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BOOK REVIEWS

Farrell Ackerman and Irina Nikolaeva: Descriptive typology and linguistic theory: A study in the morphosyntax of relative clauses. Stanford, CA: CSLI Publications, 2013, pp. xiii + 389.

The volume, written by Farrell Ackerman and Irina Nikolaeva, presents a typological approach to relative clauses in various selected languages, with a special focus on Tundra Nenets. The authors adopt a construction-theoretic framework, and aim at synthesizing the descriptive concerns arising from the examination of a single language with those of comparative, cross-linguistic viewpoints. The book contains altogether 9 chapters, falling into 3 major units: chapters 1–3 present the basic phenomena, chapters 4–5 are dedicated to the specific issues of Tundra Nenets, while chapters 6–9 examine the diversity attested cross-linguistically in possessive relatives.

As described in Chapter 1 in detail, the authors adopt a construction-theoretic perspective rather than the methods of what they refer to as Mainstream Generative Grammar (MGG), because the former but not the latter seems to be adequate for capturing certain construction types. In particular, Ackerman and Nikolaeva examine possessive relative clauses (or possessive relative constructions), illustrated in (1) for Western Ostyak (p. 8, ex. 4):

(1) [xans-əm] neːpək-eːm
write-MC book-1SG
'the book I wrote'

The verb is in a non-finite form (MC, mixed category); however, the first person singular pronominal marker is attached to the noun, rather than to the verb. While MGG approaches with a strict universalist background would treat (1) as anomalous, more typologically oriented analyses do not seek to describe it with the help of pre-set categories carried over from other languages. Rather, constructions like (1) are seen as natural, though by no means necessary, consequences of general characteristics of the given languages, and are therefore not treated as marked. The main claim made by Ackerman and Nikolaeva is that possessive relatives are emergent constructions that arise from systemic properties of specific grammars, which are: the inflectable non-finite construction, the possessed noun construction, the modifier-head construction, and the non-finite clause construction (p. 13). The first two are morphological in nature, while the latter two are syntactic.

While neither adopting a construction-theoretic framework, nor the intention of not treating possessive relatives as marked are problematic, the authors' argumentation against MGG approaches raises some questions. In particular, the implication arising from Chapter 1 is that MGG approaches by definition adopt a certain kind of universalist approach, which is untenable for diverse reasons, and therefore it is necessary to adopt a construction-theoretic framework. This is flawed in various respects. For instance, it is not quite clear what counts as MGG here, because there are several generative approaches that can be considered minimalist and that address the issue of synchronic or diachronic linguistic diversity. Ackerman and Nikolaeva refer to the rather controversial argumentation given by Evans & Levinson (2009; 2010) against linguistic universals, even though it is also quite clear from the numerous reactions to the first article that universalist approaches are not reducible to the description given by Evans & Levinson (2009), whose presentation also involves a fair amount of conscious misunderstanding. Repeating such biased lines of argumentation certainly does not do any favour to the actual analysis to be presented, especially because the use of a framework different from MGG should not have to be justified in itself, as it is a valid choice of the authors *per se*. On the other hand, showing the points where MGG approaches so far have failed to account for phenomena like (1) and where the authors' analysis provides appropriate answers is indeed important, and is a constructive contribution to the field; the introduction in Chapter 1 is, however, not so much a summary of these valid points but rather an *a priori* rejection of (certain manifestations of) MGG.

Chapter 2 elaborates on the theoretical assumptions adopted (or rejected) by Ackerman and Nikolaeva. The authors start with a contrastive summary of Mainstream Generative Grammar and construction-theoretic assumptions regarding the organisation of grammar. MGG approaches hypothesize that there are uniform universal structures underlying various surface structures found cross-linguistically: while certain surface structures match these universals quite well, others require the application of several operations to maintain the idea that they are deviant versions of a universal. Ultimately, the aim of maintaining a relatively small number of universals and achieving broad empirical coverage almost inevitably leads to the escalation of postulated entities, referred to as the "proliferation problem" by Ackerman & Webelhuth (1998).

To avoid this, Ackerman and Nikolaeva adopt a construction-theoretic approach, which is paradigmatic in the sense that it regards constructions (both words and syntactic constructions) as basic units that are parts of paradigms, and which are in interaction with other constructions. While the idea of some compositionality is maintained (words consist of morphemes, syntactic structures consist of words and phrases), the core assumption is that constructions are not mere sums of their parts. This is especially fruitful when considering the issue of mixed types, which are viewed as inheriting properties of multiple more basic types, in accordance with Malouf (2000). A simple example for this in English is given in (2) below (p. 25, ex. 2):

(2) Murray's teasing the salamander irritated Susan.

The word *teasing* is a gerund, which inherits properties of the type "noun" (it functions as a subject) and of the type "relational" (it takes an object), an entity whose external argument is a subject, hence essentially a predicate. The gerund in (2) is a mixed type on the word level; there are also mixed types on the sentential level, and, as indicated by Ackerman and Nikolaeva, the possessive relative in Tundra Nenets shows the effect of multiple inheritance from a number of related constructions. By treating a construction as a result of other constructions already attested in a given language, it is possible to avoid many of the problems associated with a strict universalist approach, where the same construction would be derived from an abstract ideal that was established on the basis of other languages.

In line with this stance, Ackerman and Nikolaeva follow construction-theoretic approaches in a fundamental rejection of the MGG-type core-periphery distinction, as well as an attempt to distinguish innate and learned properties. On the other hand, the authors also adopt the view that morphology is a different domain from syntax, and that the basic unit of morphology is the word, not the morpheme: crucially, it is words that are related to one another as parts of derivational or inflectional paradigms. This is also in line with the early assumptions of Chomsky (1965), who deemed a morphemic analysis unfit for transformational grammar. Irrespective of their internal makeup, then, the word and the sentence are viewed as linguistic signs that map a certain meaning to a given form. While some of the argumentation presented in the relevant sections by

Ackerman and Nikolaeva do to some extent repeat what was said in Chapter 1, the presentation is considerably more detailed and appropriate, and successfully avoids the rather simplistic and programmatic formulations found in Chapter 1. Finally, Chapter 2 concludes with a brief overview of the basic assumptions concerning syntax in construction-theoretic (mostly HPSG-type) approaches: the presentation is very clear and is restricted to the issues directly relevant for the book at an initial point, hence the authors make their work and theoretical approach easily understandable and accessible for readers not (yet) familiar with construction-theoretic models.

In Chapter 3, Ackerman and Nikolaeva provide a typological overview of (prenominal) relative clauses and of person/number marking. Both issues pertain to the status of the person/number marker (PNM) found on the nominal head of possessive relatives, see (1) above. While the availability of possessive relatives is aptly handled by the typological approach, it is also clear that the appearance of possessive relatives is contingent upon a number of language-specific factors, and hence its cross-linguistic rarity is also explained.

Regarding the typology of prenominal relatives, Ackerman and Nikolaeva consider three basic factors: (i) whether there is an independent *pro*, (ii) whether there is a PNM on the mixed category (MC), and (iii) whether there is a PNM on the head nominal. All of these three properties can be obligatory, optional, or impossible. The combinations of all these options yield 27 logical possibilities: not all of them have been actually detected in natural languages, though, but the investigation of why some of them do not exist is clearly not the purpose of the book. The possibilities are summarized in Figure 2 on p. 62: there is a very unfortunate typo in the table heading ("PNM on the MC" appears twice, the second one, in the penultimate column, should be "PNM on the head nominal"). The 27 possibilities can be grouped into four major options. In Option 1, there is no PNM on either the MC or on the head nominal; Tamil is a language showing this option. In Option 2, the PNM is obligatory or optional on the MC, and optional or impossible on the head noun (in any event, the marking on the MC is favoured); this pattern can be observed in Finnish. In Option 3, the PNM is obligatory or optional on the head noun, and optional or impossible on the MC: this represents the possessive relative construction (e.g., Western Ostyak). Finally, in Option 4 the PNM is either obligatory or optional on both the MC and the head noun; to date, the authors have not found any language clearly showing this logical option.

Possessive relatives appear to be an areal feature, and they constitute the sole type of relativisation strategies only in a subset of languages. In

Ostyak, its availability distinguishes between dialects: Eastern Ostyak has only MC-inflected-relatives (see (3a); p. 67, ex. 6a, quoting Honti 1984, 56), while Western Ostyak has possessive relatives (see (3b); p. 71, ex. 15), which bears the same PNM on the lexical head noun as the one on the possessed nominal in ordinary possessives (see (3c); p. 72, ex. 16).

(3) a. [mä wer-t-äm] kiriw
I make-MC-1SG boat
'the boat I will make'

b. [(ma) weːl-əm] woːj-eːm
I kill-MC bird-1SG
'the bird I killed'

c. (ma) wul woːj-eːm
I big bird-1SG
'my big bird'

Apart from the obvious similarity between (3b) and (3c), they do differ crucially in terms of locality. As Ackerman and Nikolaeva show, the pattern in possessives like (3c) is an instance of pronominal incorporation, and hence demonstrates local, grammatical agreement. By contrast, the agreement pattern in (3b) is non-local: the modified nominal and the MC each establish different local domains, and the authors suggest that this is a case of truly non-local agreement, rather than a cascade of successive local agreements. Just like the typological overview of prenominal relative clauses, the cross-linguistic classification of person/number marking is very appropriate, and gives a clear presentation of the typological status of possessive relatives.

Chapter 4 presents the descriptive challenges in Tundra Nenets, the language that the authors primarily focus on. First, an overview of Tundra Nenets grammar is provided, including basic phonological and typological properties, as well as a more detailed presentation of nominal and verbal inflectional categories. Next, the authors describe the system of relative clauses in Tundra Nenets (except for finite relative clauses, which may well represent a borrowing from Russian anyway). There are two major types: the participial strategy (relativising subjects, objects and possessors), and the non-participial strategy (relativising obliques). Possessive relatives fall into the former group, and represent the subtype where an object is relativised. Apart from non-finite relativisation strategies, the authors briefly summarize the most important characteristics of non-finite (non-relative) clauses, thereby clarifying the exact place of possessive relatives in the wider system of Tundra Nenets syntax.

Ackerman and Nikolaeva present various arguments in favour of treating the verbal mixed category in possessive relatives as a clause, given the resemblance between this and other non-finite clauses. In particular, they show that the PNM expresses the subject argument of the dependent verb: in other words, PNMs are subjects and not mere agreement markers. Yet, the authors also show that the head noun (hosting the PNM) is not part of the relative clause (the verbal mixed category) itself; it is therefore expected that a co-referent subject may appear in the relative clause itself. This is illustrated in (4) below (pp. 133–134, exx. 64b and 65b):

(4) a. [Wera-h ta-wi°] ti
Wera-GEN give-PART.PERF reindeer
'the reindeer Wera gave'

b. [(pida) ta-wi°] te-da
he/she.NOM give-PART.PERF reindeer-3SG
'the reindeer he/she gave'

If there is a lexical subject, as in (4a), this is located within the relative clause, and the PNM on the nominal head is normally absent. This suggests that the PNM is indeed a subject. If there is no lexical subject, the subject function is expressed by the PNM, in line with the assumption that it is the subject itself, see (4b). The appearance of an overt pronoun in the relative clause is not prohibited, though, as indicated in (4b): it represents a discourse-marked variant, where the pronoun is associated with contrast or focus (or some other kind of emphasis). The difference in the role of lexical subjects and that of pronominal subjects is also represented by a difference in case (genitive versus nominative). Similarly, it is also possible for the PNM to appear together with a lexical subject, resulting in a discourse-marked variant of (4a): in this case, the lexical noun has topical status, and is essentially an anaphor, in line with the relevant assumptions of Bresnan & Mchombo (1995) and Bresnan (2001).

The availability of a subject is an argument for the clausal status of the verbal mixed category, while its particular distribution given in (4) is parallel with what is attested in possessives. Moreover, while the PNM is attested as a subject in other non-finite clauses as well, it crucially occurs on the nominal lexical head, instead of the verbal mixed category itself, as opposed to other non-finite constructions. Its distribution given in (4) is exactly the same as in possessives, as is the obvious fact that PNMs appear on a lexical noun. The authors therefore suggest that possessive relatives are an analogical extension of possessives, while they are clearly not possessives any more but rather non-finite clauses. Apart from possessives and non-finite relativisation, the authors identify modifiers as a third contributing structure to possessive relatives, which act as adjectival (and not as nominal) modifiers. The argumentation throughout this chapter is well-supported by data, and altogether very convincing.

In Chapter 5, Ackerman and Nikolaeva present their analysis for the possessive relative construction. As the authors admit (p. 214, footnote 18), there are certain open issues that would have to be addressed in a more formal grammar, and hence their present analysis remains necessarily descriptive at some points. In particular, while it is clear what the contribution of each of the relevant constructions is, some of the interaction mechanisms remain unclear and would have to be addressed by subsequent research. That being said, the analysis provided by the authors is not only descriptively adequate but also has several crucial conclusions for the theory, and, in particular, it successfully answers the descriptive desiderata meticulously pointed out in Chapter 4.

The starting point of the analysis concerns the major properties of the possessed noun construction, which is to be understood as a morphological construction type. The authors rely on the semantic classification of possessives by Barker (1995) and Partee & Borschev (1998; 2003), who distinguish between lexical (intrinsic) and extrinsic possession. The latter category comprises ownership possessives and associative possessives: the distinction between these two is reflected grammatically in certain languages (such as Tzotzil, see Aissen 1987), but, as Ackerman and Nikolaeva argue, there is no such differentiation in Tundra Nenets. This is demonstrated by the following examples (pp. 163–164, exx. 1 and 2b):

(5) a. Wera-h ya
Wera-GEN soup
'Wera's soup'

b. mərəd°-h yil°
city-GEN life
'life in the city'

In (5a), the exact relation between the possessor and the possessed is contextually determined: the ownership interpretation is certainly a possibility, as are others, e.g., the sort of soup Wera "likes or makes or is eating or habitually talks about" (p. 162). In (5b), the possessive construction is the only way to express the specific meaning in question, which is clearly not that of ownership. Following these considerations, Ackerman and Nikolaeva claim that the possessed noun word construction is a morphological construction that is semantically vague: possessed nouns are understood as two-place predicates, where there is a vague associative relationship ($\Re$) between the two arguments.

The semantic vagueness of possessed nouns makes them available as lexical heads in possessive relative constructions: the interpretation of the $\Re$ relation is in this case restricted by the specific syntax of possessive relatives, and by the modifier-head syntactic construction in particular. The idea is that the $\Re$ relation is lexically restricted by the non-finite form, which contributes its syntax and semantics by proxy. For instance, in (4a) above, the possessor is identified as the subject argument of the verb and is associated with the semantic role of GIVER, and the possessed argument, the reindeer, is identified as the object argument of the verb, and as a GIFT. The interaction between the two kinds of constructions is mostly achieved by coindexing. The syntactic structure of possessive relatives is further influenced by the syntactic construction type of non-finite clauses, where the local independent subject argument (a genitive lexical NP or a nominative pronoun) forms a constituent with the non-finite verb. On the other hand, the availability of subjects with inflectable non-finite verbs is the result of the morphological construction "inflectable non-finite word", where the subject can be expressed either by lexical means or by PNMs. In this way, the particular construction of possessive relatives follows from the interaction of independent properties of the language, which are part of Tundra Nenets grammar anyway.

Chapter 6 provides an overview of closely related structures, with the aim of showing that a flexible, construction-theoretic approach can appropriately handle their attested behaviours, even though it cannot predict their appearance. One central issue concerns the potentially conflicting demands on the function of PNMs. In possessive relatives, the role of the PNM is defined by the modifier, while in ordinary possessive constructions its meaning is contextually determined. Should both a possessive relation (e.g., ownership) and a possessive relative be expressed, this puts conflicting requirements regarding the interpretation of the PNM on the head noun, and raises the question how two distinct PNMs may be accommodated in a single structure. As Ackerman and Nikolaeva argue, languages may resort to various strategies in order to resolve this: Tundra Nenets, just like Turkish (see Haig 1998), uses the strategy of interpreting the PNM on the lexical noun as a true possessor, and of marking the clausal subject in the form of another PNM on the verbal mixed category. Consider (p. 229, ex. 2):

(6) [(mən^{j}°) s^{j}erta-we-m^{j}i] (pidər°) ŋəno-r°
I make-PERF.PART-1SG you boat-2SG
'your boat that I made'

While the proposed analysis is flexible enough to handle this sort of variation, several questions remain unanswered with respect to the relation of non-finite relative clauses and possessive constructions, and hence the evolution of possessive relatives. In particular, Tundra Nenets has MC-inflected relatives anyway, and optional concord is available on the verbal modifier in possessive relatives, too. However, in possessive relatives, a pronominal subject is expressed non-locally, that is, on the noun head, except when the noun head hosts its own possessive PNM, in which case the PNM again appears on the verbal modifier. This raises the question of why certain languages resort to the non-local marking strategy at all: while the grammatical determination of the $\mathfrak{R}$ relation perfectly makes sense from the viewpoint of the possessive construction, it is not quite clear what underlies the proxy-relation if one approaches the same question from the modifier. While answering such questions may indeed be out of the scope of the present volume, I found it problematic that these issues are not even addressed, and the cross-linguistic variation presented in this chapter remains a bit impressionistic in that the strong descriptive precision regarding the interrelatedness of constructions is missing, unlike in Chapter 5.

In addition to the issue of conflicting requirements, Chapter 6 reviews related constructions that exhibit similar behaviour. It is shown that deverbal nominals and postpositions may also act as modifiers, and as such, the distribution of PNMs is quite similar to what can be observed in possessive relatives, while maintaining remarkable differences, too. Ackerman and Nikolaeva argue that the variation attested in these structures can best be explained with the help of analogy, which predicts that various constructions involving possessed nouns will be identified as similar by the language learner, which in turn makes it possible for a certain pattern to arise beyond the level of the individual constructions. While this is a plausible argument, it is unfortunately not worked out in detail, that is, it remains unclear how analogy is supposed to work in the particular case. Clearly, analogy does not operate in a random fashion, and even a primarily descriptive-oriented formal account should make reference to the direction of analogy, that is, which particular constructions display analogy with which source constructions, or, more precisely, which properties thereof. As it is, the analysis correctly identifies the properties of the various constructions, but not their interrelatedness. While the relations among the contributing constructions behind possessive relatives are meticulously worked out (Chapter 5), a similarly precise identification of the contributing constructions underlying deverbal nouns and postpositions as modifiers is missing; without that, however, a formal approach to analogy cannot be achieved.

In Chapter 7, Ackerman and Nikolaeva review several languages in altogether six language families (Mongolic, Turkic, Tungusic, Uralic, Armenian, and Yukaghir), examining the morphosyntactic paradigms both in nominal possessives and in relative clauses. They show very convincingly that possessives and possessive relatives display strong parallelism in all of these languages, with respect to the properties of case-marking of a lexical NP or of a pronoun as a possessor/subject (nominative or genitive case) and head marking with a lexical NP or a pronoun as the possessed/mixed category (whether there is head-marking or not). In most cases, the two constructions demonstrate identical marking properties: there are languages where lexical NPs do not behave differently (e.g., Sakha), while in others the behaviour of lexical NPs may be distinct from that of pronouns with respect to head marking (e.g., Mongolic) or both case marking and head marking (e.g., Eastern Mari). The extent of the differences between lexical NPs and pronouns is also subject to cross-linguistic variation. Northern Samoyedic exhibits a relatively clear-cut difference between genitive lexical NP subjects/possessors and nominative pronominal subjects/possessors, while head-marking is attested with pronouns but not with lexical NPs (except for discourse-marked instances). The differences are considerably smaller in Turkic languages (other than Sahka): by default, both lexical NP and pronominal subjects/possessors are marked as genitive and head-marking is attested with both: differences arise in the restrictions on the non-dominant patterns. Despite the rich variety in marking patterns, the parallelism between possessives and possessive relatives arises clearly: even if the two constructions differ (e.g., Tundra Yukaghir), they do so only to a very slight degree. The cross-linguistic data hence clearly show that the claim regarding the structural morphological relatedness of possessives and possessive relatives is correct. The same parallelism does not hold between MC-inflected relatives and possessives, which is again expected on the basis of the analyses presented earlier in the book (Chapter 5).

While the main focus is on prenominal possessive relatives, Ackerman and Nikolaeva show that it is possible to have postnominal possessive relatives in languages where the possessor follows the possessed in nominal possessives. This is the case in certain Iranian languages such as Tajik, as demonstrated below (pp. 292–293, exx. 73a and 75a, data originally from Rastorgueva 1963 and Rastorgueva & Kerimova 1964):

(7) a. ruːmol-i kalon-i man
scarf-IZ white-IZ I
'my white scarf'

b. [kitob-i [xonda-giː [man]]]
book-IZ read-MCIZ I
'the book I read'

The marker *-i* in (7) is the so-called izafet, which "serves to indicate the presence of a dependent" (pp. 291–292): (7) shows the parallelism between a lexical NP possessor, (7a), and a lexical subject, (7b), but the parallelism holds with pronouns, too. Hence the relatedness of nominal possessives and possessive relatives is independent from the prenominal versus postnominal property of the relative clause; on the other hand, the claim that possessive relatives constitute an areal phenomenon in Eurasia still holds.

The authors also mention possible historical scenarios: they hypothesise that possessive relatives stem from possessive constructions involving deverbal nouns, hence modifier constructions: this change involves the reinterpretation of the possessor as a subject and the deverbal noun as a (verbal) mixed category, and the re-categorisation of the mixed category into a larger constituent involving the subject itself (hence a non-finite clause). While the hypothesis is not unlikely, the analysis remains sketchy, especially because the authors only deal with languages that have already undergone this reanalysis, while the intermediate stage involving the ambiguity triggering reanalysis is not attested.

Chapter 8 revises some MGG approaches to possessive relatives in various languages. The primary aim of Ackerman and Nikolaeva seems to be to show the inadequacy of MGG approaches to account for the structure of possessive relatives, and, in particular, for the relatedness of possessive relatives and nominal possessives, as well as cross-linguistic variation in the actual realisation of the construction. However, just as was the case with the introductory Chapter 1 (and partially Chapter 2), I think it should be kept in mind that the critically reviewed analyses represent particular implementations of MGG approaches, and, therefore, even if they prove to be inadequate, a general inadequacy of MGG as such does not immediately follow, and hence some of the theoretical conclusions drawn by Ackerman and Nikolaeva are at least partially flawed.

The first approach reviewed by the authors is the raising analysis of Hale & Ning (1996) and Hale (2002). This proposal essentially acknowledges the inherent relatedness of nominal possessives and possessive relatives: the basic structure of possessive relatives is that of nominal possessives, which contain a VP and an AspP projection in a complement position, ensuring that a non-finite clause can be generated. Both the verbal mixed category and the subject move up to the possessive nominal expression, while the head noun moves to a rightmost position. Ackerman and Nikolaeva rightly point out that there are several problems with this analysis: among others, the postulated movement operations are highly problematic (even within an MGG approach), and there is no principled explanation for the appearance of the PNM on the head noun. Further, the analysis predicts a fixed position of the determiner with respect to the mixed category (the relative clause) and the head noun: it must appear in between the two. However, this prediction is wrong since cross-linguistic data show that all possible orders of the three are possible. In addition, the raising analysis suggests that the subject does not form a constituent with the mixed category. This is refuted by the position of adjectival (and nominal) modifiers in Western Ostyak (pp. 317–318, exx. 6a and 7a):

(8) a. Juwaːn [purəś [jam [neːpək-eːm]]]
John old good book-1SG
'John's good old book'

b. purəś [ma (*purəś) xans-əm] neːpək-eːm
old 1SG old write-MC book-1SG
'the old book I wrote'

While an adjectival modifier follows the possessor, as in (8a), it cannot intervene between the pronominal subject *ma* and the mixed category in (8b), it may only precede the entire non-finite relative, indicating that the subject and the mixed category behave as a single constituent. The analysis, then, is unable to reflect the relatedness of the constructions in question.

The two other approaches reviewed by Ackerman and Nikolaeva are the Kaynean analysis of Kornfilt (2005) and the reduced CP analysis of Kornfilt (2008; 2009a;b). Ackerman and Nikolaeva point out several problems with these analyses, especially in terms of their universal applicability. The most important concern is probably the fact that in Kornfilt's approach(es) the relatedness of possessive relatives and nominal possessives is not recognised, even though there is ample empirical evidence that the connection between the two cannot be accidental. Moreover, Kornfilt explicitly argues against such a connection (other than epiphenomenal), on the basis that possessive relatives do not exhibit a 'strict' possessive interpretation;

this is again problematic as the data provided by Ackerman and Nikolaeva earlier in the book clearly show that ordinary nominal possessives are semantically underspecified in the languages under scrutiny.

Finally, in Chapter 9 Ackerman and Nikolaeva summarise the most important results of their investigation. At this point, it is worth considering what the implications of their enterprise are, and what consequences they have on linguistic theory – and, just as importantly, what consequences do not follow. The chief aim was to examine a lesser-known grammatical phenomenon: possessive relatives. Apart from providing an adequate description, the authors also sought to offer an analysis that relates the appearance of possessive relatives to other constructions in the given languages in a principled way. This, in their view, provides a superior alternative to MGG approaches; in addition, there is an implication (spelt out more clearly in Chapter 1 though) that an LFG-approach is also favourable to a minimalist one. The authors adopt an evolutionary approach to linguistic phenomena, thereby also rejecting the classical core/periphery dichotomy characteristic of MGG approaches: the two are interwoven (cf. Culicover & Jackendoff 2005).

While many of the conclusions are indeed valid, it has to be stressed that some problems arise as well. In particular, it should be kept in mind that not only the methods but also the aims of the so-called MGG approaches are different from that of Ackerman and Nikolaeva. The latter primarily provide a formal description based on sound empirical data; in addition, they do indeed undertake some theoretical investigation. However, as pointed out earlier in connection with Chapter 6, the theoretical analysis remains somewhat sketchy, especially regarding the exact way analogy is supposed to work, and how the various constructions are allowed to communicate with each other by proxy. Note that these questions are framework-internal, and I would like to stress that I naturally do not have any objection towards an LFG-approach (instead of, say, a minimalist one). Further, many of the remaining questions may well be answered by future research, and indeed the scope of the authors' present investigation allowed only a limited possibility for in-depth theoretical explanations. Hence, while the lack of theory-building concerns should not be seen as a shortcoming of the book, it should be taken into account when weighting the results of various types of research.

The MGG approaches reviewed by Ackerman and Nikolaeva, on the other hand, actually start from a strongly theoretical perspective, and their scope is necessarily different; unfortunately, their empirical basis is not strong enough and further cross-linguistic data provided by Ackerman and Nikolaeva make it fairly obvious that none of these approaches can be maintained (in addition to some problems that may arise from a purely minimalist perspective, too). In a sense, the choice seems to be between a primarily descriptive, formal account with sound empirical basis and primarily theory-oriented accounts with very modest empirical basis. Obviously, if presented so, one should prefer the former, since an analysis without any sound empirical basis cannot achieve explanatory adequacy without reaching descriptive adequacy first (which is not to say that the reviewed analyses in question do not have valuable points otherwise, of course). Hence, it seems obvious that no subsequent theoretical investigation on possessive relatives can bypass the results of Ackerman and Nikolaeva, whose contributions are vitally important for a more general theory of relativisation as well: in other words, in a domain that is undoubtedly related to "core" phenomena. On the other hand, the theoretical questions that remain to be answered are not exclusive to any particular implementation, and can still be addressed from various theoretical perspectives, including minimalist ones, provided that future authors take empirical data adequately into account. In this way, though the authors keep implying a contrast between their present approach and MGG approaches, the real tension rather seems to be between the investigation of well-understood phenomena (whether descriptive or more theoretical) and the investigation of approximately the same phenomena with fairly limited understanding.

In sum, I believe *Descriptive typology and linguistic theory* is an excellent book that provides several important insights for lesser-studied languages and also for the general theory of relative clauses. The text is well-written and the ideas of the authors are conveyed in such a way that the material is easily understandable even for scholars who work in a different framework and/or on different languages. While the overall quality of the text is good, there are unfortunately quite a few issues that indicate the lack of professional proofreading, the burden of which lies primarily with the publisher. There are several typos, sometimes within representations; some works are missing from the references section, which in turn is not without imperfections either (for instance, a book by Farrell Ackerman and John Moore is listed under "Farrell" instead of "Ackerman"). Most of these mistakes could have been eliminated by professional technical proofreading. Others would have required field-specific reviewers, such as the counter-checking of representations, or inconsistencies like the one on p. 275, where Uralic languages are listed and grouped into subfamilies, but Estonian has been left out.

Even though such minor issues potentially represent an annoyance for the reader, they do not undermine the overall high quality of the book, which I found an enjoyable and thought-provoking read.

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Ranjan Sen: Syllable and segment in Latin. Oxford: Oxford University Press, 2015, pp. xvi + 272.

1. Introduction

Latin historical phonology is a field that has been cultivated by linguists for more than a century now. There is a wealth of literature from Corssen (1858–1859) to Stuart-Smith (2004) and Weiss (2009); the data – whether manuscript or inscriptional – as well as reconstructions have been debated, revisited, reassessed, reframed, and new methods and theoretical approaches have been applied to them. Sen's work continues the emerging tradition, best exemplified previously by Stuart-Smith (2004), which stems from a very solid background in philology but which seeks to apply the most recent results of phonetics as well as generalisations emanating from cross-linguistic and typological investigations to the Latin language. It is particularly interesting to see how this line of research unfolds when its object is a dead language for which no authentic recorded data exist.

Sen summarises his methodology (p. 4) for the study of phonological phenomena in dead languages as follows: "(i) a systematic examination of data in the language pertinent to each phenomenon [whether a single language or a set of related languages – A. Cs.], after 'cleaning' the data by detailed philological investigation,' (ii) establishing the evidence from phonological typology regarding each phenomenon and its potential conditioning factors, (iii) employing the results of phonetic research, with cross-linguistic implications, to reconstruct the conditions in the dead language, and (iv) evaluating the roles of synchronic phonetic pressures and phonological structure in motivating and guiding the change.” Sen’s approach is close to the reductionist view, which maintains that “the constraints of speaking and hearing can explain the roots of most diachronic developments” (p. 5), and as a consequence, phonological structures and constraints are assumed to play at most and indirect role. In the volume the recurring question is what role syllable structure plays in the changes under discussion. In particular, is the role of the syllable direct or indirect? In the former case the change refers directly to the syllable in its structural description, while in the latter case this role is mediated by phonetic features whose appearance is governed by syllable structure.[1] Under a reductionist view, the role of the syllable is expected to be indirect rather than direct, and this is what Sen sets out to validate by examining five well-known but problematic cases.

2. Contents and discussion

The topic of **Chapter 2 (Clear and dark /l/)** is the vocalic coarticulation evidenced for the segment /l/, its phonetic nature and the phonological issues it raises. The assessment of the evidence focusses not so much on grammarians’ statements (direct – though not easily interpretable – evidence) as on the colouring of short vowels before /l/ in different positions (indirect evidence). Depending on its position, /l/ had a velarising effect on preceding short vowels. This is true, in particular, of coda /l/ and /l/ before back vowels. However, there is no similar evidence for the palatal quality of gemimate /ll/ and /l/ before /i/, and here the argument is mainly *ex silentio* (lack of vowel darkening before geminate /ll/ and /li/), typological considerations, and one specific exception to an exception: in Vːː sequences the geminate consonants were systematically shortened, except for Vːll (e.g., *mīlle* ‘thousand’), but /ll/ shortened when followed by /i/ (e.g., *mīlia* ‘thousands’). This “suggests that the geminate was characterised by a palatal quality, which resulted in its misinterpretation by

[1] Note that Sen’s first example (p. 6, *l*-vocalisation in coda) for the indirect kind of influence raises an important issue. Is it really indirect influence when “categorical surface variants (allophones) governed by syllable structure [...] result in phoneme split and subsequently divergent histories”? Is it not the case that the appearance of the phonetically different allophones is the change itself? In that case, this is not an example of indirect influence.

the listener as singleton /l/ when that quality could be attributed to its environment, namely the following /i/" (p. 29). The data reveal that the velarising effect is gradient, strongest in coda position, non-existent before /i/ and in gemination; onset position before all other vowels involves varying degrees of velarising capacity, related to the backness/height of the following vowel itself.

The two phonological explanations offered involve variants of featural underspecification (e.g., [+back] in coda, [−back] in gemination, [∅back] in all onsets) or, alternatively, gestural analysis along the lines of Articulatory Phonology (allowing for fine-tuning in gestural coordination). The former is clearly more formal; the latter crucially depends, in principle, on detailed phonetic knowledge of the data, which in this case is triangulated and conjectured from the analysis of spoken languages on a cross-linguistic basis.

One problematic point in terms of data involves the variation found after initial /w/ (*volnus* ∼ *vulnus* 'wound', p. 19). Sen (tentatively) claims that this has generally to do with glides, though there is practically no evidence for similar variation after /j/ at all. It should also be mentioned at this point that the variation is likely to be orthographical rather than phonological in the classical period (see Buck 1899 and Anderson 1909).

Chapter 3 (Inverse compensatory lengthening: The *littera*-rule) looks at a sporadic sound change that shortened certain long vowels and lengthened the consonant following them (e.g., *lītera* > *littera* 'letter'). Instead of analysing the phenomenon in moraic terms, Sen outlines a phonetic explanation for each of the three subcases. (1) In high vowel + voiceless stop sequences (cf. *littera*) the crucial point is that high vowels are intrinsically shorter than non-high vowels, and all vowels are shorter before voiceless obstruents than before other sounds. In this context, originally long high vowels can easily be reinterpreted as phonologically short; the lengthening of the following consonant is explained not with reference to mora count but with the auxiliary hypothesis that vowels in closed syllables were longer than in open syllables in Latin, and thus, "long vowels in open syllables were most susceptible to being reanalysed as short vowels in closed syllables" (p. 44). (2) In /a/ + sonorant sequences (*flamma* ∼ *flāma* 'flame', variation rather than unidirectional change) the argument is different, but still crucially phonetic: "low vowels have the longest intrinsic duration, and vowels are phonetically longer before sonorants than before voiceless obstruents: hence long and short /a/ were arguably both relatively long and perceptually confusable in this context" (p. 44). It remains unexplained, however (p. 72), why /l/ and /n/ do not have the same effect on the vowel. (3) The third context is front vowel + /l/ (*fīlius* ∼ *fillius* 'son'), where "it is notoriously difficult to pinpoint acoustically the vowel–lateral boundary" (p. 44).

These arguments (cited here from the introduction to the chapter) are then fleshed out in great detail, and all the 89 lexical items that have been proposed in the literature as examples of the littera-rule are dicussed in an appendix. The classification of the data presents some problems, though. It is not made clear, for instance, why *bāsium* ∼ *bassium* 'kiss' does not qualify as an instance of the rule, while *ammissam* ∼ *āmissam* 'lost' does (pp. 206–207). In both cases the VCC variant is found in very few manuscripts, while the VːC variant is found in most manuscripts and is the only form acknowledged by the major dictionaries cited – so why the difference in their inclusion?

The relative length of vowels in closed syllables in comparison to open syllables is an important hypothesis, and Sen lists four arguments (p. 70) to underpin this claim. This is especially interesting since the majority of the world's languages do not exhibit this pattern. One of the arguments comes from closed syllable vowel shortening (*CVːCV > CVC). This formulation is somewhat infelicitous, because, as Sen admits in a footnote, the loss of the final vowel and the shortening of the vowel in forms like **animāli* > *animal* 'animal' are two unrelated processes, and the shortening always took place regardless of any lost vowel in the next syllable (e.g., *amōr* > *amor* 'love'); furthermore, vowels before final liquids only shortened in polysyllables, whereas those before /t/ shortened in monosyllables too (cf. *fūr* 'thief' vs. *nat* 'he swims').[2]

The impact of the nasals on vowel length is briefly explained on p. 72, with reference to the sonorant-induced *flamma*-type inverse compensatory lengthening. "Vowels preceding nasals in Latin nasalised, and nasalised vowels are phonetically longer than their counterparts: consider Latin *coːnsul* [sic[3]], where the length derives from the nasalisation of the vowel. Therefore, the long transitional period of nasality in VːC could be interpreted as either /m/ or /a/ (= [ã]), resulting in synchronic variation between /amm/ and /aːm/". This, however, does not explain why there is not a single example accepted by Sen of /ann/ ∼ /aːn/ variation. Furthermore, we have Cicero's testimony (*Orator* 159) to the effect that the vowel

[2] On p. 68 there is a somewhat confusing typo towards the middle of figure 3.2: (i) CVCL CL should be (ii) CVCV CL.

[3] One recurring feature in the presentation of the data is the inclusion of IPA length marks in italicised, ordinary spelling forms, e.g. *aːcriː* 'sharp (dat.)'. We do not find this unusual practice commendable; the author should have used either IPA proper, e.g., [aːkriː] or enhanced spelling, e.g., *ācrī*, but not mix the two.

of the *con-* prefix was long before /s/ and /f/ but short before stops, which is consistent with our knowledge that /n/ was lost before fricatives with compensatory lengthening and nasalisation on the preceding vowel, but this does not imply that vowels were generally lengthened before nasals even when the nasal was not lost (e.g., before stops).[4]

On a final note to this point, it would be very interesting to relate closed syllable length and inverse compensatory lengthening to the Mamilla-law (degemination before heavy syllables in Latin, e.g., *ommitto* > *omitto* 'I omit'), but also to the lengthening of vowels before sonorant-initial clusters in late Old English (OE *bindan* > ME *bīnden* 'bind'); it is possible that an analysis focussing on perceptual cues could further corroborate Sen's analysis of the *littera*-rule.

Chapter 4 (Syllabification: Vowel reduction before TR) tackles yet another recalcitrant problem of early Latin, the syllabification of internal stop + liquid sequences in the light of vowel reduction before such clusters. Ideally, vowel reduction should give unambiguous cues in this regard, since it happened differently in open vs. closed syllables; but the data are contradictory, showing open-syllable reduction (i.e., to /i/) in some forms but closed syllable reduction (i.e., typically to /e/ rather than /i/) in others. This chapter first gives a very detailed and clear presentation of vowel reduction, itself a rather convoluted process. Then the author proceeds to disentangle the manifold issues surrounding TR sequences. Already the presentation of the data is an imposing achievement, in spite of the difficulties inherent in establishing morpheme boundaries (e.g., that in *per-eg-ri* 'abroad', based on *ag-ro-s* > *ager* 'field' is etymologically correct but not convincing synchronically for the period under discussion; in view of the Sanskrit, Greek and Germanic cognates, which all include the /r/, it is unlikely that a boundary was still felt between the two consonants in archaic Latin). A minor inconsistency is seen in 4.4.12 (p. 109), where a set of data are introduced as including TR sequences "where there was a morpheme boundary neither bisecting nor immediately before it", but then the actual data include *manupretium* 'payment for workmanship' and *reciprocus* 'moving backwards and forwards' with a compound boundary before the /pr/, as well as *enubro* 'restraining', supposedly with a morpheme boundary right between the /b/ and the /r/.

[4] This development was perhaps partially reversed with the possible introduction of a hypercorrect spelling pronunciation involving both a long vowel and a nasal consonant of some kind in words like *consul* (cf. Allen 1978). The precise details of such variation are unclear.

The analysis arrives at the conclusion (p. 119) that the syllabification of TR sequences in archaic Latin was influenced by morphological constituency in that there was a tendency to align syllable boundaries and morpheme boundaries; the default syllabification for TR was heterosyllabic; and that the segmental environment was capable of conditioning non-default developments. The individual components of the explanation for the variable behaviour of pre-TR reduced vowels have been present in the literature, but here they are combined in such a way that practically no form is left unexplained – perhaps the weakest link being the putative morpheme boundaries (see above).

Chapter 5 (Vocalic epenthesis in Tl) delves deeper into a specific issue connected to stop + liquid sequences, viz. the diachronic appearance of a short vowel between a stop and /l/ word-internally. Generally speaking, the phenomenon and much of the data have been known earlier, but the data are very hard to interpret, and consistent patterns do not readily arise. Sen attempts to disentangle all the various factors to arrive at a coherent diachronic analysis. The conditioning factors for pre-/l/ epenthesis include the nature of the stop, syllable structure, metrical structure, morphological boundaries and transparency, as well as word frequency. The interplay of all these factors plus the different actuation time of the change in different /l/-clusters, with another change deleting partly the same vowels in an overlapping set of clusters makes this analysis highly challenging. This is perhaps the most complex chapter in the entire book, and the reader cannot help feeling lost at times (though the summary on pages 170–171 is very helpful). It is not always clear why a particular factor has precedence over another one; and the invocation of a given factor in itself is not always self-explanatory. For instance, the explanation offered for both the lack of epenthesis and the failure of /pl/ > /bl/ voicing in *poples* 'knee' is the low frequency of the word (pp. 169 and 170, respectively). However, there is no convincing argument for *poples* being a low frequency word apart from word count statistics from Perseus. Given its meaning it is no surprise that it does not often figure in literary works (or in inscriptions for that matter), but this does not mean that in actual language use it was necessarily rarer than e.g., *publicus* 'public'.

Chapter 6 (Assimilations) looks at the many kinds of consonantal assimilation processes that are known to have taken place in the prehistory of Latin. The central argument of this chapter is that "linear segmental sequence [...] forms the necessary basis of an analysis of Latin assimilations, rather than hierarchical segmental organisation, i.e., syllable structure" (p. 173). Sen presents all the major types of assimilation (voice, place, continuance, nasality), and devotes a lengthy section to voice assimilation before liquids, in which he argues for underspecification of sonorant voice in order to explain the different patterns displayed by clusters including sonorants. The conclusion of the chapter is that assimilations are best analysed as processes governed by linear sequences of segments rather than by syllable structure, though the latter "had a significant role through the distribution of features, phonetically conditioning the realization both of the segment itself and of adjacent sounds through coarticulation and the enhancement or impoverishment of perceptual cues" (p. 196).

There is a brief – perhaps too brief – reference to morphological structure in section 6.7; a very important issue is raised here but then not elaborated. In some cases the same segmental sequence develops differently depending on morphological context. This sensitivity "indicate[s] that derivational levels in the synchronic phonology of archaic Latin played a role in the developments, suggesting a framework such as Lexical Phonology [...] or Stratal Optimality Theory" (p. 195). This point would have deserved more than a passing remark in this and the following sentence.

A minor issue in this chapter involves the devoicing of /d/ before /r/ (p. 192). There are plenty of examples of this well-attested change (e.g., **wedrom* > *vitrum* 'glass'); but why did other stops not devoice before /r/? One answer that Sen gives is that the change "only affected onset /dr/, not sequences with other stops, due to the very low functional load of the cluster compared with voiceless /tr/", and adds in a footnote that "[a]ll Latin words with initial /dr/ were either loans [...] or onomatopoeic". However, the small number of /dr/-words in Latin is probably not the cause but the consequence of the devoicing; all the examples Sen gives (see further Weiss 2009:163) are instances of original /dr/ sequences (*trahere* 'drag', *taeter* 'foul', *uter* 'water-skin', *lutra* 'otter'), though only *trahere* with an initial cluster (another could be *trux* 'wild', cf. de Vaan 2008 s.v.).[5]

Chapter 7 (Conclusions) summarizes the methodological steps for reconstructing phonological change, and relates these steps to the analyses of the five phenomena discussed in the previous chapters. The question posed at the beginning of the book was whether the role of syllable structure was indirect or direct, that is, whether a reductionist view of these sound changes is validated or not. Sen's answer is that while the changes are explained satisfactorily with reference to articulation and perception, syllable structure plays "a role one step removed from the mechanism of the

[5] On p. 191 in (15), the subgroups (b), (c) are erroneously indicated: (b) is in fact (c), and (b) begins in the line under (a) (*Original suffix...*), cf. the explanation in the last paragraph on the same page.

change itself, through governing the distribution of [...] variants" (p. 201), so the reductionist view is essentially vindicated.

3. Overall assessment

Sen's impressive book will no doubt prove to be a milestone in the historical study of Latin phonology. It is no easy reading, and one feels somewhat overwhelmed not only by the amount of data but also by the successive layers of explanatory factors. But the level of detail presented in it, and the consistent effort to make the connection between state-of-the-art phonetics, state-of-the-art phonology and state-of-the-art philology is something rarely seen in the literature. Phonologists, historical linguists as well as classicists will greatly benefit from reading it.

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