by Alain Peyraube, is entitled 'On the modal auxiliaries of volition in Classical Chinese'. Peyraube discusses the subjectification process and the grammaticalization of four non-epistemic, volitional modals into modals expressing epistemic meanings in Classical Chinese. The paper focuses on the various uses of four main volitional auxiliary verbs, *gan* 敢 'to dare', *ken* 肯 'to be willing', *yu* 欲 'to intend' and *yuan* 愿 'to wish' in Classical Chinese.

Part four of the volume, 'Yue grammar', also contains three papers. The first paper, 'The interrogative construction: (re)constructing Early Cantonese Grammar', is by Hung-nin Samuel Cheung. Cheung identifies six types of Cantonese yes/no questions, commonly known as A-not-A questions in Chinese linguistics, from twelve sets of Cantonese instructional materials compiled over the last two centuries. He argues that the VP-NEG-VP structure is native to Cantonese and functions as the prototype for the other five yes/no question types. Up until the 1930s, Cheung states, the predominant pattern used in Cantonese yes/no questions was forward deletion, or VP-NEG-V, while after the 1930s, the backward deletion pattern, or V-NEG-VP, seems to have grown more dominant, perhaps triggered by increased contact with Sinitic speakers from the north. Anne Yue's paper, entitled 'The verb complement construction in historical perspective with special reference to Cantonese', begins with a succinct introduction to the Chinese verb complement construction and its formative history dating back two millennia. Yue claims that the pattern verb-object-complement, commonly found in Medieval Chinese, can still be found in nineteenth-century Cantonese instructional materials. Furthermore, the structural freedom of the negative verb-complement structure in contemporary Cantonese, as compared to its positive counterpart, is probably 'a vestige of the archaic and ancient features' (232). (Perhaps these should have been called Archaic Chinese and Medieval features in accord with the periodizations in this volume, reflecting temporal and spatial stratification of different syntactic patterns.) Yue considers the development of the Medieval verb-complement-object structure (with complement standing for an intransitive verb) to have emerged through an intermediate type

characterized as a pivotal verb-object-complement construction, in which the object functions as the patient of the preceding verb and the agent/experiencer of the following complement. Furthermore, she recognizes that the verb-complement structure and verb-object-complement structure develop concurrently (see pages 237–245), as the two types come into existence by the Han Dynasty (the Pre-Medieval period according to the periodization scheme used in this volume) and become more and more common as time goes on during the Medieval period. Given this, it is hypothesized that the detransitivization of the complement verb gives rise to the verb-complement sequence, as complement verbs are mostly intransitive. The third paper in this part, by Stephen Matthews & Virginia Yip, is entitled 'Aspects of Contemporary Cantonese grammar: the structure and stratification of relative clauses'. Matthews & Yip analyze two different marking strategies for Cantonese relative clauses, concluding that marking strategies in Cantonese are distinguished by L(ow) and H(igh) registers, with the L register corresponding to an areal feature commonly seen in southern Chinese and other non-Sinitic languages.

The three papers in part five of the volume deal with 'Southern Min grammar'. The first paper, by Feng-fu Tsao, is entitled 'Semantics and syntax of verbal and adjectival reduplication in Mandarin and Taiwanese Southern Min'. It provides an overview of reduplication in Northern Chinese and Taiwanese Southern Min in terms of four semantic factors: delimitativeness, trying out an action, short duration, and metalinguistic use. Tsao proposes that a similar radial structure in the two Chinese languages accounts for the derivation of these four semantic components (and other more subtle meanings), all of which, he believes, arise from a fundamental, core meaning of 'tentativeness'. The next paper, entitled 'Competing morphological changes in Taiwanese Southern Min', is by Chinfa Lien. It shows that, within a bidirectional system of literary-colloquial lexical diffusion, etymologically unrelated forms can become locked into a certain semantic paradigm, and that, for a variety of reasons, sometimes a form belonging to the literary stratum wins out in competing changes, while at other times, a form belonging to the colloquial stratum does. The last paper in this volume, by Ying-Che Li, is entitled 'Aspects of historical-comparative syntax: functions of prepositions in Taiwanese and Mandarin'. Li gives a detailed outline of the prepositions in Taiwanese Southern Min and of Chinese prepositions during different stages of historical development. He shows that Southern Min, as a language that probably diverged from Northern Chinese at an earlier date than other southern Chinese dialects, has a smaller inventory of prepositions and fewer disyllabic prepositions.

The history of the Chinese verb complement structure is perhaps one of the most challenging and central concerns in the field. Huang (1982) observes that Modern Chinese verb phrases, with the exception of the double object

construction and certain verb phrases indicating duration and frequency, in general do not allow for more than one complement. Further historical work investigating the emergence of different types of verbal complements discussed in Lamarre's paper may shed important light on the motivation that may lead to the emergence of the VP constraint noted by Huang. In her paper, Yue observes that Contemporary Cantonese still retains the once-prevalent Medieval Chinese verb-object-complement structure, in which two complements, an object and a verbal complement, are allowed. Although this volume falls short of providing a fully adequate account of what triggers the development of the Modern Chinese VP constraint, it does, nevertheless, provide an interesting dialectal perspective that may serve as the basis for an even fuller account. In sum, despite its shortcomings, this book is definitely a must-read, since it provides significant insights into the historical development of Chinese dialects. It is a vital reassessment of the field, which shows that there is much to be learned by integrating historical study with dialectal investigation.

REFERENCES

Ding, Bangxin & Sun, Hongkai (2000). *Hanzang yu Tongyuanci yanjiu* [A study of the Sino-Tibetan cognates]. Nanning, China: Guangxi Minzu Chubanshe.

Huang, C.-T. James (1982). *Logical relations in Chinese and the theory of grammar*. Ph.D. dissertation, MIT.

Karlgren, Bernhard (1954). *Compendium of phonetics in Ancient and Archaic Chinese*. Stockholm: The Museum of Far Eastern Antiquities. Stockholm Bulletin No. 26.

Li, Charles & Thompson, Sandra (1981). *Mandarin Chinese: a functional reference grammar*. Berkeley, CA: University of California Press.

Mei, Tsu-Lin (1994). Tangdai, songdai gongtongyu de yufa he xiandai fangyan de yufa [The grammar of the Tang and Song koine and the grammar of Modern Chinese dialects]. In Li, Paul, Huang, Chu-Ren & Tang, Chih-Chen (eds.), *Zhongguo jinnei yuyan ji yuyanxue* [Chinese languages and linguistics] (vol. 2). Taiwan: Academia Sinica. 61–97.

Norman, Jerry (1988). *Chinese*. Cambridge: Cambridge University Press.

Smith, Carlota S. (1997). *The parameter of aspect*. Dordrecht: Kluwer Academic Publishers.

Sun, Chaofen (1996). *Word-order change and grammaticalization in the history of Chinese*. Stanford, CA: Stanford University Press.

Wu, Yunji (1999). *Hanyu fangyan gongshi yu lishi yufa yantao lunwenji* [Synchronic and diachronic perspectives on the grammar of Sinitic languages]. Guangzhou, China: Jinan Daxue Chubanshe.

Author's address: Department of Asian Languages, Stanford University, Bldg. 50, Rm. 51L-M, Main Quad, Stanford, CA 94305-2034, U.S.A.
E-mail: cfsun@leland.stanford.edu

(Received 2 October 2002)

J. Linguistics **39** (2003). DOI: 10.1017/S002222670225197X

Greville G. Corbett, *Number* (Cambridge Textbooks in Linguistics). Cambridge: Cambridge University Press, 2000. Pp. xx + 358.

Gunter Senft (ed.), *Systems of nominal classification* (Language, Culture and Cognition **4**). Cambridge: Cambridge University Press, 2000. Pp. ix + 350.

Reviewed by ALAN TIMBERLAKE, University of California at Berkeley

These two fascinating (and handsome) volumes treat the typology of two properties of noun phrases. The properties seem more circumscribed than the grand problems of typology (word order, ergativity, etc.), but they nevertheless have their complications. The volumes are interesting for what they have to say not only about the specific problems they address, but also about lurking issues of how to do typology and how diachrony relates to typology.

In *Number*, Greville Corbett takes it as axiomatic that the goal of typology is to define what is a possible language or, more specifically, what is a possible system of number. To this end Corbett invokes implicational hierarchies. As is familiar, the morphological expression of number can be more or less elaborate, from no opposition of number through an opposition of singular vs. plural to systems contrasting singular, plural and more precise paucal numbers (dual, trial, exceptionally even quadral). Corbett argues that the elaboration of number categories follows two implicational hierarchies. The Number Hierarchy concerns number categories themselves: a trial category presupposes the existence of a dual category, which in turn presupposes the plural. The other concerns animacy or, perhaps better, individuation – the conventional likelihood of viewing something as an individual (Timberlake 1975). Argument expressions can be ranked for individuation in the following order: pronouns rank higher than nouns, inasmuch as pronouns are more likely to refer to distinct individuals (indeed, they almost necessarily do so); among nouns, those referring to animates rank higher than those referring to inanimates. Corbett's fundamental observation is this: if a number category (dual, for example) is developed for some type of argument expression (say, nouns referring to animals), it will be developed for all other argument expressions that rank higher on the hierarchy. The Animacy Hierarchy in a way is paradoxical: exactly those argument expressions that are highly individuated are the most likely to be counted. Perhaps the function of counting is exactly to combine the contrary meanings of individuation and counting. To put it in Wierzbickian terms, one might say: you, dear addressee, would prefer to think of an animate being (or the speaker or addressee) as a unique individual, but I now ask you

to think of this individual at the same time in another way, as a member of a set.

The Animacy Hierarchy, applied to number categories, holds for the numerous languages discussed by Corbett. There are, however, some specialized plural categories that seem to be exceptions, in that they select out an intermediate portion of the hierarchy of argument expressions. For example, the Dagestanian language Avar has alternate plural forms for some nouns, one a general plural, the other referring to limited, or paucal, quantities: *ruq'* 'house', *ruq'zal* '(many) houses', *ruq'al* '(a few) houses' (Sulejmanov 1985). Many of the less than one hundred nouns that form this paucal plural are nouns referring to tools and domestic items; only one noun referring to persons (*nus* 'daughter-in-law') has these variants. That is, the paucal in Avar is formed primarily from a set of inanimate nouns in the middle of the Animacy Hierarchy. (In contrast, in Yimas, the paucal plural is formed only from pronouns, in accordance with the Animacy Hierarchy (91, 120).) There are also associative plurals, such as the contrast in Hungarian of *elnök* 'president' vs. *elnökek* 'the president and his group' (101–105) or Lezgian *dide* 'mother', neutral plural *didejar* 'mothers', associative plural *didedbur* 'mother and her family' (Talibov 1985). Associative plurals are formed above all from kinship terms and nouns referring to unique persons, which is a subset of nouns internal to the Animacy Hierarchy. Because these specialized plural categories select out a portion of the lexicon in the middle, they seem to be 'patches of exceptions' to the Animacy Hierarchy (132). To reconcile them with his basic approach, Corbett differentiates primary number categories (which follow the Number Hierarchy and Animacy Hierarchy) from these secondary, or minor, patterns (which may not).

The second major concern of Corbett's study is the way in which number is expressed by agreement in verbs, specifically in those constructions in which agreement is not automatic and self-evident: conjuncts, quantified nouns and comitatives. In such constructions, some languages have allowed both singular and plural agreement, for example {*there's* ~ *there're*} *two books over there*. The singular is quite frequent in informal American English, and grammatically correct in the corresponding construction in Russian. Corbett shows that plural agreement is favored: by small as opposed to large quantifiers; by SV order as opposed to VS order – the order used in existential predications; and by animacy of the argument. Animacy is documented dramatically by data from Cairene Arabic (209). To these factors one could add predicate semantics: plural is favored by predicates that report properties of the subject, such as transitives or predicatives; singular agreement is used by existential, occasional, positional and modal predicates such as 'be', 'remain', 'appear', 'sit', 'be necessary', and the like (Robblee 1993). The broader generalization is that plural agreement is appropriate when the predication deals with potentially distinct individuals

and their properties; singular agreement is appropriate when the predication establishes the existence of a clump of undifferentiated entities.

On a variety of grounds – clarity of method and exposition, exhaustiveness of coverage of issues and languages – more than 300 (and many, many facts have been verified by 'personal communication' with the grammarians who work on various languages) – this contribution to the Cambridge 'red' series of textbooks is a textbook example of how to do typology.

The volume *Systems of nominal classification* followed from a meeting at the Max-Planck-Institut für Psycholinguistik at Nijmegen, The Netherlands, in 1993. The gathering was organized in large measure around the contributions of Colette Grinevald (previously Craig), who has investigated classifiers in her primary field language Jakaltek (Mayan) and broadly across languages. Grinevald's own contribution, a mature retrospective, anchors the volume. From the varied studies, one can piece together a common lore about the typology of classifiers. Four issues can be identified.

One is the TYPOLOGY OF CONSTRUCTIONS in the usual sense of typology as an inventory of possible synchronic systems. Grinevald identifies four types of classifiers by the local syntactic contexts in which they appear. The most familiar is the numeral classifier, found for instance in Tzeltal, where a number requires a classifier describing properties of the quantified noun; thus, units of cactus or firewood or banana trees can be counted with classifiers meaning 'half', 'sliver', 'slice', 'chunk', 'irregular cut-off stick', 'squared-off stick' or 'section' (Berlin 1968: 45–49). In addition, classifiers occur directly with nouns, with possessors and, less frequently, with verbs. Grinevald offers the intriguing suggestion that these positions are correlated with different semantic operations (77): numeral classifiers with quantity, nominal classifiers with quality, possessor classifiers with locality. Against the background of this typology of possible classifier systems, the volume contains two papers of the genre that exhibits individual language systems more exotic and complex than previously envisioned. Roberto Zavala shows that Akatek (Central America) has multiple classifier positions that can co-occur, contradicting the possible assumption that a given language would have only position for classifiers. Alexandra Aikhenvald reports on the 'unusual' classifier system of Tariana (Amazonia). The same 14 classifier morphemes occur in the various positions defined by Grinevald; moreover, demonstratives and articles combine with classifiers. Jürgen Broschart views the two possessor markings in Tongan, usually treated as a distinction of alienability, as locality classifiers.

CULTURE AND SYSTEM. Classifiers seem to bring out the inner ethnographer in the linguist. Some of these papers, hesitantly or overtly, invoke culture or interpersonal interaction to motivate the properties of classifiers. Kyoko Inoue notes that overseas Japanese children do not use quite the same distribution of classifiers for 'movie' or 'comics' as monolingual children residing in Japan, and attributes this to culture. Gunter Senft closes his

discussion of Kilivila (41) with an intriguing quote from the classic study of Gerlach Royen (1929: 69), imbued with the cultural psychologism of an earlier era ('die Sprache [ist] ein Geschehen sozial-religiöser Art'). To what extent culture is responsible for the properties of classifiers is difficult to say, but it is interesting that these authors mention culture at all. The concern with culture reflects an instinct that classifiers (and other typological features?) are not equally likely to develop in all languages; there is some degree of cultural or historical specificity.

A third issue is degree of LEXICALIZATION (or idiomatization or grammaticalization). In some languages, for example Grinevald's Jakaltek, a given noun root can occur with only a single classifier. Classifiers then partition the nominal lexicon, as gender systems do. And indeed, it is commonly assumed that gender systems derive from classifier systems (Corbett 1991: 136). Two papers here treat the grammaticalized end of the classifier-to-gender continuum. Greville Corbett & Norman Fraser, who define gender systems by agreement, argue that the gender of a noun will be derivative of other properties of the noun, either of its meaning or its phonological shape. Katherine Demuth shows how the original Bantu classifier-gender system has been restricted in Sesotho. Interestingly, children learn the membership of nouns in Bantu gender classes on the basis of morphophonological properties before they learn the semantic motivation for assigning nouns to classes (284). Demuth's study suggests that the movement from a vital classifier system to a restricted gender system is a slow and gradual process consisting of many small steps of ossification.

In other languages, classifier systems are not so rigid. Nouns do not elicit only one classifier but can potentially be used with more than one classifier. It used to be common practice, especially in the ethnographic literature, to cite a single noun with multiple classifiers to show how the sense of the noun changes with the classifier. While such citations suggest an open-ended, charismatic process of combination – 'a Tzeltal speaker must make a decision as to which of a number of alternative classifiers to employ' (Berlin 1968: 20) – the process may well be less spontaneous, less compositional, than might appear.

Relevant here is the rich chapter by David Wilkins, which examines the usage of combinations of generic and specific nominal lexemes in Arrernte (Australia). The combination *kere* 'game' *aherre* 'kangaroo' is used in contexts in which the speaker thinks of this animal *qua* proleptic food. (A native commentator defines *kere*, 'That's our food' (184).) Plain, uncompounded *aherre* is used for kangaroos in other guises: kangaroos *qua* patients of the act of vision or *qua* ancestral agents that devour human beings (169–177). Wilkins is perhaps justified when he claims that the unit *kere* 'game' in combinations such as *kere aherre* 'kangaroo *qua* game' is NOT a classifier, and such combinations are in effect compounds of two nouns, one generic, one more specific in reference. Yet even these combinations in

Arrernte have a lexicalized character: though *kere aherre* is composed of two units, this phrase is evidently the conventional way one talks about a kangaroo *qua* game. This suggests by extension that, in other languages, the seemingly free combinations of nouns and classifiers are to some extent lexicalized and conventional (cf. Burling (1965: 245) on Burmese). However the Arrernte constructions are analyzed, they are significant in that they point to an early stage in the diachronic development of classifier constructions. Even if some novel combinations still occur, evidently the process of attaching relatively stable interpretations to combinations of generic and specific nouns starts early.

Function. Most papers assume that classifiers are not empty agreement markers, but that they have some function; it is noted that classifiers are often used without any head noun as anaphors. The use of classifiers in general, and especially as anaphors, is curious, even paradoxical. The classifier indicates that the noun (or more accurately, as John Lucy reminds us in his concluding discussion, the referent of the noun) is to be viewed as belonging to a group defined by some general property; a classifier tells us that some specific entity is a long thin object or animate or the like. Using a classifier seems to play up the membership of an entity in a type at the expense of its individual qualities. Relevant here is a suggestion made by Jürgen Broschart in his chapter, who suggests that classifiers indicate the 'identifiability of manipulable entities' (259), which we could interpret to mean that classifiers indicate that an entity is to be understood simultaneously as an individual (as detachable from a mass or set and manipulable as an individual, on some specific occasion) and as a token of a type (as having a certain non-accidental property). Then classifiers used as anaphors could be understood to say that there is an entity under discussion that is of a certain type but that that entity is also known as an individual in context. This is curiously similar to what was said above about number and the Animacy Hierarchy, when we observed that number has the function of marking the chiasmic combination of individuation and multiplicity. Perhaps (some) morphological categories should be understood not as expressing a single, unambiguously positive meaning, as I think we tend to believe, but rather as conveying the complex message that something is to be thought of in two contrary ways – for instance, as individual and as multiple, in the case of number, or as individual and as type, in the case of classifiers?

In this way, the discussion of number and the discussion of classifiers come together. They meet in another way as well. Both books suggest that elaborated systems are especially common in certain linguistic areas and/or genetic groups. Austronesian and other Pacific languages are prone to developing elaborate number systems (Corbett, book under review page 267). Languages of Central America and Amazonia develop elaborate classifier systems (Grinevald, in Senft (ed.) pages 83–84), and it is Amazonia where systems of multiple classifiers occur (Aikhenvald, in Senft (ed.) page 107).

By suggesting a certain cultural and/or geographical specificity in the development of number and classifiers, these observations run counter to the spirit of universal grammar, which tacitly assumes that any language at any time should be free to set its parameters as it sees fit. Further, this fact – that the most elaborate, exotic types of number or classifier systems are more common in certain areas or genetic groups – suggests the possibility that what we think of as typology – as selecting a systemic property out of a limited catalogue of possibilities – is in part a diachronic question. Perhaps what we should be asking is not, for example, how many classifiers can fit on the head of one system (whether the answer is one more or one less does not substantially affect our understanding of classifiers), or why having a trial implies having a dual, but rather how systems evolve – how, for example, the use of lexical compounds of two nouns can evolve into classifier constructions, or how elaborate number systems come into existence.

A diachronic interpretation suggests itself for the 'patches of exceptions' to the Animacy Hierarchy, in particular, for the development of alternate plurals in Dagestanian languages mentioned above. Evidently, Dagestanian languages have long had a variety of plural suffixes, often used in variation in a given language – 'les suffixes pluralisateurs sont très nombreaux', comments Charachidze about contemporary Avar (1981: 44). A contrast of general vs. paucal plural could arise if certain lexemes were to adopt a productive suffix for the general plural, while an older suffix – evidently an etymological dual in some instances (Alekseev 1985: 61) – were reinterpreted to indicate a paucal plural. The paucal sense is naturally maintained with those lexemes for which counting in pairs and small numbers makes good cultural sense (paired items, tools, domestic items and, evidently, daughters-in-law). In creating this 'patch of exception', then, Avar was not trying to obey or disobey the Animacy Hierarchy; it was merely using its inherited morphology opportunistically – converting dual to an alternate, paucal, plural. Similarly, Lezgian has used its inherited morphology opportunistically to create its associated plural – again, for a natural patch of the Animacy Hierarchy, inasmuch as the cohort of a mother or president is more informative than the foot soldier's cohort. By extension, constraints such as the Animacy Hierarchy should perhaps be viewed not so much as constraints on possible synchronic grammars as constraints on diachronic developments. Viewed in diachronic terms, the Animacy (Individuation?) Hierarchy would say, for example, that, as a semi-independent numeral becomes grammaticalized as a dual or trial number category, this process will proceed first with pronouns, then with animates and last with inanimates, because it is with highly individuated entities (speaker, addressee) that counting – imposing limited multiplicity on unique entities – is most informative. Thus, the two volumes discussed here, overtly dedicated to the problem of synchronic types, contain hints that we should think of typological variation in terms of its diachronic sources as well as in terms of synchronic parameters

sanctioned by universal grammar. The question for typology is perhaps not what kinds of system are possible, but what kinds of change are possible.

REFERENCES

Alekseev, Mixail E. (1985). *Voprosy sravnitel'no-istoričeskoj grammatiki lezginskix jazykov. Morfologija. Sintaksis*. Moscow: Nauka.
Berlin, Brent (1968). *Tzeltal numeral classifiers: a study in ethnographic semantics*. The Hague: Mouton.
Burling, Robbins (1965). How to choose a classifier. In Spiro, Melford (ed.), *Context and meaning in cultural anthropology*. New York: Free Press. 243–264.
Charachidze, Georges (1981). *Grammaire de la langue Avar* (Document de linguistique quantitative **38**). Paris: Jean-Favard.
Corbett, Greville (1991). *Gender*. Cambridge: Cambridge University Press.
Mikailov, Kazbek Š. (ed.) (1985). *Kategorija čisla v dagestanskix jazykax: sbornik statej*. Maxačkala: Dagestanskij filial AN SSSR.
Robblee, Karen (1993). Individuation and Russian agreement. *Slavic and East European Journal* **37**. 423–441.
Royen, Gerlach (1929). *Die nominalen Klassifikations-systeme in den Sprachen der Erde. Historisch-kritische Studie, mit besonderer Berücksichtigung des Indogermanischen* (Anthropos, Linguistische Bibliothek, **4**). Vienna: Mechitharisten.
Sulejmanov, Jakub G. (1985). O formax ograničennogo i neograničennogo množestvennogo čisla imen suščestvitel'nyx v avarskom jazyke. In Mikailov (ed.), 114–119.
Talibov, Bukar B. (1985). K voprosu ob ograničennom čisle v lezginskom jazyke. In Mikailov (ed.), 90–92.
Timberlake, Alan (1975). Hierarchies in the genitive of negation. *Slavic and East European Journal* **19**. 123–138.

Author's address: *Department of Slavic Languages & Literatures,*
University of California at Berkeley, Berkeley, CA 94720, U.S.A.
E-mail: timber@socrates.berkeley.edu

(Received 14 May 2002)

J. Linguistics **39** (2003). DOI: 10.1017/S0022226702261976

Klaus von Heusinger & Urs Egli (eds.), *Reference and anaphoric relations*. Dordrecht: Kluwer Academic Publishers, 2000. Pp. xi + 347.

Reviewed by ERIC MATHIEU, University College London

This books deals with scope, indefinites and anaphoric relations. Beside the excellent introduction by Klaus von Heusinger & Urs Egli, there are fifteen contributions. The volume starts with a very informative survey of the historical aspects of anaphora. The first paper, 'Anaphora from Athens to Amsterdam', is by Urs Egli, who presents sample texts that indicate that the Stoics were pioneers in describing both anaphora and quantifier raising (QR). In his paper 'Understanding the semantics of "relativa grammaticalia": Medieval logicians on anaphoric pronouns', Reinhard Hülsen argues that Geach's (1962) well-known E-type theory of pronouns had in fact

been anticipated by medieval logicians. 'Meaning in motion' by Jeroen Groenendijk & Martin Stokhof closes the historical section by going through the development of formal semantics and by illustrating facets of the modern dynamic view of definite and indefinite descriptions.

The discussion related to anaphoric expressions in intentional contexts spreads across two papers. In 'Anaphoric relations across attitude contexts', Robert van Rooy argues that neither the E-type theory nor the unselective binding view of inter-sentential anaphoric relations can give a satisfactory account of these relations across attitude contexts. He sketches a 'pragmatic' solution in which the notion of 'speaker's reference' becomes crucial. Hartley Slater, in his contribution 'The grammar of the attitudes', proposes a purely grammatical explanation of these anaphoric expressions by using epsilon terms as representation for anaphoric pronouns.

Three papers deal with the relation between the concept of reference and that of inference. In 'Reference and inference: the case of anaphora', Jaroslav Peregrin argues that reference is parasitic on inference, and not vice versa, as is commonly assumed. In 'Coreference and representationalism', Paul Dekker postulates an additional level of representation in addition to the more familiar level of representation, where discourse properties are encoded. In 'Underspecified semantics', Reinhard Muskens argues that ambiguities in natural language do not generate several representations. Rather, one 'underspecified' representation is generated and the full representations are further spelt out, not in the pragmatics, but in the semantics.

Quantification and scope is the topic of four papers. In 'Scope matters', Donka Farkas argues that the structural position of a variable underdetermines the possible readings and she proposes a non-movement-based theory of scope. In her paper 'Scope ambiguities with negative quantifiers', Henriëtte de Swart argues against a lexical decomposition account of the German determiner *kein* 'no' and its Dutch counterpart *geen* 'no'. Elena Paducheva in 'Definiteness effect: the case of Russian' argues that, in order to give an account of combinability restrictions in *there*-sentences and their Russian equivalents, it is not sufficient to take into consideration the semantics of determiners and the Topic-Comment structure. In 'Persistence, polarity, and plurality', Stephen Neale decomposes the meaning of the definite article into a complex phrase. This allows him to solve several puzzles left unexplained so far.

Finally, three papers concentrate on choice functions. In his contribution, 'What makes choice natural?', Yoad Winter argues that choice-function interpretation can be derived from general principles of natural language semantics, in particular, the conservativity, logicality and non-triviality universals of Generalized Quantifier Theory. Klaus von Heusinger's article 'The reference of indefinites' concentrates on the dependent readings of indefinites. He shows that indefinites are not only dependent on quantifiers,

but are also dependent on other indefinites. He models this dependency structure by Skolem functions. Finally, he introduces the syntactic equivalent of choice functions: epsilon terms. In 'Some remarks on choice functions and LF-movement', Arnim von Stechow compares the in situ approach of choice functions with the classical movement analysis of QR at LF. He then discusses certain restrictions on the licensing of choice-function variables.

The fifteen contributions are revised versions of papers presented at the workshop 'Reference and anaphoric relations', which was held at the University of Konstanz in June 1996. There is much consistency within each section of the book, but less so across sections in that the five themes addressed in the book (historical aspects of anaphoric relations, quantification and scope, anaphoric reference, choice functions and the semantics of indefinites, and representation and interpretation) are very different. This means that, in the present review, I cannot do justice to all the subject matters introduced in the volume. I will thus concentrate on choice functions, mainly because it is a topic that has become very popular in recent years, not only in semantics, but also in syntax. It is thus very much open to scrutiny. In particular, I will focus on von Stechow's paper. My reservations about choice functions will apply, not only to his views, but to the two other contributions on the subject as well.

The choice-function trend goes against the traditional idea that indefinites introduce an existential quantifier. The approach capitalizes on the fact that, although universals behave like quantifiers in that they obey islands, existentials are immune to them. Consequently, Reinhart (1997) proposes that (some, not all – see below) indefinites do not raise at LF. These indefinites introduce not a simple, but a complex variable. This takes care of the so-called Donald Duck problem:

(1) [Who will be offended] [if we invite which philosopher]?
  (a) 'For which <x, y>, if we invite y and y is a philosopher, then x will be offended.'
  (b) 'For which <x, y>, y is a philosopher, if we invite y, x will be offended.'

If, as in (1a), the semantic restriction is left in situ, the sentence ends up a necessary truth in every world lacking philosophers, because the semantic restriction occurs in the antecedent clause of an *if*-clause. A possible answer to (1) is thus: *Lucie will be offended if we invite Donald Duck*. Naturally, (1) requires that the answer involves a philosopher. We are left with a paradox: on the one hand, the semantic restriction needs to remain in situ; on the other, it cannot remain there. To resolve the quandary, Reinhart appeals to a semantic device: existential closure over a choice function. The latter is a function from a (non-empty) set of individuals (the restriction set) to a member of that set.

Von Stechow agrees with Reinhart that this mechanism can be extended to plural existentials on their collective readings, but crucially, not on their distributive interpretations. In other words, QR is still needed:

(2) If three relatives of mine die, I will inherit a house.
  (a) 'There are three relatives of mine, such that, if each of them dies, I will inherit a house.'
  (b) *'For each of three relatives of mine, if he dies, I will inherit a house.'

The interpretation in (2b) is not available, presumably, because *three relatives of mine* moves out of the island *if*-clause. According to Reinhart, the source of the distributivity in plural existentials is an invisible distributor D. On this view, both D and the indefinite expression undergo QR.

Von Stechow proposes an alternative analysis. On his account, indefinites never introduce an existential. What undergoes QR in (2) is not D and an existential expression but the complex D + a choice function *f*. D is a strong, i.e. universal, quantifier. The island effect stems from that fact. This analysis may turn out to be wrong but it has the advantage of being rather elegant since it generalizes the choice-function mechanism and does away with the dichotomy between quantificational versus choice-function indefinites.

Granted this positive aspect of von Stechow's paper, let me now turn to the problems it faces. The first issue is his claim that the in situ approach to indefinites is fully compatible with Chomsky's (1995) Minimalist Program. I think this is too hasty a claim. For a start, the choice-function analysis of non-interrogative indefinites faces many challenges, some of which may be intractable (see Geurts 2000 for discussion). As for interrogative indefinites, the choice-function account works well for multiple WH questions in English and for Chinese WH in situ in single WH environments, but something needs to be added for WH in situ in languages like French.

Suppose that in Chinese Q binds not a simple but a choice-function variable. Then, the lack of intervention effect by negation in (3) is expected.

(3) [$_{CP}$ Yanhan bu xiquan shenme]?
  Yanhan NEG like what
  'What doesn't Yanhan like?'

On the other hand, in French, a language, which allows WH in situ in single WH environments optionally, WH in situ is very restricted (Bošković 2000). In particular, such questions display intervention effects with a whole range of scopal elements. These effects are systematically absent with the movement alternative and in multiple WH contexts:

(4) (a) *Tu ne fais pas quoi ce soir?
  you NEG do not what this evening
  (b) Qu$_i$' est-ce que tu ne fais pas t$_i$ ce soir?
  what that you NEG do not this evening
  'What aren't you doing tonight?'

https://doi.org/10.1017/S0022226702211974 Published online by Cambridge University Press

(c) Qui ne fait pas quoi ce soir?
who NEG does not what this evening
'Who doesn't do what this evening?'

Reinhart's proposal implies that all nominal expressions should be able to introduce a choice function. However, since nothing prevents the WH phrase in (4a) from introducing such a function, it is no longer possible to understand why such phrases show intervention effects.

The conclusion must be that the existential closure over choice-functions mechanism does not suffice in French single WH environments. In languages like French, which typically lack question particles, the [+WH] feature of the WH phrase in situ must enter into a checking relation with the strong WH/Q feature of C. I assume that a null WH operator with adjunct-like properties raises (overtly) in examples like (4a). In this case, movement is required for convergence. In the case of (4c), movement of the lower WH phrase is not necessary because convergence does not require it. This is in line with Ackema & Neeleman (1998) and Bošković (2000).

Let me now turn to some German facts discussed by von Stechow. In that language, unlike in English, multiple WH questions show intervention effects. In (5a), negation blocks the licensing of the WH phrase in situ. When scrambling takes place, the question is well formed since LF movement of the lower WH phrase does not cross negation (cf. (5b)).

(5) (a) [$_{CP}$ *Wann hat *niemand* wem geholfen]?
when has no one whom helped
(b) [$_{CP}$ Wann hat wem$_i$ niemand t$_i$ geholfen]?
'When did no one help who(m)?'

Under the choice-function account, the intervention effects are completely unexpected. Either one argues that the German WH phrase in situ raises at LF (alternatively a null operator raises) or one appeals to a special condition on choice functions. Von Stechow attempts the latter by adapting Beck's (1996) Minimal Quantified Structure Constraint, an island condition on traces.

In von Stechow's version, the idea is that there must be no LF intervener between an existential quantifier $\exists f$ and the choice-function variable f bound by it. But, since non-interrogative indefinites can outscope universal quantifiers, he restricts the principle to the existential generalization of WH variables (for lack of space, I've only discussed Neg, leaving Quant aside):

(6) *The WH Filter*
*$\exists f$ … Neg or Quant … wh$_f$ …,
(where f is a variable for generalized choice functions).

Von Stechow's filter (217) has one advantage over Beck's original condition. The latter is at odds with Minimalist assumptions. In the Minimalist

Program, it is not possible to postulate a condition that holds only of processes in the LF-component (uniformity). Von Stechow avoids this problem since existential closure over choice functions need not happen at LF (Q Binding may be prior to Spell-Out).

However, it seems to me that there is an inherent contradiction at work in von Stechow's account. If choice functions are useful for something, they are useful to explain the lack of island sensitivity exhibited by (some) indefinites. To encode a condition on the choice-function mechanism that will account for intervention effects is to reduce to zero the explanatory power of the choice-function device. How can we now account for the lack of intervention effects in English multiple WH questions and Chinese single WH in situ questions? Second, as far as I am aware, the condition in (6) does not follow from anything and only amounts to a restatement of the facts. Third, von Stechow has to restrict his filter, not only to WH structures, but to WH structures in German (and Korean, since the same facts actually obtain in that language). This is not a promising avenue.

Despite my criticisms, the article by von Stechow, like all the other contributions, is first-class. This book is a gem. The layout is beautiful. There are typos here and there, but the editing is superb. The different contributions have been put into very coherent sections. I strongly recommend this book to all those who are interested in the syntax-semantics interface.

REFERENCES

Ackema, P. & Neeleman, A. (1998). Optimal questions. *Natural Language & Linguistic Theory* **16**. 443–490.

Beck, S. (1996). Quantified structures as barriers for LF movement. *Natural Language Semantics* **4**. 1–56.

Bošković, Ž. (2000). Sometimes in Spec-CP, sometimes in-situ. In Martin, R., Michaels, D. & Uriagereka, J. (eds.), *Step by step: essays in Minimalist syntax in honor of Howard Lasnik*. Cambridge, MA: MIT Press. 53–88.

Geach, P. (1962). *Reference and generality: an examination of some medieval and modern theories*. Ithaca, NY: Cornell University Press.

Geurts, B. (2000). Indefinites and choice functions. *Linguistic Inquiry* **31**. 731–738.

Reinhart, T. (1997). Quantifier scope: how labor is divided between QR and choice functions. *Linguistics and Philosophy* **20**. 335–397.

Author's address: Department of Phonetics and Linguistics,
University College London, Gower Street, London WC1E 6BT, U.K.
E-mail: e.mathieu@ucl.ac.uk

(Received 1 May 2002)